Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10001.

Comment Date: December 16, 2010 20:18:13PM
Solar Energy Development PEIS
Comment ID: SolarD10001

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

It's so easy to open up these lands to build huge black monstrosities on, and while were at it, to build these gigantic white fanblades on, however it is near impossible to KEEP OPEN the land for a guy to enjoy it's beauty and ride an atv across... Why is that?

Thank you for your comment, Zachary DeVoe.

The comment tracking number that has been assigned to your comment is SolarD10002.

Comment Date: December 17, 2010 16:52:27PM
Solar Energy Development PEIS
Comment ID: SolarD10002

First Name: Zachary
Middle Initial: T
Last Name: DeVoe
Organization:
Address:
Address 2:
Address 3:
City: Hollister
State: CA
Zip: 95023
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It all seems so simple. That is until you get involved with the decision making processes that the American Government. It seems to me that if you offered every home owner the chance to have a solar panel placed on the roof of their house, give them the power needed to run the house, take the excess power generated into the grid for powering buildings with no roof space, and everybody would be happy. It really seems so simple and that is why it will never get brought to the table.

Thank you for your comment, Calvin Rittenhouse.

The comment tracking number that has been assigned to your comment is SolarD10003.

Comment Date: December 17, 2010 17:55:28PM
Solar Energy Development PEIS
Comment ID: SolarD10003

First Name: Calvin
Middle Initial: J
Last Name: Rittenhouse
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I certainly applaud DOI's effort to support renewable energy. However, large-scale operations must be sited and designed very cautiously. While desert and arid environments have obvious advantages in terms of sunshine, they are also very delicate environments. When you "study intensively" the 1000 square miles of area, please take enough time to assure that you are not simply creating another disaster in the name of satisfying Americans' insatiable appetite for energy.

I would also encourage you to study locations optimized for other priorities in addition to sunny days. The leading nation in solar energy is Germany, and no part of Germany has optimal sunny days. Logically, absolute maximum sunshine may not be necessary for solar power to be practical.

I have no financial interest in any given form of energy. I favor dispersed, decentralized forms of renewable energy, partly because siting equipment on lawns or rooftops creates far less risk to the environment.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10004.

Comment Date: December 18, 2010 05:15:42AM
Solar Energy Development PEIS
Comment ID: SolarD10004

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Concerns: If a dump that is proposed on Eagle Mountain goes ahead there is going to be alot of smoke from burning and bugs from garbage which will cause more birds which will rest on top of the solar panels and may cause alot of fece problems. So before this solar panel project near the Eagle Mountain proposed dump goes thru someone should investigage the impact on the air quality when and if a dump goes ahead. Smog in 120 C during the summer and smoke will hover in the valley.

Second thing: Not a great idea to put solar panels on top of APN 807660012 APN 807660013 APN 807660023 APN 807660024 due to the fact this is an underground stream and people use this water. I don't think the farmer's will be happy if you change the flow of there water. Also a fault line runs throw/near 807142001 also not a great area for a solar panel. The company should stick to the initial map and not encroach on Kaiser Road because it's too close to kids with guns partying and could cause damage. Much like the existing stop signs with bullet holes that I have seen. Keep the solar panels away from the Kaiser Road. Future trees could be grown along Kaiser Road and this to beautiful the area much like palm springs when the area becomes developed in the future, instead of seeing ugly panels scattered in the desert. Not a nice site when a family comes from the city to enjoy the beauty of the desert.

Thank you for your comment, Thomas Picking.

The comment tracking number that has been assigned to your comment is SolarD10005.

Comment Date: December 18, 2010 12:35:44PM
Solar Energy Development PEIS
Comment ID: SolarD10005

First Name: Thomas
Middle Initial: R
Last Name: Picking
Organization:
Address: 7720 W. State Hwy 96
Address 2:
Address 3:
City: Pueblo
State: CO
Zip: 810059781
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Rather than build a 100 megawatt installation and then have to build transmission lines to support it, provide stronger tax credit incentives to private home owners to install 10000 10 KWH systems on their homes. The home owners (like me) will be glad to provide part of the cost and the up front money to get it installed. The home owner will directly benefit from the installation and no new transmission lines will be required. The power will be generated where it is needed instead of on some remote location requiring transmission and distribution. The home owner will provide maintenance and upkeep. Also, no impact statement and its related costs would be required.
We recently installed a 4.5 KW system and if the incentives were increased beyond the current 30 percent tax credit, I would increase the size of my installation untill I ran out of roof space.

Please comment on my suggestion.

Thank you for your comment, John Cordes.

The comment tracking number that has been assigned to your comment is SolarD10006.

Comment Date: December 18, 2010 20:20:29PM
Solar Energy Development PEIS
Comment ID: SolarD10006

First Name: John
Middle Initial: G
Last Name: Cordes
Organization: Sierra CLub
Address: 550 E. Arbor Ave
Address 2:
Address 3:
City: Sunnyvale
State: CA
Zip: 94085
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Federal Government needs to do more to encourage local distributed solar installations instead of massive public utility scale project on federal land. Local distributed installations minimize the need for new transmission, make better use of existing infrastructure and protect open spaces from large scale energy development.

Thank you for your comment, Sherry Childers.

The comment tracking number that has been assigned to your comment is SolarD10007.

Comment Date: December 20, 2010 11:49:59AM
Solar Energy Development PEIS
Comment ID: SolarD10007

First Name: Sherry
Middle Initial: L
Last Name: Childers
Organization: Utah State Energy Program
Address: 1594 W. North Temple
Address 2:
Address 3:
City: SLC
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm excited to hear about he prospect of adding large scale solar and wind renewables in the desert of Utah - I would, however, appreciate the power generated to benefit the people of Utah, not the people of overpopulated areas of other states. Thank you.

Thank you for your comment, Lowell Chandler.

The comment tracking number that has been assigned to your comment is SolarD10008.

Comment Date: December 21, 2010 00:34:33AM
Solar Energy Development PEIS
Comment ID: SolarD10008

First Name: Lowell
Middle Initial: J
Last Name: Chandler
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The BLM's Solar Energy Development Programmatic Environmental Impact Statement for the proposed sites should aim to minimize the affect that a solar energy site has on wildlife movement corridors. Without preserving wildlife corridors, biodiversity within ecosystems is depleted. Preserving biodiversity is vital in the fight against climate change, as well as extinction of wildlife. A biological diverse ecosystem can more easily adapt to a changing climate. Without adaptable ecosystems, the ecosystem services that humans benefit greatly from would no longer be available. Being a government agency, the BLM should look to choose solar energy sites that are specific and appropriate. Sites that have the absolute least environmental effect. Sites should be extremely concentrated as well.

Thank you for your comment, Jeff Daudert.

The comment tracking number that has been assigned to your comment is SolarD10009.

Comment Date: December 21, 2010 09:14:02AM
Solar Energy Development PEIS
Comment ID: SolarD10009

First Name: Jeff
Middle Initial: M
Last Name: Daudert
Organization: Nextek Power Systems, Inc
Address: 461 Burroughs Street
Address 2:
Address 3:
City: Detroit
State: MI
Zip: 48202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Nextek Power Systems, Inc. is a pioneer in direct current (DC) power networks for buildings. The Nextek Direct Coupling® power distribution platform delivers superior efficiency, flexibility, and reliability to interior electrical circuits and on-site power generation. Out technology:
•Lowers overall power consumption
•Boosts on-site power generation efficiency by 10% to 50%
•Improves use of on-site stored power by 20% to 30%
•Adapts to changing interiors at zero change over cost
•Renders electrical circuits uninterr uptible at low cost
Nextek delivers Direct Coupling® power server solutions in sizes ranging from a 200 watt PC power supply to an 80 kilowatt industrial unit with partners like Armstrong, Johnson Controls, and OSRAM Sylvania.
Nextek promotes the establishment of a DC power standard with global leaders in building products, lighting, and controls as a founding member of the Emerge Alliance®. Nextek is contracted by the US Department of Energy and the Department of Defense to deliver Direct Coupling® DC power innovations for Solar Energy Grid Integration Systems and Vehicle to Grid systems. Nextek collaborates with the Electrical Power Research Institute, Lawrence Berkeley National Lab, and Sandia National Lab on DC Power projects.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10010.

Comment Date: December 22, 2010 15:51:42PM
Solar Energy Development PEIS
Comment ID: SolarD10010

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The farmer is the only man in our economy who buys everything at retail, sells everything at wholesale, and pays the freight both ways. John F. Kennedy

A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people. Franklin D. Roosevelt

THE AMERICAN REVOLUTION was one of the most remarkable periods in history, not so much for the military battles that were fought but for the ideas and principles that were expressed during that time. Foremost among the documents expressing those ideas and principles are the Declaration of Independence and the Constitution, which are inexorably intertwined.

Throughout history, people have viewed the relationship between government and citizen as one of master and servant. It was always assumed that man's rights came from government and, therefore, that it was entirely legitimate for government to regulate or even take away the "rights" that had been given the citizenry.

If the king, for example, decided to confiscate a farmer's crops, there was nothing the farmer could do but obey, because the farmer held his land and grew his crops through the good graces of the king. If the king imposed a maximum price that could be charged for the farmer's crops, the citizen obeyed because the king, as sovereign, was ultimately the owner of everything.

If the king granted monopolies to selected people to produce or sell certain items, such as royal playing cards, no one would dare to disobey the order, for a person's livelihood was unconditionally subject to the dictates of his ruler. Or if the king ordered a citizen to leave his family to do battle in behalf of the kingdom, the citizen would rarely think of questioning the order.

Thus, the situation was such that people were beholden to the king for whatever degree of "liberty" he would permit them. Sometimes the king was good and would allow his people a significant amount of "liberty." Other times he was not so good and would allow them less "liberty." But what everyone clearly understood was that it was the king who had the legitimate power to make this determination.

Then along came the Declaration of Independence and totally inverted the traditional relationship between government and citizen. The Declaration is truly the most radical document in political history. Its ideas and principles continue to threaten governments and political rulers 225 years after it was written.

The Declaration pointed out that man's rights do not come from government. Instead, rights exist independently of government. If government ceases to exist in a society, people's rights do not cease to exist, because their rights preexist government.

Where then do government's powers come from? The powers come from the people because it is the people who bring government into existence. Government does not preexist the citizenry (and their rights); instead, the government exists by favor of the citizenry. Thus, whenever the people wish to dismantle or abolish government, it is their right to do so, since the existence of government depends on the will of those who bring it into existence — that is, the people.

Those ideas are expressed in the Declaration: Men are endowed by their Creator (not by government) with certain unalienable rights, and whenever government becomes destructive of these rights, it is the right of the people to alter or abolish it and form new government.

It is impossible to overstate the truly radical and revolutionary nature of this central idea expressed in the Declaration. Remember that for eons, the commonly accepted belief among people was that their government could rightfully do whatever it wanted to the citizenry and that the citizenry were duty bound to obey. Then along came Thomas Jefferson, the author of the Declaration, and said, No, it is government that is the servant and that takes orders from the citizenry, not the other way around.

What were the rights to which the Declaration referred? Among them (not all were listed) are life, liberty, and the pursuit of happiness. Jefferson had taken the phraseology from the English philosopher John Locke, who had referred to "life, liberty, and property."

It's obviously important to delve into the meaning of these preexisting rights.

Life, liberty, and property

Each person is born different from every other person. Fingerprints. Hair texture. Skin color. Voice. Everything about one person is different from everything about every other person who has ever lived. Each person has his own talents, abilities, handicaps, and disabilities. In order to survive, he uses his abilities to produce goods or services that either sustain his life or enable him to trade with others for things that he needs to sustain his life.

The fruits of these economic exchanges are "income" or "property." The higher the value that others place on one's goods or services, the more property he acquires.

Let's consider an example — Placido Domingo. Here is a person who was born with a voice that is different from everyone else's. It is such a good voice that thousands of people are willing to exchange a large amount of money to listen to it. As Domingo performs in an increasing number of opera productions, his income or property increase. And he uses this property to pursue happiness in his own way, either through saving it, spending it, donating it, investing it, or some combination thereof.

Obviously, government officials are not responsible for Domingo's voice or the fact that others place a high value on listening to it. What then is the role of government with respect to Domingo? To punish any person who inflicts violence against him, either in the form of a personal assault or in the form of a theft of the property that he has justly acquired through mutual trades.

This is what Jefferson was referring to when he wrote in the Declaration that to secure these rights, governments are instituted among men. It is the process of engaging in economic enterprise, trading with others, and accumulating wealth that we call "economic liberty." Of course, there are other aspects of human liberty besides the economic one, such as intellectual, religious, and procedural (due process of law), but the overall principle is the same: rights such as life, liberty, property, and the pursuit of happiness preexist government and it is the duty of government to protect their exercise.

It is interesting to note that Adam Smith published his monumental work, An Inquiry into the Nature and Causes of the Wealth of Nations, in the same year — 1776 — that the Declaration of Independence was written. In that work, Smith argued that economic liberty was the key to rising standards of living, especially for those on the bottom rungs of the economic ladder.

The Constitution

Eleven years later — 1787 — the people of the United States brought into existence the Constitution, which in turn brought into existence the federal government. Therefore, there is no question, at least here in the United States, that the federal government is entirely a creation of the people, that the people preexist the government, and that the people have the right to dismantle it, abolish it, reform it, or limit its powers in any way they see fit.

And this was exactly what the Constitution was — an express limitation on the powers of government. After all, the people could have called into existence a government whose powers were total and absolute.

The Constitution established the federal government but, by its express terms and its express nature, it also limited its powers to those enumerated in the document. If the intention had been to establish a government of unlimited powers, there obviously would have been no need to enumerate powers or expressly restrict powers. The fact that powers were enumerated and restricted conclusively establishes that our Founding Fathers were not establishing a government with unlimited powers.

Even though the powers of government were expressly limited (for example, in Article 1, Section 8), the American people were still very distrustful of the new government. They knew the history of government and its proclivity for omnipotent and tyrannical control over the lives, liberties, and fortunes of the people. And they had had first-hand experience with such a government. Thus,

to avoid any misunderstanding, they demanded express restrictions on the power of government to interfere with the fundamental, preexisting rights of man.

Thus, the first 10 amendments to the Constitution were enacted. Today these are known as the Bill of Rights, but actually that is a big misnomer. The Bill of Rights does not grant rights at all. A careful reading reflects that these amendments are either restrictions on the governmental power to interfere with rights that preexist government or procedural protections relating to government's ability to punish lawbreakers (e.g., the right to trial by jury).

The result of this confluence of ideas and principles — the Declaration, The Wealth of Nations, and the Constitution — was the most unusual society in history: little or no taxation, regulation, licensing laws, immigration controls, trade restrictions, public schooling, welfare, Medicare, Medicaid, Social Security, drug laws, gun control, conscription, or involvement in foreign wars.

This is what Americans in 1890 celebrated as freedom. Moreover, they viewed government as a mere servant, whose purpose was to protect, not regulate or destroy, this freedom.

All of that, of course, is long gone. In the 20th century, Americans returned to the age-old idea that rights come from government. This is why such phrases as "your constitutional rights" have become such a big part of the common parlance. It is also why we must now suffer under the burden of such governmental programs as income taxation, regulations, public schooling, gun control, the drug war, Medicare, Medicaid, Social Security, immigration controls, trade restrictions, draft registration, foreign empire-building, and more federal bureaucrats than one could ever hope to count.

Today, most Americans honestly believe that their rights come from government and, therefore, that they can be regulated or taken away at the whim of government officials. That is why hardly anyone questions the power of government to take any percentage of people's income it desires and to exercise virtually unlimited power in its quest to "take care" of people. No one can deny that the advent of the welfare state in America brought with it the destruction of economic liberty and the elimination of almost all limitations on government power, at least with respect to the economic aspects of human liberty.

Our quest, then, as libertarians is to recapture the principles of liberty on which our nation was founded and to restore the proper relationship between government and citizen, a relationship in which government officials are once again servants and the citizenry are their masters. Our job is to make the ideas of the Declaration of Independence and the Constitution popularly accepted once again in the context of modern society, with the ultimate goal of restoring liberty to our land.

In closing we must ask one question. Did you talk to the farmer?

Credit given to The Declaration and the Constitution
by Jacob G. Hornberger, May 2001

Thank you for your comment, David Sweetman.

The comment tracking number that has been assigned to your comment is SolarD10011.

Comment Date: December 22, 2010 16:54:19PM
Solar Energy Development PEIS
Comment ID: SolarD10011

First Name: David
Middle Initial:
Last Name: Sweetman
Organization: Esmeralda County Land Use Advisory Committee
Address: P.O. Box 189
Address 2: Mile Post 7, NV-264
Address 3:
City: Dyer
State: NV
Zip: 89010
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The proposal clearly did not involve inputs from Esmeralda County, NV; the location of two proposed sites in NV. The county has a draft Public Land Policy Plan, with map, that identifies suitable locations for renewable energy projects.

I could not transmit the Plan (1.18 MB) over this connection and the map file is too large for transmission.

Please contact me or the Esmeralda County Commissioners to get the proper and appropriate inputs.

Thank you for your comment, Sarah Stratton.

The comment tracking number that has been assigned to your comment is SolarD10013.

Comment Date: December 25, 2010 18:06:15PM
Solar Energy Development PEIS
Comment ID: SolarD10013

First Name: Sarah
Middle Initial: R
Last Name: Stratton
Organization:
Address: PO Box 262
Address 2:
Address 3:
City: Springdale
State: UT
Zip: 84767
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I support alternative energy, it seems wasteful to use land that is pristine in ecosystems. I would like to see other solar projects planned for areas that are already altered ecosystems, such as farmland in the California Central and South Central Valleys and other areas that are less "un-touched".

It seems like a project this size would damage a functioning ecosystem, so I am encouraging solar energy development, but please lets not sacrafice pristine areas because it is the "easiest" or "cheapest" to build on, rather than reclaimed land.

Thank you for your comment, Matt Knepper.

The comment tracking number that has been assigned to your comment is SolarD10014.

Comment Date: December 26, 2010 17:59:04PM
Solar Energy Development PEIS
Comment ID: SolarD10014

First Name: Matt
Middle Initial: I
Last Name: Knepper
Organization: Boyd School of Law--Student
Address: 8924 Spinningwheel Ave
Address 2:
Address 3:
City: Las Vegas
State: NV
Zip: 89143
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Using UEPA.docx

Comment Submitted:

The attached document is the product of my directed research at William S. Boyd School of Law at UNLV. Essentially, the paper discusses recent statutory developments in Nevada's Utility Environmental Protection Act ("UEPA") which among other things, exempt 70 MW renewable energy facilities from state level environmental review.

Moreover, since UEPA was streamlined in 2001, practitioners in Nevada believe that the streamling measures may be saving as much as 6 months in environmental contracting costs. This reduction has likely further led to significant savings in costs of capital with respect to perceptions of risk from the capital markets.

The paper concludes that the streamlining measures of UEPA may be preserved where local permitting entities are involved, while nevertheless exempting SESA projects from state level environmental review.

One final note: this paper was originally written in August of this year. In its segmentation analysis of the 50 MW Nextlight facilities seeking exemption from UEPA review, its conclusions were consistent with the PUCN's ultimate determination in favor of granting Nextlight the exemption. Therefore, I have left it in its orginal form.

Using UEPA

The Key to Fast-tracking Solar Energy Development on Western Lands Located in Nevada

12/26/2010
Matthew I. Knepper
Juris Doctorate Candidate 2012
William S. Boyd School of Law
University Nevada Las Vegas
mknepper@gmail.com

Table of Contents

I. Introduction

In Executive Order 13212, President Bush ordered executive departments and agencies to take appropriate actions "to expedite projects that will increase the production, transmission or conservation of energy."[1] Title II, Sec. 211 of the Energy Policy Act of 2005 (EPAct 2005) directs the Secretary of the Interior to "seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity" within ten years of the signing of the EPAct 2005 into law.[2] Consistent with this mandate, Secretary of the Interior Ken Salazar announced a program aimed at fast tracking solar energy development in six western states.[3] Both the Department of Energy (DOE), and the Bureau of Land Management (BLM) (*collectively*: the Agencies) have identified solar energy development as a critical component in meeting the executive mandate.[4]

Specifically, the Agencies are considering the development and implementation of agency-specific programs that would establish expedited environmental policies and mitigation strategies for utility-scale solar energy development.[5] These policies and strategies would apply to the deployment of DOE supported solar energy projects on BLM-administered lands.[6] The DOE *Solar Energy Technologies Program* currently addresses environmental concerns for solar

[1] Exec. Order No. 13212, 66 Fed. Reg. 28357 (May 22, 2001).
[2] Pub. L. No. 109-58, 119 Stat. 660 (2005).
[3] *Fast Track Initiatives for Solar Energy Development on Western Lands*, (Dept. of Interior/Press Release), June 29, 2009; available at: http://www.blm.gov/or/news/files/DOI_Energy_Development_Press_Release_6-2009.pdf (last visited June 4, 2010).
[4] Notice of Intent to Prepare a Programmatic Environmental Impact Statement to Evaluate Solar Energy Development, Develop and Implement Agency-Specific Programs, 73 Fed. Reg. 30908 (proposed May 29, 2008) [hereinafter *NOI*].
[5] *Id.*
[6] *Id.* at 30910.

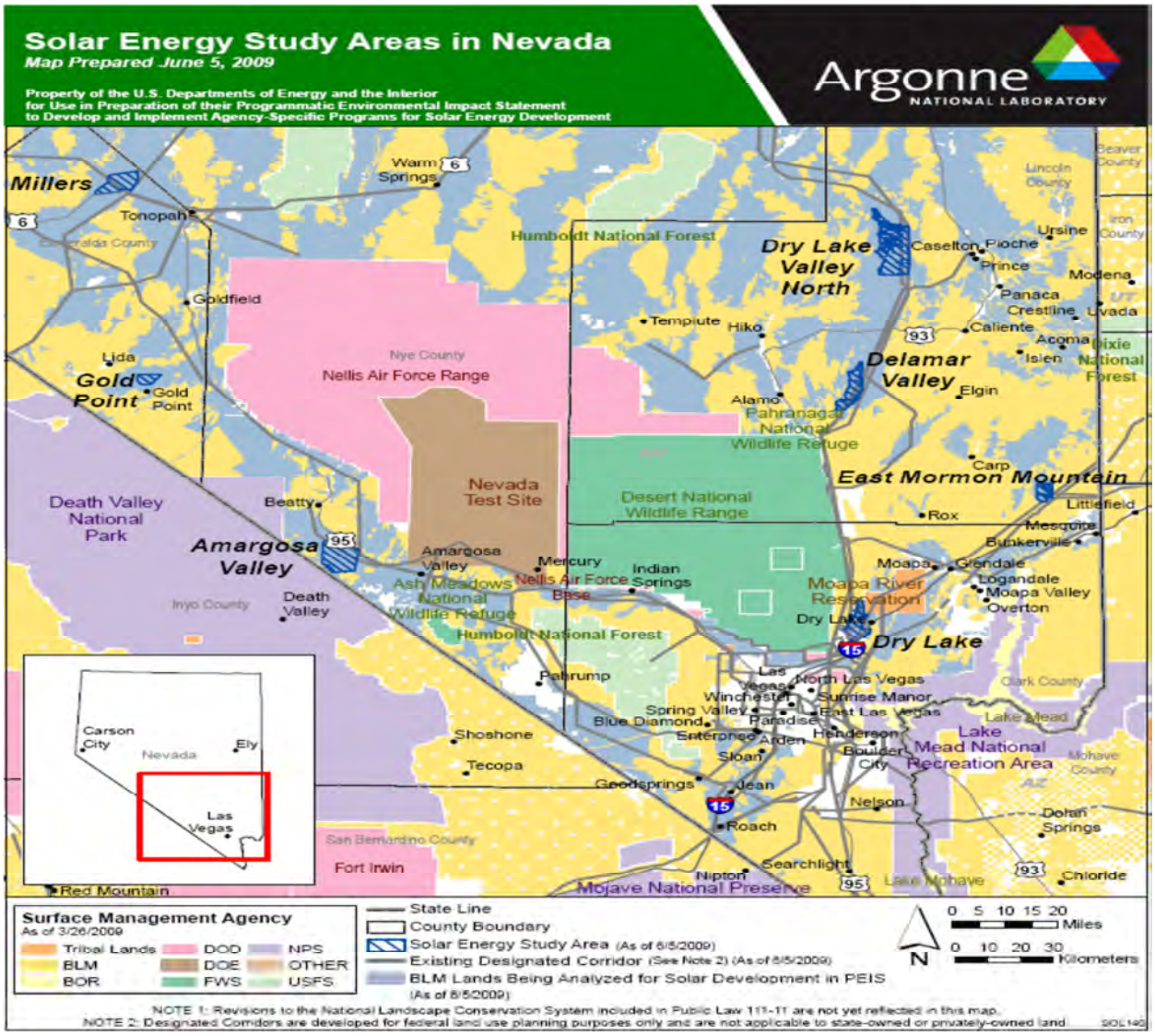
projects it sponsors through grants on a case-by-case basis.[7] Meanwhile, the BLM seeks to establish its own environmental policies and mitigation strategies to use when considering whether to issue rights-of-way (ROW) for utility-scale solar energy development projects on public lands administered by the BLM.[8] The BLM currently processes solar energy ROW applications for lands under its *Solar Energy Development Policy*.[9]

The Agencies' program (Solar PEIS) primarily aims to identify and prioritize specific locations best suited for utility-scale production of solar energy.[10] The Agencies have listed five goals for the Solar PEIS: (1) facilitate near-term utility scale solar energy on public lands; (2) provide the solar industry flexibility in proposing and developing solar energy projects; (3) optimize existing transmission corridors; (4) minimize potential environmental impacts; and (5) standardize the authorization process for solar development on BLM-administered lands.[11]

The BLM has identified 24 tracts of land in six western states for in-depth environmental analysis.[12] The analysis of these solar energy study areas (SESAs) aims at determining whether the Agencies should designate such areas as Solar Energy Zones—specific locations best suited for utility-scale production of solar energy.[13] The Solar PEIS includes Nevada. The BLM has

[7] *Id.*; *see generally*: *Solar Energy Technologies Program: Multi Year Program Plan 2008-2012*, (U.S. Dep't of Energy April 15, 2008) [hereinafter *DOE Solar Policy*]; *available at*: http://www1.eere.energy.gov/solar/pdfs/solar_program_mypp_2008-2012.pdf (last visited June 22, 2010).
[8] 73 Fed. Reg. at 30910.
[9] *Id.*; *see generally* Solar Energy Development Policy, Instruction Memorandum No. 2007-097 (BLM April 4, 2007) [hereinafter *SEDP*].
[10] Notice of Availability of Maps and Additional Public Scoping for Programmatic Environmental Impact Statement to Develop and Implement Agency-Specific Programs for Solar Energy Development, 74 Fed. Reg. 31307 (proposed Mar. 11, 2009) [hereinafter *Maps*].
[11] *Id.* at 31308.
[12] *Id.*
[13] *Id.*

identified seven SESAs in the state.[14] The map below depicts the sites of the Nevada SESAs.[15]



In making their determinations, the Agencies are preparing a programmatic environmental impact statement (PEIS) to evaluate, develop, and implement policy that will expedite utility-scale solar projects. The Solar PEIS will not eliminate the need for site-specific

[14] Specifically, they are: (1) Amargosa Valley/BLM Ely Field Office; (2) Delmar Valley/BLM Ely Field Office; (3) Dry Lake/BLM Ely Field Office; (4) Dry Lake Valley North/BLM Ely Field Office; (5) East Mormon Mtn./BLM Ely Field Office; (6) Gold Point/BLM Battle Mountain Office; (7) Millers/BLM Battle Mountain Office. I have included the respective BLM Field Offices as they are assigned to administer their respective solar energy study areas under the program merely for the sake of orientation.

[15] *Available at*: http://solareis.anl.gov (last visited June 6, 2010).

environmental review for individual utility-scale solar energy development proposals.[16] Rather, the Agencies expect site-specific environmental reviews to be tiered[17] to the Solar PEIS.[18] The policy the BLM seeks to replace is its *Solar Energy Development Policy*, which expired September 30, 2009.[19] Applications received after June 30, 2009 for lands inside the SESAs will be subject to the Record of Decision for the Solar PEIS.[20]

The analysis that follows will consider three predominant areas of relevant Federal and Nevada law driving the environmental review process. First, the discussion will develop a general understanding of the National Environmental Policy Act[21] (NEPA), and discuss streamlining measures developed to create a more efficient review process. Next, the analysis will turn to Nevada's version of NEPA, the Utility Environmental Protection Act[22] (UEPA). Here the analysis will consider how UEPA has transformed since its inception to become an effective tool for expediting the state level review. Using UEPA as the lens for informing the BLM's policy, I will argue that there are several ways that the Nevada SESAs may truly expedite solar energy development on Western Lands.

[16] *NOI*, *supra* note 4, at 30910.
[17] 40 C.F.R. § 1508.28 (1978) (*describing* 'tiering' as a referent to the coverage of general matters in broader impacts statements [such as the Solar PEIS], with subsequent narrower statements or environmental analyses [such as site specific reviews on the SESAs]).
[18] *Id.*
[19] *SEDP*, *supra* note 9; *see also NOA: Maps*, *supra* note 10, at 31308 (stating that "[a]ny entity with an existing application for lands within the solar energy study areas received by the BLM prior to June 30, 2009 will continue to be processed under the BLM's current procedures).
[20] *NOA: Maps*, *supra* note 4, at 31308.
[21] 42 U.S.C. §§ 4321-4375.
[22] *See generally* Nev. Rev. Stat. §§ 704.820-704.900.

II. NEPA

In 1969, Congress enacted NEPA, and on January 1, 1970, President Nixon signed it into law. NEPA has received mixed reviews over the years since its inception. Some have referred to it as "the Environmental Bill of Rights,"[23] contending that it has changed agency decision-making procedures and made administrators more accessible and accountable.[24] While others argue the time needed to comply with various environmental laws requires congressional action to expedite or streamline the environmental review process dictated by NEPA.[25]

Streamlining describes a process or procedures intended to accelerate decision making, especially when input of multiple federal, state, tribal, or local agencies is required to comply with multiple environmental laws, regulations, or executive orders.[26] Streamlining efforts at the agency level may involve one or more of the following categories: (1) designating a specific agency as the lead agency responsible for ensuring compliance with applicable requirements, (2) directing the lead agency to develop a coordinated review process, (3) specifying certain lead agency authority,[27] (4) codifying existing regulations, (5) delegating specific federal authority to states, (6) designating specific activities as being categorically excluded or exempt from certain elements of NEPA, and (7) establishing limits on judicial review.[28]

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[23] Jeffery L. Carmichael, Note, *The Indiana Environmental Policy Act: Casting a New Role for a Forgotten Statute*, 70 Ind. L.J. 613, 616 (1995) (citing Eva H. Hanks & John L. Hanks, *An Environmental Bill of Rights: The Citizen Suit and the National Environmental Policy Act of 1969*, 24 Rutgers L. Rev. 230, 269 (1970). "In form, the National Environmental Policy Act is a statute; in spirit a constitution….") *Id.* at 245.
[24] Carmichael, *supra* note 23, at 616.
[25] Linda Luther, *The National Environmental Policy Act: Streamlining NEPA*, Congressional Research Service, 2 (Jan. 9, 2007); *available at* http://www.nationalaglawcenter.org/assets/crs/RL33267.pdf (last visited June 22, 2010) [hereinafter *Luther*].
[26] *Id.* at 7.
[27] E.g. to establish project deadlines or develop dispute resolution procedures.
[28] Luther, *supra* note 25, at 2.

Delays attributed to the NEPA process generally fall into two categories: (1) those related to the time needed to complete required documentation (primarily EISs), and (2) delays resulting from NEPA-related litigation.[29] Critics of the documentation required under NEPA argue that NEPA creates a complicated array of regulations and logistical delays that stall agency action.[30] Moreover, where document preparation under NEPA occurs concurrently with other stages of a project such as preliminary project design, NEPA analysis and documentation may require additional work as the project's specifications undergo any subsequent changes.[31] Also, a project that triggers NEPA review is likely to require compliance with other environmental laws.[32] In this case, regulators may lack guidance on how to integrate the complicated requirements of state and federal environmental laws and regulations successfully. For this reason, regulators tend to be cautious about integrating the requirements of different laws unless they can define all possible regulatory and technical impacts. Taken together, these factors can act to extend the NEPA process while also triggering environmental review from other federal or state agencies whose jurisdiction is under separate statutory authority.[33]

NEPA-related litigation also causes significant delays to project development.[34] The disposition on this aspect of NEPA implementation cuts two ways. On the one hand, fear of litigation causes agencies to adhere closely to NEPA's requirements.[35] On the other hand, the threat of litigation may lead to unnecessary documentation and analysis that slows the process without contributing actual value to an agency's final decision.[36] Charged with developing

[29] *Id*. at 13.
[30] *Id.* at 2.
[31] *Id.* at 13
[32] *Id.*
[33] *Id.*
[34] *Id* at 14.
[35] *Id.*
[36] *Id.*

NEPA regulations,[37] the Council on Environmental Quality (CEQ) suggests that agencies creating unnecessary documentation and analysis to avoid litigation miss the point when they treat the EIS as an end in itself.[38] Consequently, the EIS process becomes one of producing documents, but to no specific end.[39]

On the other hand, proponents of the NEPA process argue that it is an essential tool to help agencies plan and manage federal actions in a responsible way because it requires policy makers and project sponsors to consider the environmental implications of their actions before deciding to go forward.[40] Thus, NEPA gives agencies a structured, analytical framework within which to make decisions integrating environmental, social, and economic factors.[41] NEPA also serves an important function in providing the public with an opportunity to be involved in agency planning efforts.[42] Proponents of NEPA further argue that where NEPA related litigation occurs, the agency has failed to follow its own NEPA guidelines, and thus opened itself up to the litigation.[43] [44] To this end, proponents argue that the fear of litigation causes agencies to be more mindful of adhering to NEPA's requirements.

Given the entrenched positions on both sides of NEPA regulation, and given the likely national push back on agency efforts to further streamline NEPA for accelerated development on the SESAs, the Agencies would do well to consider expediting the process at the state level. The

[37] 42 U.S.C. § 4343 (1982).
[38] *The National Environmental Policy Act: A Study of Its Effectiveness After Twenty-five Years*, Forward, Council on Environmental Quality (Jan. 1997) [hereinafter *NEPA at 25*], available at http://ceq.hss.doe.gov/nepa/nepa25fn.pdf.
[39] *Id.*
[40] *Luther*, *supra* note 25, at 2.
[41] *NEPA at 25*, *supra* note 38, at 10.
[42] *Luther*, *supra* note 24, at 2.
[43] *Id.* at 10. Two primary reasons for filing a NEPA-related lawsuit are: (1) required documentation is inadequate such as insufficient analysis of all project alternatives, failure to consider all 'reasonable' project alternatives, and failure to adequately analyze the cumulative or indirect impacts of an action; and (2) and Environmental Assessment was prepared when it should have been and Environmental Impact Statement.
[44] Agencies do enjoy some autonomy in developing NEPA procedures that are specific to classes of actions typical to a particular agency's undertakings (*see generally* 40 C.F.R. Part 1507).

discussion that follows in Sections III and IV will illuminate a path for expedited development on the Nevada SESAs through UEPA's statutory provisions. Based on UEPA's genesis over the last 10 years, the discussion will take a chronological approach to explaining the pertinent regulatory structure of UEPA, while illustrating how that structure will benefit the Agencies' effort to expedite solar projects on the Nevada SESAs.

Collectively, Section III and IV argue that the Agencies' should adopt a four-prong approach to employing UEPA for expediting solar energy project development. Based on the Legislature's 2009 amendment to UEPAs definition of a 'utility facility,'[45] the Agencies should limit the nameplate capacity of SESA projects to no more than 70 megawatts (MW). Second, the Agencies should lobby this session of the Nevada Legislature to delegate to the PUCN the authority and requirement that they have a formal rulemaking on the scope of permissible project segmentation relative to the 70 MW exemption. Provided the PUCN has a rulemaking, the Agencies should argue that the PUCN adopt the Ninth Circuit's 'independent utility' test for determinations of proper project segmentation. Third, based on the Legislature's 2001 amendments to UEPA, which created concurrent review processes and timelines for state and local permitting entities, the Agencies should seek Memorandums of Understanding holding those entities to the effects of the 2001 amendments, the UEPA exemptions notwithstanding.

III. The Nevada Utility Environmental Protection Act.

Any solar development in the Nevada SESAs would ultimately tie into Nevada state and county land. This is implicated where the energy produced by the solar projects ultimately sited on the SESAs will connect with transmission and distribution lines that would carry their

[45] Nev. Rev. Stat. § 704.860(1) (2009) (exempting from UEPA review those "electric generating plants and their associated facilities which use or will use renewable energy,…, as their primary source of energy to generate electricity and which have or will have a nameplate capacity of not more than 70 megawatts…."

production to load centers. For this reason, the BLM's proposed standardization of the authorization process would tie into UEPA.[46] Because the Agencies are considering new policy guidelines for project approval, and because this policy is to be narrowly crafted to utility scale solar energy projects, this section weighs whether the BLM should consider integrating components of UEPA into its new policy where the Nevada SEPAs are concerned.

Only two years after Congress passed NEPA, Nevada's legislature passed its own variant of NEPA: the Utility Environmental Protection Act (UEPA).[47] UEPA's drafters designed it to apply narrowly to applications for permits to construct utility facilities.[48] More than any other provision under UEPA, the legislature has amended the definition of a utility facility nine times.[49] Of course, this is among the most critical of UEPA's provisions, as it serves to exclude certain facilities from state environmental review. However, even those facilities exempt from state review are subject still to county and municipal regulation—as authority over zoning, subdivisions, and related entitlements in Nevada—are delegated by statute to counties and municipalities.[50] UEPA contemplates these local permitting entities in its definitional sections as 'other permitting entities.'[51] That definition was added by a significant set of amendments to UEPA passed in 2001.[52]

The 2001 amendments are significant in that no other legislative session since UEPA's inception rivals the legislature's overhaul of UEPA like that of 2001.[53] The 'Alturas Intertie Problem,' along with the Western States' energy crisis of 2000-2001, drove the 2001

[46] Nev. Rev. Stat. §§704.820-704.900.
[47] Nev. Rev. Stat. §§ 704.820-.900 (2009).
[48] Nev. Rev. Stat. § 704.825(2) (1997).
[49] Nev. Rev. Stat. § 704.860 (2009) (amended in 1979, 1985, 1991, 1997, 2001, 2005, twice in 2007, and 2009).
[50] Nev. Rev. Stat. § 278.020 (1995).
[51] Nev. Rev. Stat. § 704.848 (2001).
[52] 2001 Nev. Stat. Ch. 584.
[53] For example, prior to 2001, UEPA had only 15 sections. The 2001 amendments added seven new sections, and amended eight existing sections.

amendments to UEPA.[54] In Subsection 'a', the analysis will first discuss UEPA through the lens of the 'Alturas Intertie Problem.' The Alturas-to-Reno Intertie Project illustrates the difficulties of getting transmission projects built, and by analogy, utility facility projects in general. Consequently, it exposed weaknesses in UEPA prior to the 2001 amendments. In Subsection 'b', the analysis will discuss how the streamlining measures of the 2001 amendments aimed directly at preventing local permitting entities from 'being the tail that wagged the EIS dog.'[55]

a. Gremlins in the Works: the Alturas Intertie Problem.

> "It took you as long to go 15 miles in the state of Nevada as it did to go the 100-plus miles in California."[56]

The Alturas Intertie is roughly 170 miles long and runs between Alturas, California, and Reno, Nevada.[57] A little more than 15 miles of the line are sited in Nevada, with the balance in northern California.[58] The Sierra Pacific Power Co. needed the line primarily to support the reliability of electricity in the fast-growing area around Reno, and to enable Sierra Pacific to gain access to low-cost hydro-power from the Pacific Northwest for the benefit of retail customers in both Nevada and California.[59]

The most significant problems for the Alturas Intertie project occurred on Nevada's end of the line. These problems occured at both the federal and local levels. The BLM was the lead

[54] *See generally* Nev. S. Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001).
[55] Comments of Kathleen M. Drakulich, Renewable Energy Symposium, University of Las Vegas (Aug. 11, 2009). Ms. Drakulich was a drafter of the 2001 amendments, and as Assoc. General Council for Sierra Pacific Power and Nevada Power Company during the permitting and construction phases of the Alturas-to-Reno Intertie Project, was intimately familiar with the difficulties imposed on the project during the local permitting process.
[56] Comments of Nevada State Senator Randolph J. Townsend, Chairman of the Senate Committee on Commerce and Labor, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001) [hereinafter *Townsend*].
[57] Comments of Duane Nelson, Director of Transmission and Business Development, Nevada Power, and Sierra Pacific Power Company, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001) [hereinafter *Nelson*].
[58] Exhibit G, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001).
[59] *Nelson*, *supra* note 57, at 26.

agency for purposes of preparing the environmental impact statement because it had the most affected acreage.[60] The problem at the federal level occurred after the BLM issued its final EIS in November 1995, and the California Public Utilities Commission had approved its portion of the line in January of 1996.[61]

The problem was that the U.S. Forest Service had two affected areas, three miles in the Modoc National Forest in California, and eight miles in the Humboldt-Toiyabe National Forest in Nevada.[62] In February 1996, the manager of the Humboldt-Toiyabe Forest issued a "no-action" decision, and argued that the EIS was flawed because it had not addressed a sufficiently wide range of alternatives—including the alternative of skirting the Humboldt-Toiyabe National Forest entirely.[63] After an unsuccessful appeals process that added several months and hundreds of pages of documents required by the process, Sierra Pacific found that the continuing uncertainty over the Humboldt-Toiyabe route was not worth additional time and expense.[64] Instead, the company opted for an alternative route that while roughly the same length as the initial route, was more costly. This was due to the need to deploy significantly more expensive towers in several locations than would have been required on the Humboldt-Toiyabe route.[65] Moreover, the alternative route required Sierra Pacific to site the line on private land, thus subjecting it to local permitting processes, and with that, the second aspect of the Alturas Intertie Problem became apparent.[66]

[60] David H. Meyer & Richard Sedano, National Transmission Grid Study: *Transmission Siting and Permitting*, E-39 (2002), *available at* http://www.raponline.org/docs/EPR_Meyer_TransmissionSitingAndPermitting.pdf.
[61] *Id.*
[62] *Id.*
[63] *Id.*
[64] *Id.*
[65] *Id.*
[66] *Id.* at 40.

Tactics employed by critics of the project's private land alternative in Nevada used the sequential permitting process that was UEPA prior to 2001 in an attempt to kill the project.[67] Largely due to the local permitting process, the project was delayed by a couple of years.[68] Among other tactics, the project's opponents used a number of local forums with public hearings, where they could continually question the need for, and the location of the project.[69] Senator Randolph J. Townsend, Chairman of Nevada's Senate Committee on Commerce and Labor, recalled the meetings this way:

> Every time someone in Nevada went to a hearing, they said, "Well just move it over here, about a block." Well, "ching, ching [cash register drawer sound]," then the other guy would say, "Well, then I can see it, so just move it another block," or, "move it over here." And then we are doing those visual drawings where the computer will put it into the actual photo; we started doing those. So, if a guy is on his roof standing on his tiptoes, "Ah, I can see it, I do not want it near me." Well, pretty soon the line got to the point that every time you moved that 15-mile line, it was going to end up costing the ratepayer the same as the 100-plus-mile line. …Then they said, "Well just stick it underground." O.K, "ching, ching." I mean, we have to understand that we need to balance these interests, if you want power in an urban center, you do not drive to the border and plug in. It has to come to your house or your business.[70]

Due to the sequential nature of the permitting process, each of the permitting entities was able to wait until the others had issued their permits—essentially wanting to be the last to issue a permit and thus forestall local political fallout.[71] In order to combat this, the drafters of the 2001

[67] *Nelson*, *supra* note 57, at 27.
[68] *Id*.
[69] *Id.*
[70] *Townsend*, *supra* note 56, at 28.
[71] Interview with Kathleen M. Drakulich, Partner, Energy, Environment & Natural Resources Practice Group, McDonald, Carano & Wilson LLP. (July 21, 2010).

amendments sought to give the PUCN control over the local process to the extent that the local and state processes would be parallel.[72]

b. Streamlining UEPA: the 2001 Amendments[73]

In utility project development, stretching the permitting step of the process from several months to a year or more could increase the cost by a factor of several times.[74] The delay in bringing any new plant on-line means additional months of foregone power sales.[75] Ultimately, the combined financial impact of these two factors can change the economic feasibility of a project.[76] While the Alturas Intertie did come on-line in 1998, the truth in Congresswoman Titus' above statements was painfully evident to future project sponsors and to the legislature. To resolve these issues, the drafters recognized several goals the 2001 amendments would need to address. First, S.B. 362 required that the various application processes occurred concurrently rather than sequentially.[77] In the instance of federal agency involvement, that agency would go first and all the local and state agencies would have the benefit of that document when it was completed.[78] Second, the bill provided for improved coordination among different levels of government such that the various permitting entities could: (1) get involved early in the process, and (2) be informed of that was happening at the other levels of the process.[79]

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[72] *Nelson*, *supra* note 57, at 28.
[73] S.B. 362: Public Utilities—Construction of Utilities—License Applications, Ch. 584, 2001 Nev. Stat. 1 (codified as amended in scattered sections of Nev. Rev. Stat. §§ 704.820-.900) [hereinafter *2001 Nev. Stat.*].
[74] Comments of Nevada State Senator Dina Titus, Nevada Assembly Committee on Commerce and Labor Hearing, 71st Session, 20 (May 21, 2001) [hereinafter *Titus 5-21*].
[75] *Id.*
[76] *Id.*
[77] *Id*.
[78] Comments of Kathleen M. Drakulich, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 20 (Mar. 22, 2001) [hereinafter *Drakulich 3-22*].
[79] *Titus 5-21*, *supra* note 74, at 20.

Finally, the drafters intended the amendments would heighten the responsibility of the applicant for those permits.[80] Thus, the revised process required the applicant to file notice with both the PUCN, and any affected local agency that a project was coming forward so they could participate in the review of the project even while any affected federal agency was reviewing it. At the same time, they could provide input and comments and do their formal review for the benefit of the final EA or EIS the federal agency was preparing. Then the state and local agencies would proceed simultaneously.[81]

In the subsections that follow, the analysis will center on the streamlining sections of the 2001 amendments that will most benefit the Agencies' program for fast-tracking solar energy development. Subsection 1 will focus on Nev. Rev. Stat. § 704.8905, which set the stage for concurrent review from all affected state and local permitting agencies by setting timelines for approval or denial within 150 or 120 days depending on whether federal review is required. Subsection 2 analyzes the role of granting permits conditioned either on: (1) permits that are yet to be granted by other affected agencies, or (2) on conditions subsequent to, and specified by the agency granting the conditional permit. Ultimately, it is the concurrent review provisions and conditional permitting language under UEPA that the Agencies should seek to have locked in place with the local permitting entities in the event SESA projects are exempt under UEPA review.

[80] Comments of Kathleen M. Drakulich, Nevada Assembly Committee on Energy, 71st Session, 20 (May 21, 2001) [hereinafter *Drakulich 5-21*].
[81] *Id.*

1. Take Six: How Moving to a Concurrent Permitting Process Could Save Six Months in State Level Environmental Review Process.

A primary driver of the process of a transmission project is the geography in which the project would be located.[82] On the one hand, where there is no federal land involved, the review of the project would be the responsibility of local and state agencies. [83] One the other hand, if the project is located on federal land, a project may require an environmental review prior to a federal agency's issuance of a necessary right of way.[84] Accordingly, the 2001 amendments established a new approach to Nev. Rev. Stat. § 704.870(1) where no federal review is required, or alternatively, §704.870(2) where federal review is required.[85]

The key Section prescribing the concurrent review process was new Nev. Rev. Stat. § 704.8905.[86] Subsection (1) establishes the concurrent timelines for review when a facility is wholly located on private property, and thus would not require federal review.[87] Essentially, this Subsection requires both the PUCN and 'other permitting entities'[88] to grant or deny an application to construct a utility facility within 150 days from the date the applicant filed its application with the PUCN.[89] For projects that involve federal review, §704.870 imposes a 120-

[82] Comments of John Owens, Project Engineer, Sierra Pacific Power, Nevada Assembly Committee on Energy Hearing, 71st Session, 6-7 (May 21, 2001).
[83] *Id.*
[84] *Id.*
[85] *See generally* 2001 Nev. Stat. Ch. 584 §§ 8 & 11 (codified at Nev. Rev. Stat. §§ 704.8905 (2001) & 704.870 (amended 2009), respectively).
[86] Codified at Nev. Rev. Stat. § 704.8905 (2001). §8 of the amendments was a new addition entirely and has remained unaltered since its adoption in 2001.
[87] Nev. Rev. Stat. § 704.8905(1)(a) (2001).
[88] 'Other Permitting Entity' is defined by § 4 as: "any state or local entity: (a) That is responsible for the enforcement of environmental laws and whose approval is required for the construction of a utility facility…; or (b) Whose approval is required for granting any variance, special use permit, conditional use permit or other special exception [under their statutorily delegated authority to do so]…." (codified at Nev. Rev. Stat. § 704.848(1)-(2) (2001)).
[89] Nev. Rev. Stat. § 704.8905(1)(a) (2001).

day limit for decisions on permits.[90] This time line is shorter because the state and local reviews have the benefit of the 12 to 24-month federal process that would precede the 120-day requirement.[91]

This Section also puts tremendous emphasis on the applicant's responsibility in the process. This is because §704.8905 only holds other permitting entities to this timeline if the applicant has filed their application with the other permitting entities on or before the date on which the applicant filed with the PUCN.[92] Alternatively, where federal review is involved, the applicant must file with the PUCN and all other permitting entities "not later than the date on which the person files [its application to construct] with the appropriate federal agency."[93]

One final aspect of the timeline filing requirements for the applicant would be instructive here. §704.870(2)(b) requires that no later than 30 days after the affected federal agency issues a final EA or EIS, the applicant must file an amended application with: (1) the PUCN;[94] and (2) each other permitting entity for permit, license or other approval for the construction of the facility.[95]

Thus, so long as all the other permitting entities know well in advance that the project is coming forward, they can both inform the process and produce their formal review for the benefit of the environmental review the lead agency is preparing. See Appendix A for an exhibit used by the drafters of the 2001 amendments to illustrate what the timelines looked like under

[90] Nev. Rev. Stat. § 704.8905(1)(b) (2001).
[91] *Drakulich 5-21*, *supra* note 80, at 21.
[92] Nev. Rev. Stat. § 704.8905(1)(a)(2) (2001).
[93] Nev. Rev. Stat. § 704.870(2)(a) (2001). While § 704.8905 prescribes the time lines for agency decisions, it requires that it be read with § 704.870(1) or (2) which prescribe the requirements for filing an application when: (1) no federal agency approval is involved, or (2) when federal approval is involved, respectively.
[94] Nev. Rev. Stat. § 704.870(2)(b)(1) (2001).
[95] Nev. Rev. Stat. § 704.870(2)(b)(2) (2001).

sequential versus concurrent review processes.[96] Of course, there may be issues along the way that a particular agency will require the applicant to remedy before that agency will grant approval. Where this is the case, the drafters did not want that particular agency's approval to prevent the other permitting agencies from issuing their approvals. To remedy this issue, they devised conditional permitting, which is the subject of the section that follows.

2. Grease for the Wheels: How Conditional Permitting Keeps the Concurrent Process Moving.

There are two aspects of conditional permitting the 2001 amendments put in place. On the one hand, §13 of the 2001 amendments created Nev. Rev. Stat. § 704.890(2), which allows the PUCN to issue the UEPA permit conditioned upon obtaining permits from other permitting agencies that are outstanding.[97] In this regard, a particular permitting entity's issue with an aspect of the project does not hold up the global process. Furthermore, because §704.890 holds the state and local permitting agencies to the 150/120-day timelines, a project sponsor can be certain that they will receive timely notice of problems particular to a permitting agency upon whose approval the UEPA permit is conditioned.

On the other hand, §704.8905(2) prescribes that the PUCN or other permitting entity may attach terms, modifications or conditions to the construction, operation, or maintenance of the utility facility within their jurisdiction, as the PUCN or other permitting entity deems appropriate.[98] In contrast to the conditional permit under §704.890(2), the Section §704.8905(2) conditional permit limits the condition to performance of a requirement placed on the project by

[96] Exhibit 'E', Nev. S. Comm. Min., 1823 (Mar. 22, 2001).
[97] Codified at Nev. Rev. Stat. § 704.890(2) (2001). Like § 8 (codified at Nev. Rev. Stat. § 704.8905 (2001)), Section 13 was an entirely new addition to UEPA and has remained unaltered since its adoption in 2001.
[98] Nev. Rev. Stat. § 704.8905(2) (2001).

the permitting entity granting the conditional permit. For example, a permitting agency may require vegetation around a substation of a utility facility.

Taken together, these conditional permitting methods allow the Section 8 timelines to continue moving the various permitting entities forward. Recall that in the Alturas Intertie Problem, the permitting entities had no such time constraint, and could therefore compete with each other to be the entity to go last. Instead, permitting entities that fall under UEPA jurisdiction must issue the permit with or without conditions, subject to the amended application time lines. Otherwise, they must make their issue with the proposed project known such that the project sponsor may remedy it. Thus, under the 2001 Amendments, the permitting entities can no longer be the tail that wagged the EIS dog.

The next section explains how renewable projects less than 70 MW may be exempt from UEPA review. While this may be beneficial to projects from the standpoint of a reduction in uncertainty and risk, it would also remove the concurrent and conditional review process requirements UEPA places on local permitting entities. In order to avoid another Alturas Intertie Problem from the SESA projects, the Agencies should seek Memorandums of Understanding (MOUs) with the local permitting entities that would hold those entities to their obligations under UEPA. Ideally, all the local jurisdictions affected by the SESAs will sign on to the MOUs. However, if they do not, then risk adverse project sponsors and developers will know which SESAs will be more favorable to develop.

IV. Achieving Exemption from UEPA Review.

The 2009 legislature amended UEPA's definition of a 'utility facility.'[99] Prior to 2009, the term 'utility facility' essentially applied to generating plants and their facilities, unless those facilities would be located within the boundaries of Washoe and Clark Counties. [100] This is important because only projects qualifying under UEPA's definition of a utility facility will be subject to UEPA review.[101] However, §4 of S.B 395 (2009 Amendments) altered the §704.860 definition of a utility facility. Now the exemption only applies to facilities: (1) using renewable energy[102] as their primary source of energy to generate electricity; (2) have or will have a nameplate capacity of not more than 70 megawatts; and that may have (3) a net metering system. [103] [104]

Recall that the drafters of the 2001 amendments used the graphic in Appendix A to illustrate the 2001 amendments' anticipated effect on the process.[105] They essentially argued that they would save as much as six months by going from a process that was sequential in nature, to one that would be concurrent under the amendments, would save as much as six months. I use

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[99] Nev. Rev. Stat. § 704.860 (1) (Amended by S.B. 395 § 4 (2009)).
[100] Nev. Rev. Stat. § 704.860 (1) (2007) (amended 2009) read:

> "Utility facility" means:
> "1. Electric generating plants and their associated facilities, except:
> (a) Electric generating plants and their associated facilities that are or will be located entirely within the boundaries of a county whose population is 100,000 or more [meaning Clark and Washoe]; or
> (b) Electric generating plants and their associated facilities which use or will use renewable energy, as defined in NRS 704.7811, as their primary source of energy to generate electricity and which have or will have a generating capacity of not more than 35 megawatts…."

[101] *See generally* Nev. Rev. Stat. § 704.870 (2009).
[102] Defined by Nev. Rev. Stat. § 704.7811 1(a)-(e) (2003) as derived from: (a) Biomass; (b) Geothermal energy; (c) Solar Energy; (d) Waterpower; and (e) Wind.
[103] Nev. Rev. Stat. § 704.860(1) (2009).
[104] Defined by Nev. Rev. Stat. § 704.771 1(a)-(e) (2007) as "a facility or energy system for the generation of electricity that: (a) uses renewable energy as its primary source of energy to generate electricity; (b) has a generating capacity of not more than 1 megawatt; (c) is located on the customer-generator's premises; (d) operates in parallel with the utility's transmission and distribution facilities; and (e) is intended primarily to offset part or all of the customer-generator's requirements for electricity."
[105] *Exhibit 'E,' supra* note 96.

this to illustrate that a project requiring federal environmental review would likely be subjected to concomitant environmental review under UEPA, and that—under the assumptions of the drafters of the 2001 amended process—could still add 6 months to the back-end of the federal process. Thus, if renewable solar projects under 70 MW were to be adopted in the Agencies' Solar Energy Study Areas (SESAs), they would likely be exempted from UEPA review altogether—as they do not qualify under the statutory definition.[106] In his statement to the Senate Committee on Energy, Infrastructure and Transportation regarding the 2009 Amendments, Governor Gibbons said "[t]he bill proposes to increase renewable-energy nameplate capacity from 35 MW to 70 MW so that projects of less than 70 MW do not need to go through the [PUCN's UEPA] permit process. This will reduce the permitting time by at least six months."[107] Later in the same hearing, Dr. Hatice Gecol, Director of Nevada's Office of Energy, reiterated, "…the Governor proposes to increase the renewables' nameplate capacity from 35 MW to 70 MW to reduce the permitting process by at least six months."[108]

These statements are perhaps a bit optimistic regarding the reduction in time for the permitting process. Recall that the PUCN is not the only permitting agency involved in the back-end of federal review. The state process was not the basis for the Alturas Intertie Problem. Rather, that sprang from issues related to the local permitting process. Removing the PUCN's UEPA review may remove a layer from the review process. Furthermore, it may give capital markets a sense that they have less regulatory 'red-tape' to be concerned about, thus reducing capital costs that would otherwise be associated with the uncertainty and risk. However, the 2001

[106] Nev. Rev. Stat. § 704.860 (1) (2009).
[107] *Minutes of the Senate Committee on Energy, Infrastructure and Transportation*, 2009 Leg., 75th Sess. 3-4 (Mar. 31, 2009) (statement of Jim Gibbons, Governor, State of Nevada) [hereinafter *Gibbons 3-09*].
[108] *Id.* at 8 (statement of Hatice Gecol, Ph.D., Director, Nevada State Office of Energy). In response to a question from Senator Cegavske on the asserted six month reduction in length of the permitting process, Dr. Gecol responded that "The six month reduction …is the PUCN'S UEPA permit process." *Id.* at 16.

amendments created a concurrent review process, and local permitting will still be required; and with that, according to the charts in Appendix A, the process may still take up to six months.

The following subsections will make three points. First, in Subsection a., I will argue that exclusion from UEPA review could produce a good outcome. Even with the effectiveness of the 2001 streamlining measures, there is still a roughly six-month UEPA process on the back end of the federal review. Exclusion from UEPA could truncate that. Then, in Subsection b., the analysis will turn to litigation issues that may arise if project opponents claim that project sponsors and the PUCN have improperly segmented a larger project to avoid environmental review.

a. Exclusion from UEPA May Reduce Uncertainty and Risk Perception from the Capital Markets, thus Reducing the Cost of Capital for Solar Projects on the Solar Energy Study Areas.

To put the size requirements of a 70MW solar project in perspective, I offer the following illustration. NextLight Renewable Power, LLC., has filed a UEPA application for a 150 MW solar photovoltaic (PV) generating facility near Bolder City.[109] That project proposes to locate on approximately 1,130 acres of land.[110] Assuming that a solar PV project requires 7.5 acres per MW, then a 2,000-acre plot could feasibly support 266 MW.[111] Understand that this is a very crude calculation, and several factors determine the MW per acre calculation. Nevertheless, based on this crude calculation, I will illustrate my point.

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[109] Application of NextLight Renewable Power, LLC for authority under the provisions of the Utility Environmental Protection Act for a permit to construct the Boulder City Solar Project, Docket # 10-05018, Public Utilities Commission of Nevada (May 20, 2010). Available at: http://pucweb1.state.nv.us/pucn/DktInfo.aspx?Util=Renewable. (last visited July 17, 2010).

[110] *Id.*

[111] The math here is 1,130 acres/150 MW= ~7.5 acres/MW. Then working from that assumption: 2,000 acres/7.5= ~266MW. A very crude calculation indeed!

Assuming a 2,000-acre SESA,[112] I propose that three 70 MW projects could be placed on each 2,000 acre SESA. Assuming just four of the seven Nevada SESAs receives solar projects—that could total 12 projects on the low end of potential projects per SESA. Multiply 12 projects by 6 months of UEPA exemption per project due to its 70 MW size, and the total could be as high as 72 months saved in collective environmental contracting costs and uncertainty.

Therefore, if the Agencies' tier the SESA projects to the UEPA size-exemption, they would likely assist those projects in reducing upfront capital cost significantly. However, as the following case will illustrate, the Agencies will need to seek clarification on the PUCN's position regarding the extent to which it may segment proposed projects on a SESA, thus qualifying as exempt from UEPA review. Moreover, the PUCN is clearly keeping the transmission issue on the table for UEPA review.

b. The NextLight Solar Facilities Problem: Exploring the Bounds of Permissible Segmentation.

Impermissible project segmentation occurs when an agency defines a project too narrowly for purposes of evading environmental analysis.[113] Neither the UEPA statutes, nor their regulations directly address segmentation. Furthermore, Nevada's courts have not ruled on a segmentation case under UEPA or any other state cause of action. However, as the NextLight Solar Facilities problem noted below illustrates, the §704.860(1) exemption could lead to litigation under a theory of impermissible segmentation.[114] One aspect of the solution lies in legislative delegation of authority to the PUCN to define the scope of permissible project

[112] This is the minimum SESA size per 74 FR 31307.
[113] William H. Rodgers Jr., *Handbook on Environmental Law*, 787 (2nd ed. 1994)
[114] PUCN General Counsel, Memorandum to the Commissioners, 4, Docket # 10-04023 (June 30, 2010) [hereinafter *GC Memo*].

segmentation. Based on the PUCN's rulemaking on segmentation, the BLM could then tier SESA projects to conform to the regulations, and thus avoid pitfalls due to uncertainty. However, the NextLight problem will illustrate, the PUCN is poised to adjudicatively define threshold determinations they will likely apply to future §704.860(1) cases. Moreover, because segmentation can be a very fact specific determination, the PUCN's order in the NextLight case may not offer adequate assurances and clear guidance to those who hope it otherwise will. Clear guidance on how to proceed with multiple projects on a single SESA while still achieving the UEPA exemption will likely follow from a formal rulemaking on the matter.

NextLight has just completed a Draft Environmental Impact Statement (DEIS) for the Silver State Solar Energy Project.[115] Accordingly, NextLight filed a UEPA application[116] for a 400 MW generating facility near Primm, Nevada. On February 16, 2010, the company signed a power purchase agreement (PPA) with NV Energy for the output of a 50 MW generating facility to be located at the same site.[117] For this facility, they sought a declaratory order from the PUCN that exempts the 50 MW facility from UEPA review.[118] On May 7, 2010, the PUCN issued an order for further proceedings with respect to the exemptions and NextLight's petition.[119]

Essentially, NextLight sought clarification on two aspects of the 50 MW project. The first was whether the 50 MW facility would be exempt from UEPA review under Nev. Rev. Stat. §

[115] Draft Environmental Impact Statement for the Silver State Solar Energy Project, NVN-085077 (Bureau of Land Management, April 2010) [hereinafter *DEIS*].
[116] *Application of NextLight Renewable Power, LLC, for authority under the provisions of the Utility Environmental Protection Act for a permit to construct the Silver State Project*, Docket # 09-08019, PUCN (Sept. 16, 2009).
[117] However, while the DEIS contemplates the PPA with NV Energy, it does not contemplate the 50 MW facility specifically.
[118] *Petition of NextLight Renewable Power…for a declaratory order as to whether a 50 MW photovoltaic solar electric generating facility and associated bus tie is exempt from the Utility Environmental Protection Act permitting requirements,* Order, Granting in Part, Setting Further Proceedings, 2, Docket # 10-04023, Public Utilities Commission of Nevada (July 2, 2010) [hereinafter *Declaratory Order*].
[119] *See generally Petition of NextLight Renewable Power…for a declaratory order as to whether a 50 MW photovoltaic solar electric generating facility and associated bus tie is exempt from the Utility Environmental Protection Act permitting requirements,* Docket # 10-04023, Public Utilities Commission of Nevada (PUCN) (May 7, 2010) [hereinafter *Declaratory Petition*].

704.860(1). Specifically, NextLight wanted the exemption to apply despite the fact that a second, much larger facility would "one day be constructed on contiguous land by the same developer, with an aggregate power output of the two facilities of more than 70 MW for the two projects."[120] To support their position, NextLight emphasized that the 50 MW facility was dedicated solely to supplying the NV Energy PPA.[121] Further, they argued that it should be exempt because they were separately financing it as a standalone project, and as a result, all of the assets necessary to construct and operate the facility would be separately owned and operated from any subsequent facility. [122] Included among those assets are: (1) an interconnection agreement with NV Energy; (2) a transmission line pursuant to the interconnection agreement; (3) a separate agreement granting all the real estate rights specifically required for the facility; and (4) a separate water supply agreement.[123] On this point the Commission conceded that pursuant to §704.860(1),[124] the 50 MW facility is not a "utility facility" within the meaning of UEPA, and is therefore not required to obtain a UEPA permit for its construction.[125]

However, prior to issuing a declaratory order on the matter, the Commission's General Counsel's Office (GC) recommended that the Commission set the matter for further proceedings.[126] The GC's main concern was that the federal EIS should match the contemplated construction of the proposed facility.[127] They emphasized that if the environmental review is for generating facilities in excess of 70 MW, the Commission should reconsider the exemption.[128] They reasoned that "if the Commission did not hold NextLight to the EIS, projects like this one

[120] *Id.*
[121] *Id.* at 3.
[122] *Id.*
[123] *Id.* at 4.
[124] Nev. Rev. Stat. § 704.860(1) (2009).
[125] *Declaratory Order*, *supra* note 118, at 4.
[126] *GC Memo*, *supra* note 114, at 1.
[127] *Id.* at 4.
[128] *Id.*

could be [improperly segmented] through contracts even though the total nameplate capacity would exceed the exemption limits."[129] Thus, parties could simply contract around the legislative intent to exempt only renewable projects capped at a specific size.[130]

The Commission adopted the GC's position and stated that because the federal EIS should match the proposed construction of utility facilities, future proceedings on the matter will center on the parameters of the BLM's environmental review.[131] The DEIS conducted with the BLM does not mention the 50 MW generating plant. However, the DEIS does contemplate the 50 MW PPA.[132]

The second aspect NextLight sought clarification on was the 230 kV transmission line that would connect the 50 MW generating station to the Bighorn Substation.[133] NextLight argued that this was merely an "associated facility" pursuant to §704.860(1), and was thus exempt from UEPA review as well.[134] To support their argument, they reasoned that a different interpretation of §704.860, "exempting the 70MW generating facility but requiring a UEPA permit for a bus tie which exceeds 200 KV for that same facility" would render meaningless the UEPA exemption for the generating facility.[135]

To this point, the Commission applied §704.860(2)(a), which defines electric transmission lines and transmission substations that are designed to operate at 200 kV or more as "utility facilit[ies]."[136] Under this definition, the transmission line is subject to UEPA review. The Commission was solely focused on the capacity of the line, not its length (about a half a

[129] *Id.*
[130] *Id.*
[131] *Declaratory Order*, *supra* note 114, at 5.
[132] *DEIS*, *supra* note 115, at 3-57.
[133] *Declaratory Order*, *supra* note 118, at 4.
[134] *Id.*
[135] *Id.*
[136] *Id.*

mile), nor the term ("bus tie" versus "transmission line") in making its determination.[137] The Commission further reasoned that the absence of any exemption in §704.860(2) for high voltage transmission lines clearly indicated that the legislature had no intent to move with haste on the issue of transmission without careful consideration of its environmental costs.[138]

The GC's opinion signals two areas of environmental review; both are issues of first impression in Nevada's courts: segmentation and cumulative actions. The first issue turns on the permissible degree of segmentation of a larger project into its parts without requiring UEPA review. The second issue turns on whether the cumulative environmental impact of multiple, less than 70 MW projects, should be considered under one EIS.

The PUCN's determination will no doubt speak directly to the facts in the NextLight case. This will likely offer inadequate guidance to SESA project sponsors seeking UEPA exemption status on the SESAs. In this event, the Agencies would benefit from lobbying this session of the Nevada Legislature on both issues. Specifically, the Agencies should seek a legislative mandate delegating full authority over the matter to the PUCN. This is preferable because under the highly deferential arbitrary and capricious standard,[139] Nevada's courts will be less likely to overturn the PUCN's rulemaking or orders there under. In turn, Capital markets may perceive less risk in SESA project investment, thus reducing capital costs.

[137] *Id.*
[138] *Id.* at 5.
[139] Nev. Rev. Stat. § 703.373(6)(f) (1983); Nev. Rev. Stat. § 704.895(2)(d) (2001).

1. The CEQ's NEPA Regulations and Other Factors Considered by Agencies and Courts in Making the Segmentation Determination.

The CEQ's NEPA regulations require that multiple projects be considered together in the same EA or EIS if they are connected actions,[140] cumulative actions,[141] or similar actions.[142] Connected actions "automatically trigger other actions which may require [EISs]…, [c]annot or will not proceed unless other actions are taken previously or simultaneously…, or [a]re interdependent parts of a larger action and depend on the larger action for their justification."[143] Segmentation cases fall under the 'connected actions' definition. Cumulative actions are actions that, "when viewed with other proposed actions, have cumulatively significant impacts."[144] Finally, when viewed with other reasonably foreseeable or proposed actions, cases involving similar actions turn on whether those actions provide a basis for evaluating their environmental consequences together in a single EA or EIS.[145] One such basis for similarity is shared geography. Taken together, these three actions serve as the basis for segmentation determinations.

Because a fundamental understanding of the mechanics of segmentation and cumulative action would inform the Agencies' lobbying efforts, the following analysis will brief those issues in greater detail. Thus, the discussion begins by arguing that the 'similar actions' basis of common geography should be determined by the PUCN. Then the discussion will turn to the CEQ's guidelines for making segmentation and cumulative action determinations. Next, the discussion will track the 9th Circuit's jurisprudence in reviewing agency decisions under the

[140] 40 C.F.R. § 1508.25(a)(1) (1978).
[141] 40 C.F.R. § 1508.25(a)(2) (1978).
[142] 40 C.F.R. § 1508.25(a)(3) (1978).
[143] 40 C.F.R. § 1508.25(a)(1)(i), (ii), (iii) (1978).
[144] 40 C.F.R. § 1508.25(a)(2) (1978).
[145] 40 C.F.R. §1508.25(a)(3) (1978).

connected and cumulative action issues. This Section then concludes by applying the 9th Circuit's jurisprudence and the facts of the NextLight problem to the BLM's SESAs.

i. Determining the Role of Geography.

An agency has a degree of discretion regarding whether to analyze 'similar actions' in the same impact statement.[146] To be sure, an agency "*should* [analyze similar actions in the same impact statement] when the *best* way to adequately assess the combined impacts of similar action…is to treat them in the same impact statement."[147] In any legislative delegation to the PUCN regarding rulemaking, the legislation must specify that in its discretion, the PUCN has the authority to define the best way to adequately assess the combined impacts of a similar action. This discretion would include the authority not to assess combined impacts whatsoever.

One way the PUCN may be certain that one project is properly segmented from another, is by establishing permissible geographical border minima between projects. Contemplate this notion as along a continuum. At one extreme, a project would have no geographic boundary separating it from any other project that may be located adjacent to it. In this sense, there would only be a contractual boundary separating one facility from the next. NextLight's 400 MW facility would likely be on this end of the continuum. At the other extreme, the project is divided by miles such that the 350 MW facility would be located in Primm, while the 50 MW facility would be located 90 miles northwest in the Amargosa Valley. While intellectually less challenging, the later extreme when applied to the SESAs, would entirely defeat the purpose of locating several less than 70 MW projects on a single SESA.

[146] 40 C.F.R. § 1508.25(a)(3) ("An agency *may wish* to analyze these actions in the same impact statement.") (emphasis added).
[147] 40 C.F.R. § 1508.25(a)(3) (emphases added).

However, the advantages to allowing projects nearer the first extreme of the continuum to go forward are clear. The less distance a developer has between projects, the more efficient the land use. Assume two facilities, 'A' and 'B.' These two facilities are conceived as standalones. Assume further that other than sharing common municipal services such as sewage and water supply, they share no other physical facilities in common that would allow them to consolidate costs. Examples of these facilities in common would include on-site substations or collection systems that would convey electricity from the solar field to the on-site substations. A and B are separate projects, with separate federal EISs, conducted for the SESAs. Recall that the BLM intends that the Solar PEIS will not eliminate the need for site-specific environmental review for individual utility-scale solar energy development proposals.[148] Thus the PUCN's concern that an EIS match the proposed construction will be addressed.

Under these constraints, the PUCN would not likely perceive a problem with the geographic proximity of the two projects under two stipulations. First, because A and B have never been conceived of as segments of a larger project, the GC would likely not take issue with attempts to segment them. A second reason the PUCN would likely not take issue with either of the projects is that one is not dependent on the other for physical infrastructure. Further, the BLM would have greater liberty to site projects in a manner that optimizes the utility of the SESA. Therefore, the PUCN should not set geographical constraints merely to establish permissible segmentation of projects located on the SESAs. Instead, the PUCN's determinations of permissible segmentation should occur under the connected and cumulative actions rationale developed in the next part.

[148] *See* text accompanying footnotes 16 & 17, *supra*.

ii. Determining the Degree of Permissible Connected and Cumulative Actions.

The CEQ regulations implementing NEPA require that an agency consider 'connected actions' and 'cumulative actions' within a single EA or EIS.[149] Connected or cumulative actions must be considered together to prevent an agency from "dividing a project into multiple 'actions,' each of which individually has an insignificant environmental impact, but which collectively have a substantial impact."[150] Deciding whether agency actions "are sufficiently interrelated to constitute a single 'agency action' for NEPA purposes will generally require a careful analysis of all the facts and circumstances surrounding the relationship."[151]

Pursuant to the CEQ's regulations, the 9th Circuit Court of Appeals has adopted an "independent utility" test to determine whether an agency is required to consider multiple actions in a single NEPA review.[152] In *Thomas v. Peterson*, the Court addressed the issue of whether NEPA required the Forest Service to consider the environmental impacts of the building of a forest logging road in a single review process. [153] The road facilitated logging and the timber sales resulting from that logging.[154] The Court found the logging operations and the construction of the road were "connected actions" because "the timber sales [could not] proceed without the road, and the road would not be built but for the contemplated timber sales."[155] [156]

Applying the same test, the Court has rejected claims "that actions were connected when each of two projects would have taken place with or without the other and thus had 'independent

[149] Wetlands Action Network v. United States Army Corps of Eng'rs, 222 F.3d 1105, 1118 (9th Cir. 2000).
[150] *Id.* (quoting Thomas v. Peterson, 753 F.2d 754, 758 (9th Cir. 1985)).
[151] *Id.* at 1116 (quoting Friends of the Earth, Inc. v. Coleman, 518 F.2d 323 (9th Cir. 1975)).
[152] *Id.* at 1118.
[153] 753 F.2d 754, 759 (9th Cir. 1985).
[154] *Id.*
[155] *Id.*
[156] *See also* Trout Unlimited v. Morton, 509 F.2d 1276, 1285 (9th Cir. 1974) (finding that an EIS must cover a whole project when "[t]he dependency is such that it would be irrational, or at least unwise, to undertake the first phase if subsequent phases were not also undertaken").

utility.'"[157] In *Morongo Band of Mission Indians v. FAA*, the Court found that the FAA did not improperly segment NEPA review of an airport's arrival enhancement project (AEP) from review of a larger airport expansion project for which the FAA was preparing an EIS. [158] Finding that each project had independent utility, the Court recognized that the expansion project would exacerbate the problems the AEP was addressing.[159] Nevertheless, the Court found that the AEP was an independent action because it was designed primarily to deal with existing problems, and therefore was not connected to any future expansion project.[160]

The 9th Circuit has taken a "facts and circumstances" approach where it has reviewed agency determinations of extent and effect of 'cumulative impacts.' In *Blue Mountains Biodiversity Project v. Blackwood*, the 9th Circuit overturned the Forest Service's determination that the cumulative effects of five lumber projects in the same watershed did not warrant a single EIS.[161] The Court found three facts particularly compelling in its determination that the five sales were cumulative actions: (1) the sales were reasonably foreseeable, (2) the Forest Service announced the sales were developed as a part of a single forest recovery strategy, and (3) the sales were announced simultaneously to a coalition of logging companies.[162]

However, the 9th Circuit distinguished *Blue Mountains* in *Wetlands Action Network v. U.S. Army Corps of Engineers*.[163] In that case, the Court determined the Corps was not required

[157] Morongo Band of Mission Indians v. FAA, 161 F.3d 569, 580 (9th Cir. 1998)); *see also* Northwest Resource Information Center, Inc. v. National Marine Fisheries Service, 56 F.3d 1060 (9th Cir. 1995) (holding that flow improvement measures and transportation program were not "connected actions" within the meaning of NEPA regulation and, thus, U.S. Army Corps. Of Engineers did not have to consider transportation program in EIS for flow improvement project).
[158] 161 F.3d at 580.
[159] *Id.*
[160] *Id.*
[161] 161 F.3d 1208, 1215 (9th Cir. 1998).
[162] *Id.*
[163] 222 F.3d 1105, 1119 (9th Cir. 2000).

to analyze the cumulative impacts of three phases of a single wetland improvement project.[164] The Court found that when the developer applied for a permit for Phase I, many of the details and planning decisions regarding Phases II and III had not yet been completed.[165] On this basis, the Court emphasized that requiring the project's sponsors to analyze the environmental impacts of the three phases in a single EIS would be impractical.[166]

In the NextLight problem, the GC is took issue with the appearance that NextLight is attempting an artificial distinction of the first 50 MW segment from the remaining 350 MW facility. Of the seven aspects NextLight emphasized in distinguishing their 50 MW facility,[167] only two appear to be physical characteristics related to the project: (1) the separate transmission line, and (2) the separate water supply agreement. However, even the water supply agreement may be merely contractual. In fact, the facility may be drawing water from the same physical water pipes that will ultimately supply the rest of the 400 MW facility. In that event, the only physical distinction beyond the separate transmission line will be a separate water meter. The remaining factors are, as the GC pointed out, merely contractual distinctions.

The preceding cases lend five points of direction that if the PUCN applied to a rulemaking, or its declaratory order in the NextLight case, would provide helpful guidance to the SESA project sponsors.[168] Under *Thomas*,[169] each project on a particular Nevada SESA would need not only site-specific environmental review, but also the ability to demonstrate each SESA project could deliver electricity independent of any other project located on the same SESA.

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[164] *Id.*
[165] *Id.*
[166] *Id.*
[167] *See* text accompanying notes 116-120*, supra.*
[168] So as to avoid redundancy, assume all projects located on any Nevada SESA are less than 70 MW, and thus qualify for UEPA exemption when viewed in isolation from any other facility located on the same SESA.
[169] Thomas v. Peterson, 753 F.2d 754 (9th Cir. 1985).

Further, under *Morongo Band*,[170] if each project on the SESA is designed to serve a need distinct from other projects on the same SESA, such as separate power purchase agreements, this would serve to demonstrate that no one project is dependent on the larger SESA for its justification. While on its own this distinction is merely contractual, taken together with the independent utility test under *Thomas*, I propose that these two would form the 'connected action prong' of the PUCN's test.

Cumulative actions would form the second prong of the PUCN's permissible segmentation test. Under *Blue Mountains*,[171] opponents to the UEPA exemption would argue that Secretary of the Interior Ken Salazar's announcement that the SESAs are the product of the Department's effort to expedite zoning and siting of solar energy projects on Western lands. Specifically they would point out that like the Forest Service in *Blue Mountains*, the Department of Interior (DOI) has announced the project as part of a single plan. Moreover, the very fact that the DOI anticipated this plan going forward is evidence of its foreseeability. However, *Wetlands Action Network*[172] limited the *Blue Mountains* rationale to situations where project details and planning decisions regarding later phases are largely known. Therefore, if the Agencies develop the SESAs one project at a time, the *Blue Mountains* rationale may be minimized.

V. Conclusion

To conclude, the Agencies should consider tiering solar energy projects it locates on the Nevada SESAs to conform to the §704.860(1) exemption. To limit risk, the Agencies should lobby this session of the Nevada Legislature to delegate authority to the PUCN for formal rulemaking on the segmentations issues. This clarification would reduce the capital market's

[170] Morongo Band of Mission Indians v. FAA, 161 F.3d 569 (9th Cir. 1998).
[171] Wetlands Action Network v. United States Army Corps of Eng'rs, 222 F.3d 1105 (9th Cir. 2000).
[172] *Id.*

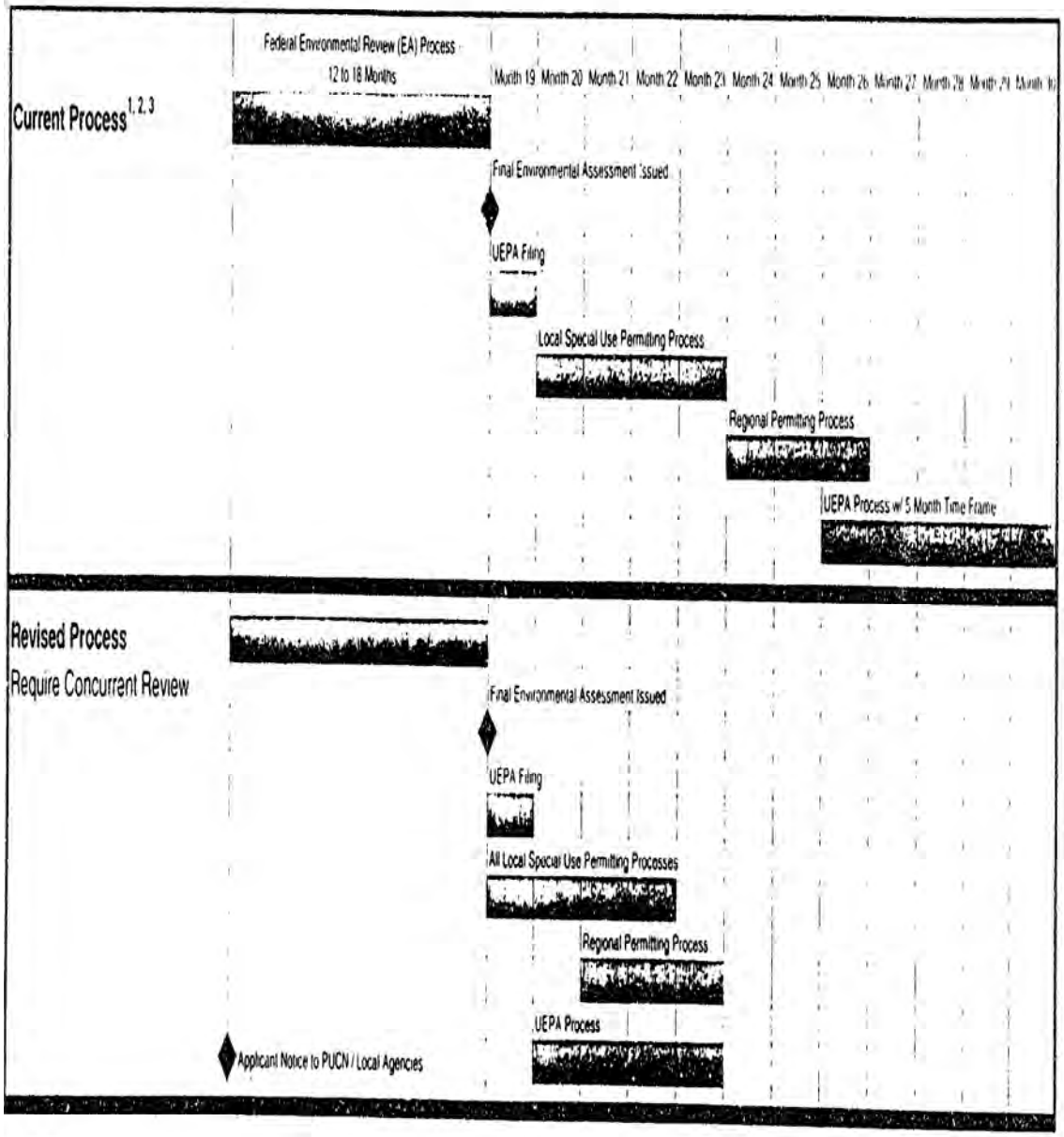
perception of risk and uncertainty, and therefore would most certainly benefit projects located on the SESAs.

Recall that the Alturas Intertie Problem associated with local permitting entities drove the 2001 amendments designed to eliminate them. If SESA projects do achieve exemption under UEPA, local permitting entities could once again become the tail that wags the EIS dog. The likely remedy for this uncertainty will require a Memorandum of Understanding (MOU) between the BLM and the local permitting entities. The MOU would extend UEPA's concurrent streamlining measures at the local level even while the project is otherwise exempt from state review. This would allow project sponsors to determine relative risk of development based on the quality of in-place MOUs with the Agencies. Subsequently, the SESAs located in counties with the MOUs would most likely develop first, thus incentivizing the local permitting entities to get on board.

Appendix A

CURRENT / PROPOSED TRANSMISSION LINE PERMITTING PROCESS

WHEN A FEDERAL APPROVAL IS REQUIRED

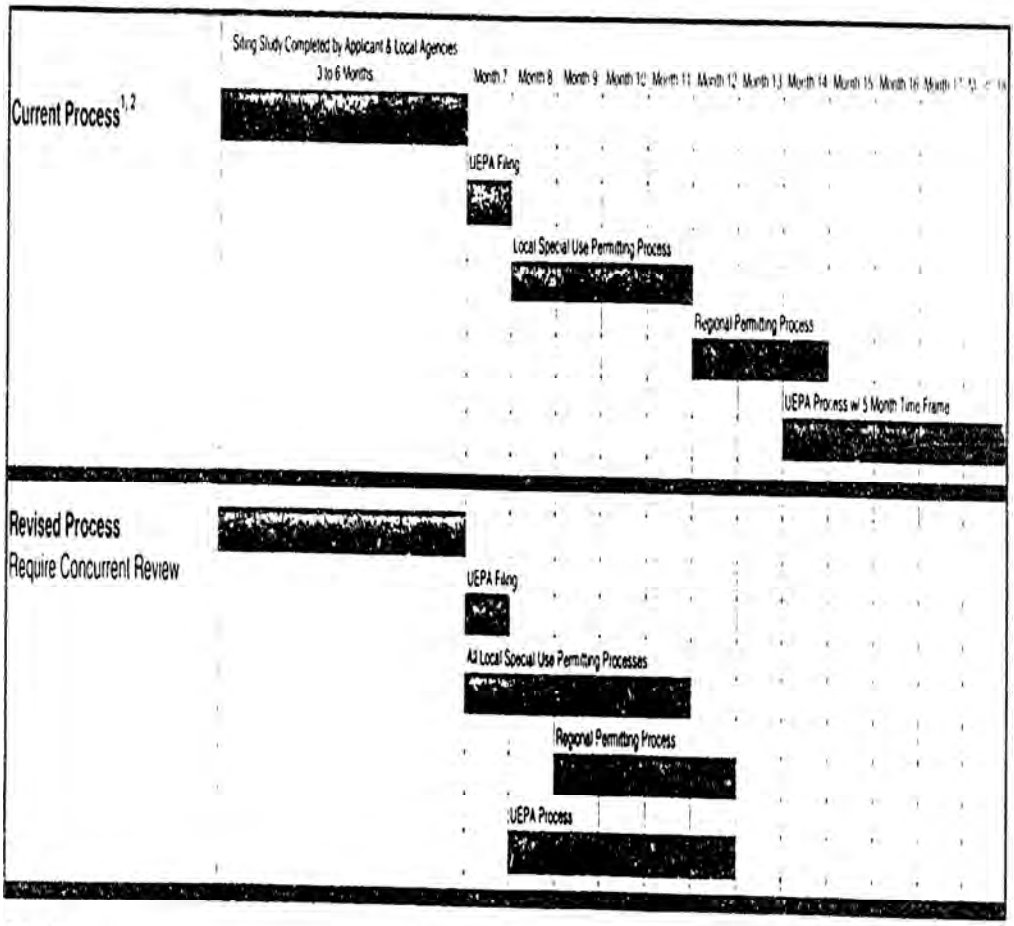


Footnotes:

1) Denial or changes to a proposed project location by a Local Agency would lead to repeating the entire Local and State process, increasing the approval time
2) If Federal Agencies require an Environmental Impact Statement, then the timeframes stated above would increase by 6 to 18 months.
3) The PUCN has the ability to complete UEPA concurrently under existing statutes, and has exercised this authority to the benefit of several recent transmission projects.

CURRENT / PROPOSED TRANSMISSION LINE PERMITTING PROCESS

WHEN A FEDERAL APPROVAL IS NOT REQUIRED



Footnotes:

1) Denial or changes to a proposed project location by a Local Agency would lead to repeating the entire Local and State process, increasing the approval time
2) The PUCN has the ability to complete UEPA concurrently under existing statutes, and has exercised this authority to the benefit of several recent transmission projects

Thank you for your comment, Judith Jordan.

The comment tracking number that has been assigned to your comment is SolarD10015.

Comment Date: December 27, 2010 16:00:46PM
Solar Energy Development PEIS
Comment ID: SolarD10015

First Name: Judith
Middle Initial:
Last Name: Jordan
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

These comments are submitted in response to the request for comments on the draft Solar Energy EIS. As an initial matter, BLM should note that public lands are a dwindling, important natural resource, supplying recreation and habitat for wildlife. As BLM has opened up vast spaces to energy development, both recreational and habitat quality have deteriorated even as private lands are also being developed and removed from habitat. Some energy development may be necessary on public land, but solar energy is not. Towns throughout Colorado offer a perfect solar habitat-rooftops. And the added benefit is that these already come with transmission lines and no further degradation of natural wildlife habitat. Please try to resist the urge to develop every square inch of ground that is supposed to be held in trust for all citizens. Leave some open space. Pursue solar on private ground with existing infrastructure, where diffuse generation also makes much better sense from a national security standpoint as well.

Thank you for your comment, jeff williamson.

The comment tracking number that has been assigned to your comment is SolarD10017.

Comment Date: January 4, 2011 12:57:16PM
Solar Energy Development PEIS
Comment ID: SolarD10017

First Name: jeff
Middle Initial: m
Last Name: williamson
Organization: AZS/CWP
Address: 455 n galvin parkway
Address 2:
Address 3:
City: phoenix
State: AZ
Zip: 85008
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I would appriceat being kept informed with a focus on Arizona

Thank you for your comment, George Tharisayi.

The comment tracking number that has been assigned to your comment is SolarD10018.

Comment Date: January 5, 2011 16:13:24PM
Solar Energy Development PEIS
Comment ID: SolarD10018

First Name: George
Middle Initial:
Last Name: Tharisayi
Organization: ALL SOLAR
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The best technology is concentrated solar PV, generally Silicon based. The CPV shifts cost factor to the mirrors. I have estimated that trough mirrors can be manufactured for about $60/sq. Meter. If you make the trough mirror as fixed roof, with Sun tracking receiver, then power cost will come down to as low as 1 cent/kWh.
I have founded a start-up focused on a cutting edge manufacturing technology for low cost mirror trough by using reflective films by Reflec Tech, 3M or Alcoa. This will be suitable for both solar thermal and CPV plants. For utility plants, power cost is estimated to be 4 cents/kWh. You can see that these costs are much lower than anything now in practice.
Please contact me for more information.

Best,

George Tharisayi
Principal
ALL SOLAR
gtharisayi@yahoo.com
925-788-1836

Thank you for your comment, Roger Faulkner.

The comment tracking number that has been assigned to your comment is SolarD10019.

Comment Date: January 12, 2011 22:00:57PM
Solar Energy Development PEIS
Comment ID: SolarD10019

First Name: Roger
Middle Initial: W
Last Name: Faulkner
Organization: Electric Pipeline Corporation
Address: 15 West Main Street
Address 2:
Address 3:
City: Cambridge
State: NY
Zip: 12816
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: ICHVE_2010_4_page_paper_final.pdf

Comment Submitted:

I think the idea of identifying areas for grid-scale solar development is good, but now we need a transmission corridor to get all that power to markets. I think perhaps the Federal Government should take a leading role in siting these transmission corridors, preferably underground. I am attaching a concise article describing a form of electric pipeline that can move >10 GW in a single line. This or something like it, is greatly needed.

LONG DISTANCE UNDERGROUND HVDC TRANSMISSION VIA ELPIPES

Roger W. Faulkner, President <roger_rethinker@yahoo.com>; Ron Todd < ronaldt@alum.mit.edu>,
Electric Pipeline Corporation, 15 West Main Street, Cambridge NY 12816

***Abstract*—Elpipes are polymer-insulated underground HVDC power lines that use relatively rigid extruded conductors designed for higher capacity and efficiency than is practical for overhead power lines. Elpipes can use far more conductor than cables, but also have more splices that an HVDC cable. The US Department of Energy showed early interest in massive underground transmission [1], but that faded until recently. The high efficiency of elpipes is motivated by the need to minimize heat dissipation while maintaining passive cooling. Minimizing waste heat production is critical since heat dissipation limits capacity. For a 325-800kV DC elpipe, we have selected a design basis of 1% loss per 1000 km, about three times better than an overhead 800kVDC line, and similar to "high temperature" superconducting (HTS) lines after accounting for the energy HTS lines consume for cryogenic cooling. This high efficiency enables continental scale power transfers with acceptable loss, and fully buried elpipes carrying up to 12 GW. Elpipes may one day enable continental scale HVDC grids, though there remain technological hurdles such as the need for HVDC breakers that must first be solved before that can occur.**

I. INTRODUCTION

Elpipes are composed of solid-insulated pipe systems (Figure 1) which can be fully underground, installed at the surface (Figure 2), or above ground. There are many options for conductor, insulator, installation layout, and outer shielding conduit for elpipes; Figure 1 illustrates a simple design with aluminum conductor, insulated by crosslinked polyethylene (XLPE), within a steel conduit. This construction is highly conventional, and requires no new developments except the splices, which at this stage are proprietary to Electric Pipeline Corporation (EPC) and cannot be described yet. The cost estimates presented herein (Figure 3) look at the sum of the conductor + insulator cost only for a simple elpipe like the structure inside the rollers in Figure 1, using three different conductors with conventional XLPE insulation.

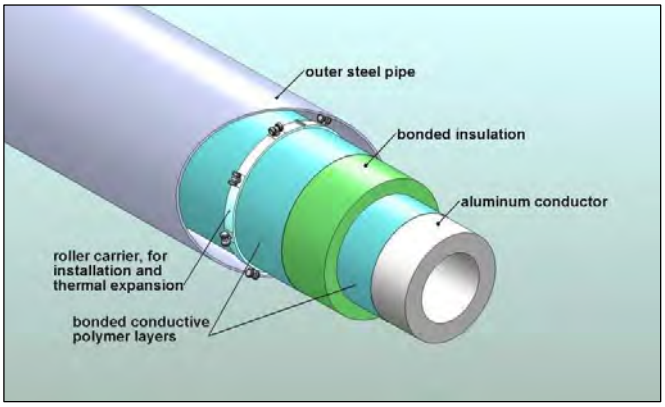
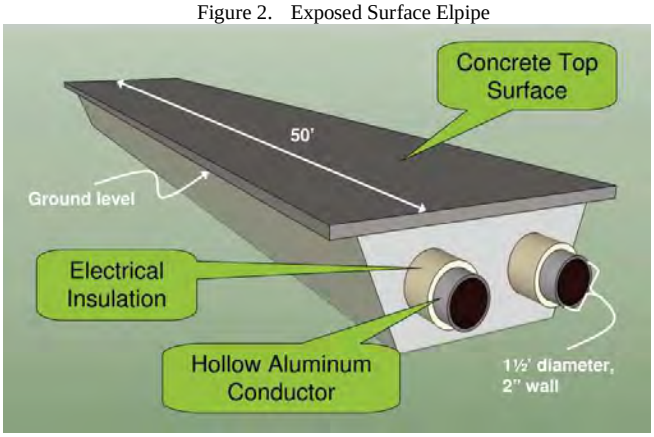


Figure 1. Buried HVDC Elpipe

An elpipe installed at the surface (Figure 2), could go to at least 24 GW with passive cooling. Active, non-cryogenically cooled elpipe designs can theoretically go to transfer capacities above 200 GW. Note though, that such high capacities would require full redundancy to meet North American reliability standards, and would require new HVDC circuit breaker technologies that are yet to be developed and proven.

Figure 2. Exposed Surface Elpipe



II. ELPIPES: TECHNICAL CONSIDERATIONS

Figure 1 shows one pole of a bipolar elpipe HVDC system. The conductor/insulator boundary lies within the XLPE layer (as is also the case in XLPE-insulated HVDC cables), but unlike HVDC cables, the XLPE layer is not necessarily bonded to the conductor. This feature separates the manufacturing of the elpipe segments into three separate components, the inner conductor, the insulator (containing the conductor/insulator boundary), and the conduit. Each has its own quality control methodology, and unlike the case for HVDC cables, a failure in the insulating pipe during testing does not require replacement of the inner conductor. This enables much higher test voltage for the insulator pipe with economically acceptable higher failure rates. By failing the weakest parts of the insulating pipe prior to assembly of the elpipe segments a more reliable composite segment may be achieved.

Passive waste heat removal limits steady state capacity for any fully buried transmission line based on conventional conductors. For buried, truck-transportable HVDC cables, waste heat dissipation limits maximum transfer capacity to about 1.1 GW per circuit at present, though anticipated cable insulation improvements [2] may take this up to about 3 GW per circuit in the next ten years for XLPE-insulated cables. Elpipes use 3-18 times more metal/ampere than cables or overhead power lines, and so have higher efficiency than an overhead wire or a buried cable, so that even with current XLPE insulation technology, a buried elpipe circuit (Figure 1) would be capable to 12 GW, and a surface-installed version (Figure 2) would be capable of transferring up to 24 GW.

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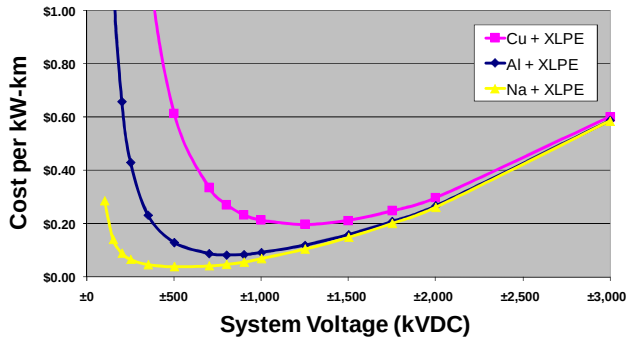
Design Voltage of Elpipes

Elpipes are envisioned as future components of a continental scale HVDC grid that will lie "below" the AC grid. Selection of an operational voltage for such a grid involves many considerations, including ease and cost of interfacing with the AC grid. Figure 3 shows the cost of conductor + insulator for three candidate conductors, copper. aluminum and sodium, all insulated with conventional crosslinked polyethylene (XLPE), with maximum voltage gradient of 10 kV/mm. All elpipes were sized for 10 GW per circuit. Market prices for the metals and XLPE were used.

Figure 3: 10 GW ElPipe Conductor + Insulation



The curves of Figure 3 show capital cost for two important components of the elpipe: conductor + insulator) versus DC voltage. The more expensive the conductor is, the higher the cost for conductor + insulator, and the higher is the economic optimum operating voltage (sodium: ±500 kVDC; aluminum: ±800 kVDC; copper: ±1,250 kVDC). Note that both transmission capacity and efficiency were held constant in Figure 3 (at 10 GW and 1% loss/1,000 km). At any particular voltage the outside conductor radius is the same for copper, aluminum, or sodium; required for equivalence in shedding waste heat.

It is very interesting that the cost for electrical energy transfer using sodium as the conductor is low over the entire range of voltage from 325-800 kV, below the lowest cost for aluminum over this entire range. We are aware of the difficulty of dealing with sodium, and also the public relations nightmare it would be to propose a sodium-conductored elpipe technology in the US or Europe. Nonetheless, this is clearly the low cost solution. Electric Pipeline Corporation has technology for an aluminum elpipe that contains voids that can later be flooded with sodium to increase the capacity of the line at a later date.

Present National Electric Safety Code rules [5] allow no more than 30 minutes of emergency operation of an HVDC system in monopolar mode with ground return in the US, but if the ground return can go back through the conduit wall or a special moderate voltage elpipe for emergency ground return, but it is feasible to operate for long periods in a monopolar mode (to deliver half as much power) while the faulted leg of the bipolar HVDC system is repaired. In this case, the voltage withstand capability of the insulation between the conduit or the moderate voltage elpipe and ground only needs to be 40kV or less.

A CIGRE committee has been studying the problem of what common HVDC voltage should be adopted for continental scale HVDC grids; one key consideration is the ease of interfacing with existing AC grids. It is likely that the selected design voltage will be between ±(500-800)kV, possibly ±640kV.

Insulation of Elpipes

Insulation for elpipes need not be flexible, as is required for cables. This opens up particularly interesting options for elpipe insulation that cannot be discussed at this time due to patent considerations.

Thermal Expansion of Elpipes

A side effect of going to rigid conductors as in an elpipe is that one must deal with the different thermal expansivities of the conductor, the insulator, and the conduit shell. Various prior art means to deal with this problem include:

- Bellows-type expansion joints (can be used on conductors, insulators, and the conduit);
- Sliding electrical contacts have been used for rigid conductors in gas insulated lines [3];
- Bonding elastomeric insulation to the metal conductor to restrict axial expansion of the insulator (problem: fatigue);
- Using wires within a structural shell that can "snake" as they expand;
- Using flexible conduit pipe, such as polyethylene pipe, that is placed into concrete as it is poured, negating the need for conduit expansion joints.

The preferred method for how we propose to deal with thermal expansion cannot be disclosed at this time.

Overload Capacity of Elpipes

Because of their massive design, elpipes have high adiabatic overload capacity. In an all-aluminum elpipe design, the adiabatic heating of an elpipe from normal operating conditions (85ºC) to thermal overload (105ºC) would require 2.5 hours at double the normal level of transmitted power, about 15 times as much overload capacity as typical underground cables. Versions of elpipes that use sodium as the conductor have even higher overload capacity due to the endothermic melting of sodium at 98º Celsius.

Cooling Options

Elpipes can be much more massive than cables because they need not be wrapped on a reel for transport. Because of this, elpipes have a "cooling" option that is not feasible for high power cables: one can simply use more conductor to reduce I^2R heat generation in the first place. (As long as the elpipe is DC, there is no dielectric loss also generating heat, as would be the case if AC were used.) Lower heat generation also means higher efficiency. Although a lower capital cost might be had by using smaller conductors with an active cooling system, higher losses would increase operating costs, and added complexity due to the cooling system would reduce reliability. We therefore favor passively cooled designs wherever that is practical. There are however certain cases where structures and/or geology may force an elpipe to go deep under a river or a subway system, for example; in these special cases, an active cooling system will be required.

In a passively cooled elpipe, the electrical insulation is a major part of the "thermal resistance" between the elpipe conductor and the environment. If the elpipe is at the surface (as in Figure 2), or buried only shallowly, the electrical insulation represents most of

the thermal resistance to dumping waste heat into the environment passively, (at voltage > 325 kV), whereas at some burial depth (that varies with pipe diameter and soil type), the soil thermal resistance becomes even greater than that of the electrical insulation material; thus elpipes cannot be deeply buried unless a means to bring the waste heat to the surface, such as heat pipes (passive) or liquid coolant pipes (active) are part of the design.

At the typical elpipe design efficiency (1% loss per 1000 km at full rated load), I^2R heat generation is 10 watts/meter per GW capacity, considering both wires (leakage current heating is much less for an XLPE-insulated elpipe than I^2R heat generation). Present generation buried high power cables have thermal limits between 40-70 watts per meter per cable (up to 140 watts/meter for both cables); we have conservatively estimated that a fully buried elpipe circuit (a pair of elpipes as in Figure 1) can dissipate sufficient heat to transport 12 GW at steady state (120 watts/meter), with large temporary excursions if needed.

HVDC Grid Considerations

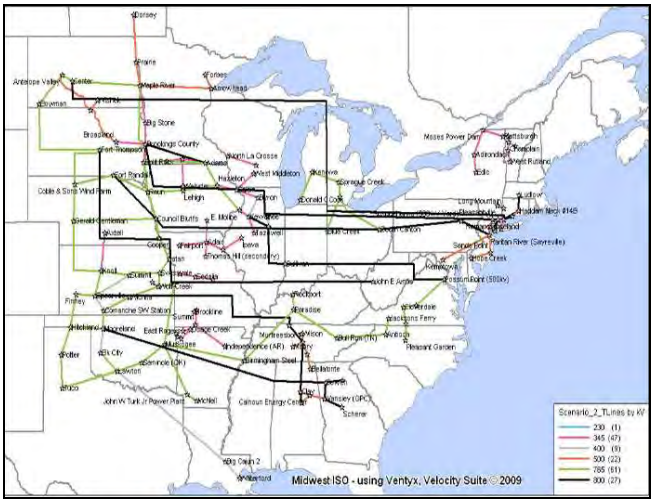


Figure 4. EWITS [4] Scenario 2, Proposed HVDC Lines

So far, commercial HVDC lines are point-to-point linkages, as in Figure 4, with power transformed from AC to DC and back by highly efficient thyristor-based line commutated converter (LCC) stations. LCCs require highly coordinated control of power in/power out for each converter station, and as a result, most experts do not think that more than six power taps are reliably operable on lines such as those shown in Figure 4.

Contrast this with the true HVDC network envisioned in Figure 5, which can move power from any power tap to any other tap; there would be on the order of 50-100 power taps on the HVDC loop of Figure 5, which would tie together an area with hundreds of GW of power production and consumption. The proposed HVDC grid would reinforce the three conventional AC synchronous grids in the region. Figure 5 shows the highest capacity elpipe circuits as heavy lines, but a realistic HVDC grid would also contain smaller underground cables, and/or overhead lines carrying 2-7 GW (a few are shown as lighter lines in Figure 5).

A true HVDC grid (with more than six power taps) cannot be built based solely on LCCs. LCCs also do not have "black start" capability, so the lines can only be restarted once the AC grid is operational in the case of a major blackout. More recently two types of "voltage source converters" (VSC) have been commercialized for power transmission, GTO (gate turn-off thyristor) and IGBT (integrated gate bipolar transistor). VSCs are much more capable of being deployed in a true HVDC grid (with hundreds of power taps) than are LCCs (though this is not yet demonstrated at grid scale).

Unfortunately, VSCs are less efficient (~3% conversion loss for two IGBTs vs. ~1.2% loss for a pair of thyristor-based LCCs; GTOs are intermediate in efficiency). A mixed grid, with both VSC converters and current source converters is feasible and will be a likely design for the HVDC grid of the future; such a grid will be capable of having more power taps than a purely LCC-based grid because of the presence of VSCs in the grid, yet the bulk of power transfers occur through the more efficient LCCs.

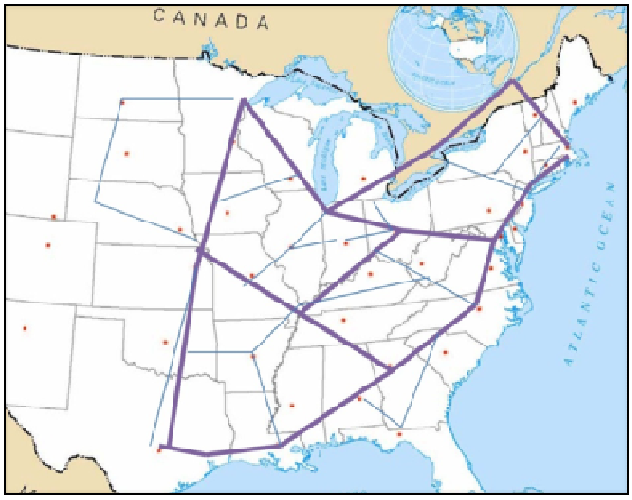


Figure 5: HVDC Grid for Eastern US

Loops efficiently provide redundancy, which is critical to create a reliable grid. An HVDC grid such as that of Figure 5 would lie "below" the conventional AC synchronous grids (three synchronous AC areas are linked by the HVDC grid of Figure 5), and would reinforce them. The main circuits of Figure 5 are based on pairs of elpipes as in Figure 2. The Main Loop circuits can also be connected to smaller HVDC elpipes, underground cables, and/or overhead lines carrying 2-7 GW (a few are shown in Figure 5).

Ideally, such an HVDC grid would be tied into the regional AC grids at many points, but there are serious control issues with an HVDC grid that limit the maximum number of "taps." This is an issue of keen interest to several research groups [6].

Installation Options

Elpipes can be installed in several different ways. In principle, a bipolar circuit can be installed in a single pipe for example. We have rejected this option due to the likelihood that a short in one conductor would damage the insulation of the other conductor, so that both legs fail at once. Having both conductors in a single conduit also means that during maintenance both legs of the circuit would have to be shut down. Thus, we think that separate conduits are desirable.

In a loop system, the total resistance between two points R_{total} is related to the clockwise resistance R_1 and the counterclockwise resistance R_2 by:

$$R_{total} = 1/(1/R_1 + 1/R_2)$$

The maximum point-to-point resistance occurs when $R_1 = R_2$. Loops provide intrinsic redundancy provided there are "hot" circuit breakers between each pair of next neighbor taps on the HVDC loop. However, such hot HVDC circuit breakers still need to be developed, and will likely be very expensive, so a fewer number of hot HVDC circuit breakers, combined with many more fast acting zero-load switches, is a likely scenario for circuit protection. In the event of an outage, the portion of such a grid that lies between hot circuit breakers can be rapidly reconfigured to allow each node point to be serviced from at least one loop direction (by isolating the fault via opening zero-load switches). After this reconfiguration, the IGBT-based converters can do a cold start.

To minimize magnetic effects near an elpipe, it would be highly desirable to have a coaxial relationship of the + and – conductors. This is indeed feasible for monopole systems with return current near ground potential. Monopole systems use the conductive material less efficiently than bipole systems in one way of looking at it (same mass of conductor as a bipole with half the voltage). Routine use of the conduit for a moderate voltage return current would complicate field repairs, expansion joints, and cooling tremendously, and is not favored for now (this remains a possibility in the future).

For added redundancy, it would be desirable for the bipolar elpipe to default to an effective monopolar design in case of a fault in one pole. We are at present pursuing designs (Figures 1 & 2) in which each conductor resides in its own shielding conduit, which may be either metallic or a polymer-based pipe. Making the outer conduit out of aluminum or aluminum/polymer composites would result in the potential for each pole of the HVDC circuit to default to monopolar operation with ground return through its own conduit in case of an outage on one pole. However, it is more economical to install a separate low voltage elpipe specifically designed for ground return in case of an outage in one pole; this has the advantage that the single ground return backup serves both poles of the normally bipolar HVDC elpipe connection. This is somewhat related to the concept of repurposing three-phase AC powerlines to HVDC with a spare pole [7].

Elpipes have a minimum radius of curvature (without using special elbow joints) that is smaller than a welded gas pipeline but larger than an HVDC cable. Elpipe minimum radius of curvature lines up well with the minimum radius of curvature of railroads and high speed, limited access highways. HVDC lines could be conveniently installed underground next to gas pipelines, railway lines, or interstate highways. Construction along railroads is especially appealing because long segments of seamless elpipe can be rail transported. Even if the segment length can only be extended to the length of two rail cars, this would imply one fourth as many splices as would be required if the elpipe segments must be transported over roads. The resultant savings would be significant, and in principle even longer pieces of elpipe, corresponding to the length of an entire train (~ one kilometer) could be rail transported to the trench.

In some parts of the world, major new railroads and gas pipelines are being contemplated; for example the proposed natural gas pipeline [8] that will connect from Iran to China through both Pakistan and India, or the ultimate Maghreb objective of a railway connecting Libya to Morocco and continuing to Mauritania [9]. A strong redundant elpipe connection from Saudi Arabia to Western Europe would likely lead to the development of solar energy and wind energy resources in Saudi Arabia. Saudi Arabia is well situated to develop mega-scale solar electric power generation for export into Europe during the AM peak period, if only there were a way to export the power.

III. Conclusions

The proposed system represents a paradigm shift for power transmission in several ways. First is the obvious movement from wires to solid conductors, "electric pipelines." This is an unavoidable consequence of the need for increased power transfer due to many factors, including deregulation of the power market, increased use of wind and solar energy, reduction of greenhouse gas emissions, and increased power consumption. Going underground addresses the increased consumption, and increased sensitivity to the environmental and aesthetic consequences of overhead power transmission.

In a longer term view, elpipes are one of only three feasible alternatives for building continental scale HVDC grids; the others being superconductors [10] and GIL [11]. We believe the HVDC grid of the future will probably include superconducting segments, cables, overhead lines, and elpipes, all operating at a single voltage between 500-800 kV [12].

[1] Mickley, A.S.; Heyer,S.V. of Philadelphia Electric Co.: "Economic and Technical Evaluation of Long Underground DC Transmission," in US DOE Symposium: "Incorporating HVDC Power Transmission into System Planning" (Phoenix, Arizona March 24-27, 1980)

[2] Nelson, J. Keith; Zenger, Walter; Keefe, Robert J.; Schadler-Feist, Sue L., US patent 7579397

[3] Koch, Hermann; "Experience with 2nd generation Gas-Insulated Transmission Lines GIL"; World Energy Transmission System Workshop, Meudon, France, June 2003

[4] Corbus, D.; Milligan, M.; Ela, E.; Schuerger, M.; Zavadil, B., "Eastern Wind Integration and Transmission Study — Preliminary Findings" September 2009. Pesented at the 8th International Workshop on Large Scale Integration of Wind Power and on Transmission Networks for Offshore Wind Farms, 14-15 October 2009, Bremen, Germany

[5] 2007 National Electrical Safety Code (NESC) Standard Number: C2-2007 ISBN: 978-0-7381-4893-9

[6] Consider for example: "Challenges with Multi-Terminal UHVDC Transmissions;" by Lescale, Victor F.; Kumar, Abhay; Juhlin, Lars-Erik; Björklund, Hans; and Nyberg, Krister; Presented at: POWERCON2008 & 2008 IEEE Power India Conference October 12-15, 2008, New Delhi, India

[7] Barthold, L.O.; "Technical and Economic Aspects of Tripole HVDC" Powercon2006; 22-26 October, 2006 Chongqing China

[8] The entire July 2010 issue of the Journal of Energy Security is devoted to the strategic competition of China for energy resources; in particular China has a common interest in Iranian natural gas exports with India and Pakistan. Recent indications are that a cooperative deal for a single large gas pipeline serving China, India, and Pakistan is feasible.

[9] "Maghreb rail conference in Tunis"; Railways Africa, May 2010, p13; see http://www.railwaysafrica.com/

[10] Garwin, R. L.; and Matisoo, J.; "Superconducting Lines for the Transmission of Large Amounts of Electrical Power over Great Distances," Proc. IEEE 55, 538 (1967)

[11] Ouyang, M.; Carlson, L.E.; and Baker, M.A.; "A ±600 KV HVDC Gas Insulated Transmission Line," page 167 in The Proceedings of the Symposium in Urban Applications of HVDC Power Transmission, October 24-26, 1983 in Hershey, PA; Conference Sponsored by The Division of Electric Energy Systems, US DOE

[12] Faulkner, Roger; Todd, Ronald; Electricity Today, March 2010, "Using conventional Elpipes for Long Distance Transmission"

Thank you for your comment, Adam Dajany.

The comment tracking number that has been assigned to your comment is SolarD10020.

Comment Date: January 14, 2011 14:27:24PM
Solar Energy Development PEIS
Comment ID: SolarD10020

First Name: Adam
Middle Initial:
Last Name: Dajany
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please, anything to further the use of clean energy. I live in Utah and in the winter the air is very polluted. It is often the worst in the nation, taking 4 out of the top 5 spot in the nation. It is so bad that instead of having snow day at local schools it is pollution that keeps the kids inside. I have children and they get so ill over the winters, maybe not directly from the smog but I can't even open the window to let in fresh germ free air for them to breath because the air is listed as unhealthy to even breath.

We have so much open space in Utah to accommodate solar projects. It doesn't make any sense to keep burning fossil fuels and increasing our inversions. Throughout the year and in the winter specifically, the valleys surrounded by mountains on all four side act like a gas chamber not allowing pollutants out.

Please help!

Thank you for your comment, Bruce Robertson.

The comment tracking number that has been assigned to your comment is SolarD10021.

Comment Date: January 19, 2011 13:17:20PM
Solar Energy Development PEIS
Comment ID: SolarD10021

First Name: Bruce
Middle Initial: A
Last Name: Robertson
Organization: Smithsonian Conservation Biology Institute
Address: Migratory Bird Center
Address 2: National Zoological Park
Address 3: 3001 Connecticut Ave NE
City: Washington
State: DC
Zip: 200137012
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Horvath et al. 2009.pdf

Comment Submitted:

I'm an ecological researcher who investigates issues in energy sustainability. In the last year I was part of a research team that discovered that solar panels emit an only recently discovered form of pollution: Polarized Light Pollution. By polarizing reflected sunlight, solar panels appear to be exaggerated water bodies to aquatic insects. This is because water is the only natural object to polarize light and insects and other animals have evolved the ability to see polarized light so they can more easily find water. These insects will prefer solar panels to natural water bodies and will mate above them and lay their eggs on them. They eventually become exhausted and die. Their eggs fail to hatch. This phenomena also creates a severe conservation problem known as an ecological trap: a scenario in which animals prefer the worst available habitat.

In our most recent paper we demonstrate ways to design solar panels to mitigate the impacts of photovoltaic solar panels and eliminate these ecological traps. Yet, all of our research has been on insects that have evolved in mesic habitats, not desert environments where photovoltaic solar energy installations will be placed. This is important because we should expect desert organisms to have evolved an even stronger attraction to polarized light sources than those in wetter environments. For this reason, our suggested solar energy mitigation strategy may not work and photovoltaic installations may cause massive die-offs of aquatic insects.

This is important because 1) deserts are home to many endemic insect species, 2) aquatic insects are the base of the aquatic food web and their loss or decline may crash the populations of fish or other animals that rely upon them as food, and finally 3) many other organisms can see polarized light so may be affected.

The list of species that are capable of seeing polarized light and using it as a cue to water is growing all the time. Birds can see it, and (pelicans and others) frequently mistake asphalt roads in deserts for ponds because they can polarize light. Desert reptiles birds, insects and bats may directly attracted to solar installations during the day (or night if there are night lights), or they may be attracted to concentrations of prey that are, themselves attracted to polarized light.

In these ways, solar installations may have serious ecological impacts on desert ecosystems, even when they occur at distance from natural water bodies. More research is needed about the importance of polarized light pollution on animal populations, and ways to eliminate it. In fact, the published literature on the subject of the ecological impacts of solar installations is so sparse, that I have been unable to find a single published research paper on the topic.

I have been searching for money to fund such a research program, but feel that rushing ahead with sighting without more information is potentially hazardous. Please contact me for more information or with additional questions.

Bruce Robertson
Postdoctoral Fellow
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Relevant citations:

Horváth, G., Blahó, M., Egri, A. Kriska, G., Seres, I. & Robertson, B.A. 2010. Reducing the maladaptive attractiveness of solar panels to insects. Conservation Biology 24: 1644-1653.

Horváth, G., Kriska, G., Malik, P. & Robertson, B.A. 2009. Polarized light pollution: A new kind of ecological photopollution. Frontiers in Ecology and the Environment 7: 317-325.

Polarized light pollution: a new kind of ecological photopollution

Gábor Horváth[1], György Kriska[2], Péter Malik[1], and Bruce Robertson[3*]

The alteration of natural cycles of light and dark by artificial light sources has deleterious impacts on animals and ecosystems. Many animals can also exploit a unique characteristic of light – its direction of polarization – as a source of information. We introduce the term "polarized light pollution" (PLP) to focus attention on the ecological consequences of light that has been polarized through interaction with human-made objects. Unnatural polarized light sources can trigger maladaptive behaviors in polarization-sensitive taxa and alter ecological interactions. PLP is an increasingly common byproduct of human technology, and mitigating its effects through selective use of building materials is a realistic solution. Our understanding of how most species use polarization vision is limited, but the capacity of PLP to drastically increase mortality and reproductive failure in animal populations suggests that PLP should become a focus for conservation biologists and resource managers alike.

Front Ecol Environ 2009; 7(6): 317–325, doi:10.1890/080129 (published online 7 Jan 2009)

The term "ecological light pollution" (ELP) has been coined to describe all kinds of photopollution that disrupt the natural patterns of light and dark experienced by organisms in ecosystems (Longcore and Rich 2004). ELP includes direct glare, chronically increased illumination, and temporary, unexpected fluctuations of light emitted from lighted structures (eg buildings, towers, bridges) and vehicles. Artificial lights can attract or repulse organisms, leading to increased predation, maladaptive migration behavior, selection of inferior nest sites or mates, collisions with artificial structures, altered competition for resources, reduced time available for foraging, and disrupted predator–prey relationships that can, in turn, alter community structure (reviewed in Longcore and Rich 2004). This positive or negative phototaxis is elicited by the intensity and/or color of artificial light, which has been considered as the major visual phenomenon underlying ELP. Yet other characteristics of light are visible too, and are used as behavioral cues by animals.

In particular, it has become clear that many animals are capable of perceiving the polarization of light and use it as a rich source of information (eg von Frisch 1967; Lythgoe and Hemmings 1967; Schwind 1985, 1991, 1995; Danthanarayana and Dashper 1986; Shashar *et al.* 1998; Wildermuth 1998; Marshall *et al.* 1999; Novales Flamarique and Browman 2001; Wehner 2001; Labhart and Meyer 2002; Dacke *et al.* 2003; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006; Henze and Labhart 2007). In this work, we introduce the term "polarized light pollution" (PLP) as a new kind of ecological light pollution. PLP refers predominantly to highly and horizontally polarized light reflected from artificial surfaces, which alters the naturally occurring patterns of polarized light experienced by organisms in ecosystems. We first discuss known and potential sources of naturally occurring and artificially produced polarized light, and contrast the scale and timing of PLP with that of ELP. We then review our current understanding of the influence of PLP on the behavior of polarization-sensitive organisms and their ecological interactions and communities.

In a nutshell:

- Polarized light pollution includes light that has undergone linear polarization by reflecting off smooth, dark buildings, or other human-made objects, or by scattering in the atmosphere or hydrosphere at unnatural times or locations
- Artificial polarizers can serve as ecological traps that threaten populations of polarization-sensitive species
- Artificial polarized light can disrupt the predatory relationships between species maintained by naturally occurring patterns of polarized light, and has the potential to alter community structure, diversity, and dynamics

Natural and artificial sources of polarized light

Ordinary white light (eg sunlight, consisting of electromagnetic waves vibrating at all possible planes perpendicular to the direction of propagation) is unpolarized, but light is totally linearly polarized when its waves oscillate only in a single plane. Partially linearly polarized light with a given wavelength is commonly characterized by three parameters: the intensity I, the degree of linear polarization p, and the angle of polarization α, which

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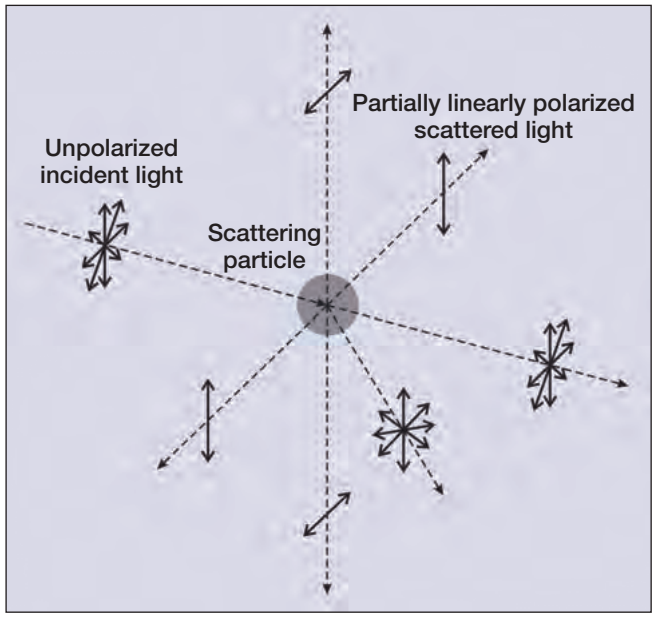

Figure 1. *After scattering on a particle, unpolarized light – whose electric field vector (double-headed arrows) with the same length vibrates in all possible directions perpendicular to the direction of propagation (dashed arrows) – becomes partially linearly polarized. Its electric field vector is shorter in the plane of scattering than that perpendicular to this plane.*

describes the alignment of the plane of oscillation of the electric field vector relative to a given reference (eg vertical) direction. *I* is proportional to the number of photons incident perpendicularly to a unit surface per a unit time interval; *p* is the percentage of photons vibrating in the plane of polarization. In the natural, optical environment, partially linearly polarized light is abundant; this arises from two primary sources: (1) the scattering of sunlight and moonlight within the atmosphere and hydrosphere (Figure 1), and (2) the reflection of light off the surface of water bodies and other non-metallic surfaces (eg rocks, soil, vegetation; Figure 2). We will focus entirely on partially linearly polarized light, the most common naturally occurring form of light polarization on Earth.

Solar radiation is unpolarized before entering Earth's atmosphere, but is partially linearly polarized through interactions with atmospheric gases, aerosols, water droplets, and ice crystals (Coulson 1988; Figure 1). The result is a characteristic celestial polarization pattern with skylight usually polarized perpendicular to the plane of scattering (defined by the observer, the celestial point observed, and the position of the Sun or Moon), and maximum *p* is generally found at 90° from the Sun or Moon (Können 1985). Patterns of polarized light in the sky provide reliable information about the location of these celestial bodies that animals can use to orient themselves and direct their movements. Aquatic and marine organisms can rely on a similar polarization pattern, produced by the scattering of light in the hydrosphere (Lythgoe and Hemmings 1967; Shashar *et al.* 1998; Marshall *et al.* 1999; Novales Flamarique and Browman 2001; Waterman 2006).

Unpolarized light can also undergo strong polarization by reflection (Figure 2). Water is the primary natural source of horizontal polarization by reflection (Figure 3a), and its depth, turbidity, transparency, surface roughness, substratum composition, and illumination strongly influence the reflection–polarization characteristics of its surface (Horváth and Varjú 2004). In general, the extent to which an object polarizes light depends on the angle of reflection and on the material from which its surface is made, with darker and smoother (shinier) surfaces producing higher *p* (Umow 1905).

Diffuse reflection from rough surfaces in all possible directions results in depolarization (reducing *p*), because the reflected electromagnetic waves vibrate in many planes. The net *p* of light returned by an object is determined by the relative intensities of (1) light reflected from the object's surface and (2) light scattered back from the object's material and refracted at its surface. The first and second components are polarized parallel and perpendicular to the reflecting surface, respectively, and therefore have a mutual, depolarizing effect on one another. If, in a given part of the spectrum, the first component is more/less intense than the second one, the net plane of polarization of returned light is parallel/perpendicular to the reflecting surface. If both components are equally intense, the returned light is unpolarized. When the returned light is polarized parallel to the surface, the more intense the second component, the lower the net *p*. On the other hand, the more/less intense the second component, the

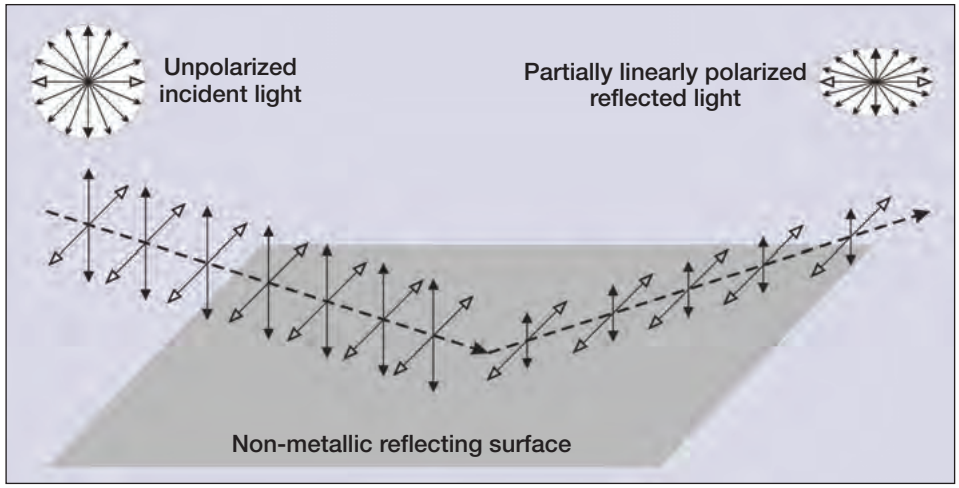

Figure 2. *After reflection from a non-metallic surface, unpolarized light becomes partially linearly polarized. The electric field vector is shorter in the plane of reflection (double-headed arrows with black heads) than in the perpendicular plane (double-headed arrows with open heads).*

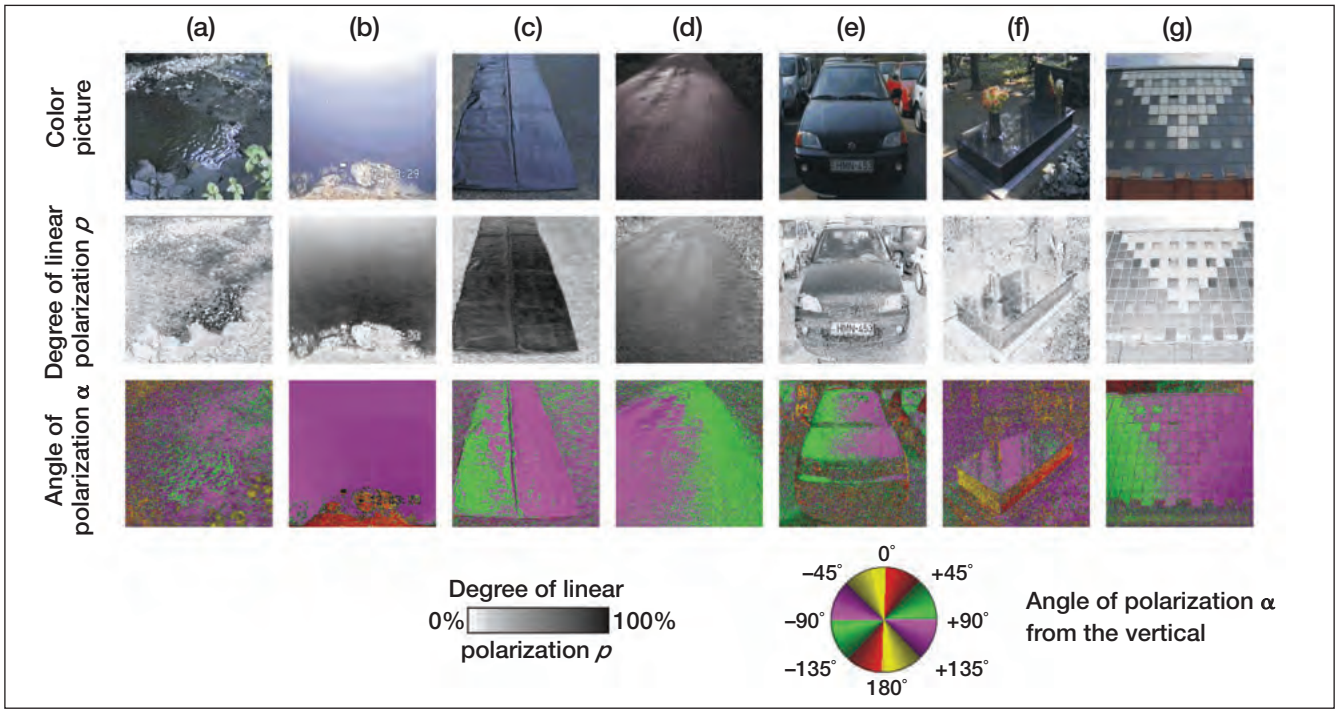

Figure 3. *Color photos, patterns of the degree of linear polarization* p*, and the angle of polarization* α *of a water surface (a) and different artificial surfaces (b–g) causing PLP. (a) Dark water body. (b) Crude oil lake in the desert of Kuwait. (c) Black plastic sheet on an asphalt road. (d) Dry asphalt road. (e) Black car. (f) Polished black gravestone. (g) Windows with gray/black glass ornamentation.* p *is the percentage of photons vibrating in the plane of polarization. Darker gray tones encode higher* p *(white:* p = *0%, black:* p = *100%).* α *is the alignment of the plane of polarization measured clockwise from the vertical. Different* α *values are encoded by different colors and hues (red: 0° ≤* α *< +45°, green: +45° ≤* α *< +90°, violet: +90° ≤* α *< +135°, yellow: +135° ≤* α *< +180°). At a given color, the hue encodes different angles* α *with a step of* Δα = *1°.*

brighter/darker the object. Thus, in a given part of the spectrum, brighter/darker surfaces reflect light with lower/higher *p*. This phenomenon is called the Umow effect (Können 1985).

One of the consequences of this phenomenon is that, in a given spectral range, smooth darker surfaces are more effective at producing PLP than are brighter ones. Hence, there is an inverse correlation between the brightness of a smooth surface and the amount of PLP produced by it. Thus, if a smooth object is bright/dark in the ultraviolet (UV) spectral range, it reflects UV light with low/high *p*. Consequently, brighter UV reflectors are less effective at producing PLP. This is important in light of the widespread UV sensitivity of birds and insects (Schwind 1991, 1995; Tovée 1995). Many aquatic insects that are attracted to horizontally polarized light sources are also attracted to unpolarized UV blacklight (Nowinszky 2003). Therefore, one can decide only with appropriately designed multiple-choice experiments whether it is the UV spectrum or the polarization of light that serves as the attractant signal (eg Schwind 1985, 1991, 1995; Danthanarayana and Dashper 1986; Horváth *et al.* 1998, 2007, 2008; Kriska *et al.* 1998, 2006a, 2007, 2008a; Bernáth *et al.* 2001b; Dacke *et al.* 2003; Horváth and Varjú 2004).

Modern human development has resulted in the introduction of different sources of polarized light pollution to natural habitats, primarily as a byproduct of the human architectural, building, industrial, and agricultural technologies. Many human products – including black plastic sheets (used in agriculture), asphalt roads, oil spills and open-air waste oil reservoirs, dark-colored paintwork (eg of automobiles), black gravestones, and glass panes (Figure 3b–g) – share important physical characteristics of the most common natural polarizer, the surface of dark waters (Figure 3a), and polarize light strongly.

The phenomenon of PLP is global and has increased rapidly over the past several decades, following the rapid spread of urban development, road systems, and industrial agriculture. Although the magnitude and prevalence of PLP have greatly increased with human activity, PLP can also occur naturally (eg ancient asphalt pits). Because ELP results from the incidence of visible light at times and places where it does not occur naturally, ELP is predominantly a night-time phenomenon, affecting nocturnal and crepuscular species. In contrast, PLP can occur during both light and dark cycles in terrestrial environments, and in other permanently dark habitats, as long as both artificial light sources and polarizing substances are present.

■ Ecological effects of polarized light pollution

Many animals, including birds, reptiles, amphibians, fish, insects, crustaceans (eg crabs and shrimp), and even echinoderms, have amazingly well-tuned polarization

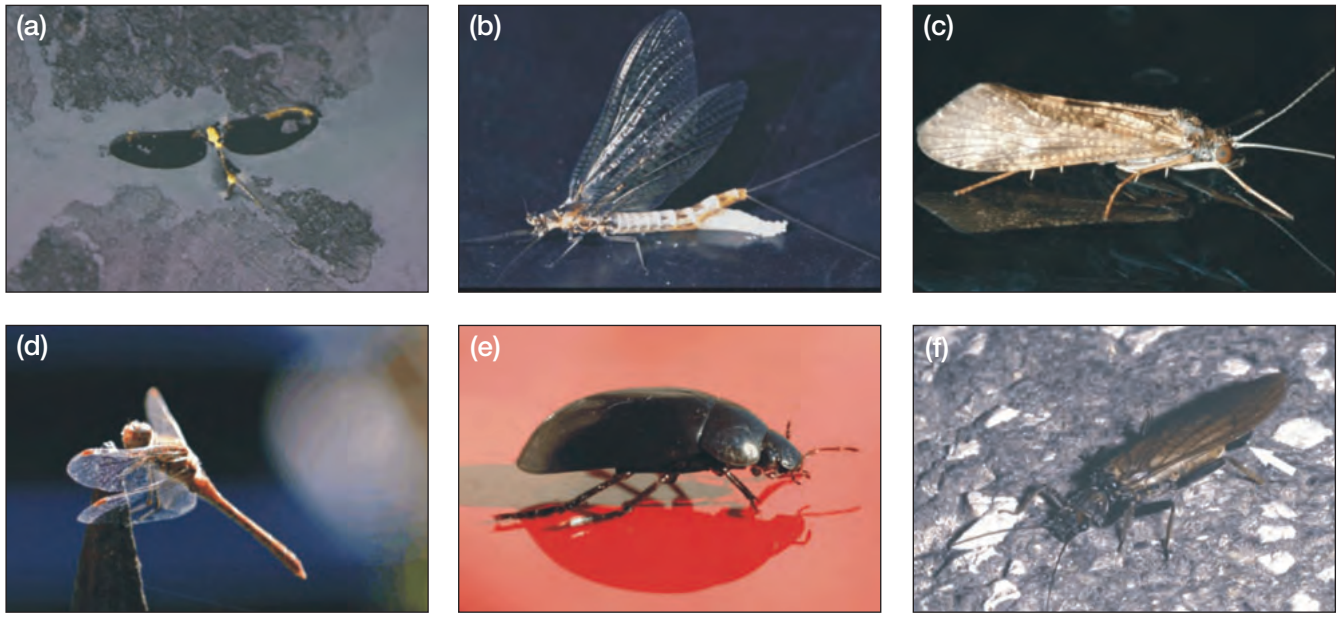

Figure 4. *Polarotactic, water-loving insects attracted to different PLP sources. (a) Mayfly trapped in a waste oil lake in Budapest, Hungary; (b) mayfly laying eggs on a horizontal black plastic sheet; (c) caddisfly on a vertical glass pane (the picture is rotated by 90°); (d) male dragonfly perching above a polished horizontal black tombstone; (e) water beetle on a red car roof; (f) ovipositing stonefly (white arrow: eggs) on a dry asphalt road.*

vision (reviewed in Danthanarayana and Dashper 1986; Schwind 1995; Wehner 2001; Labhart and Meyer 2002; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006). In this section, we review cases in which anthropogenic sources of polarized light affect the behavior and fitness of polarization-sensitive animals, directly or indirectly, and discuss the potential for PLP to influence ecological interactions with other species.

Habitat selection and oviposition

Polarized light pollution caused by artificial planar surfaces has clear and deleterious impacts on the ability of animals to judge safe and suitable habitats and oviposition sites. In particular, PLP presents severe problems for organisms associated with water bodies. Orientation to horizontally polarized light sources is the primary guidance mechanism used by at least 300 species of dragonflies, mayflies, caddisflies, tabanid flies, diving beetles, water bugs, and other aquatic insects. This is used to search for suitable water bodies to act as feeding/breeding, habitat, and oviposition sites (Schwind 1991; Horváth and Kriska 2008). Because of their strong horizontal polarization signature, artificial polarizing surfaces (eg asphalt, gravestones, cars, plastic sheeting, pools of oil, glass windows) are commonly mistaken for bodies of water (Horváth and Zeil 1996; Kriska *et al.* 1998, 2006a, 2007, 2008a; Horváth *et al.* 2007, 2008). Because the *p* of light reflected by these surfaces is often higher than that of light reflected by water, artificial polarizers can be even more attractive to positively polarotactic (ie lured to horizontally polarized light) aquatic insects than a water body (Horváth and Zeil 1996; Horváth *et al.* 1998; Kriska *et al.* 1998). They appear as exaggerated water surfaces, and act as supernormal optical stimuli.

The ecological consequences of attraction to these PLP sources vary. Attraction to oil spills and pools typically results in mortality for organisms that touch or land on the surface of the oil and cannot escape. Large numbers of dragonflies, mayflies, caddisflies, water bugs, and water beetles are trapped by waste oil pools and oil spills in spring, summer, and autumn, during their annual swarming and migration (Horváth and Zeil 1996; Bernáth *et al.* 2001a; Figure 4a). Some insect species are attracted to plastic sheeting, which causes them to swarm, land, crawl, copulate, and lay eggs (Figure 4b), while many others (eg aquatic bugs – Heteroptera, and water beetles – Coleoptera) dry out and perish within hours (Bernáth *et al.* 2001b; Kriska *et al.* 2007). Emerging caddisflies (*Hydropsyche pellucidula*) are attracted to the vertical glass surfaces of buildings on river banks (Figure 4c) as a result of their strong, horizontal polarization signature (Kriska *et al.* 2008a; Malik *et al.* 2008; Figure 3g), an effect that is strengthened by building lights after dark. Because they copulate and remain attracted to the glass panes for hours, many individuals become trapped by partly open tiltable windows and perish.

Many aquatic insects experience complete reproductive failure when they lay eggs on artificial polarizers. Dragonflies (Wildermuth 1998; Figure 4d) and mayflies (Figure 4a, b) carry out sexual behaviors and lay eggs on unsuitable surfaces (eg shiny cement floors, black benches, glass panes, black plastic sheets, and horizontal black gravestones) that, like water, reflect horizontally polarized light. Strong polarization patterns also make black or red cars (Figure 3e) attractive to a host of species

(Kriska *et al.* 2006a; Figure 4e). Male dragonflies often perch on car antennas and establish territories on automobile hoods, while females frequently land and lay their eggs on horizontal car surfaces, where they fail to hatch (Wildermuth and Horváth 2005). Polarotactic mayflies and other insects (Figure 4f) commonly swarm above, land/copulate on, and oviposit onto dry asphalt surfaces that reflect horizontally polarized light (Kriska *et al.* 1998; Figure 3d). Attraction to PLP sources is often so great that individuals appear incapable of leaving, a behavior we call the "polarization captivity effect" sensu Eisenbeis (2006), which culminates in the death of the insects as a result of dehydration and exhaustion.

It is not surprising that water-seeking insects use horizontally polarized light to locate water bodies – among the available visual cues, polarization is the most reliable under variable lighting conditions (Schwind 1985; Horváth and Varjú 2004). Certain waterbirds are attracted to pools of oil, in which they drown, and they also try to forage on plastic sheeting laid on the ground, which appears to them as a small body of water (Bernáth *et al.* 2001a). Foraging on this type of inappropriate, artificial habitat wastes time and energy, but landing on artificial reflectors can be lethal for other species.

Obligate waterbirds, such as the ruddy duck (*Oxyura jamaicensis*), common loon (*Gavia immer*), dovekie (*Alle alle*), and brown pelican (*Pelecanus occidentalis*), are occasionally found dead or injured and stranded (unable to take off) in large asphalt parking lots (McIntyre and Barr 1997; Montevecchi and Stenhouse 2002), or on asphalt roads in the desert (Kriska *et al.* 2008b). Strandings commonly take place at night, when bright, downward-facing streetlights are reflected upwards by asphalt surfaces, creating a strong optical signature during a time of day when few cues for locating water bodies are available. Studying the possible role of polarization vision of these waterbirds in water detection is the task of future research.

Foraging ecology

Polarization sensitivity can be used by certain predators to help detect suitable prey. Underwater, both the degree and the direction of polarization created by scattering depend on the position of the Sun or Moon. But when scattered light passes through the transparent body of small aquatic prey animals (eg jellyfish, ctenophores), its polarization signature is altered, increasing the visual contrast of the prey species relative to the background (Lythgoe and Hemmings 1967; Shashar *et al.* 1998): transparent bodies repolarize transmitted, reflected, or refracted light and stand out against a background polarized in a different plane and at a different magnitude. Plankton feeders are adept at detecting zooplankton in the water column that would otherwise be transparent (Novales Flamarque and Browman 2001). In this way, cephalopods, trout, and other aquatic predators can detect the polarization signature of camouflaged and/or distant prey (Shashar *et al.* 1998; Marshall *et al.* 1999; Novales Flamarque and Browman 2001). Longfin squid (*Loligo pealei*) also use polarized light as a hunting cue and will eat clear, polarizing beads in preference to non-polarizing ones (Shashar *et al.* 1998).

Underwater plastic garbage is another source of PLP, and may prompt aquatic organisms into consuming inappropriate and dangerous items. Transparent plastic is an abundant pollutant in marine environments throughout the world (reviewed in Derraik 2002); it alters the polarization of light passing through it, in the same way as small transparent organisms, because its index of refraction is different from that of water. The polarization signature of plastic refuse may also be problematic for sea turtles, since they may also be sensitive to polarized light (C Mora pers comm). Turtles commonly ingest plastic, particularly transparent plastic bags (Gramentz 1988; Bugoni *et al.* 2001), which have a polarization signature similar to that of prey items they commonly target (eg jellyfish, ctenophores). In addition to direct mortality (Duguy *et al.* 1998), sea turtles may experience reduced growth rates, which increases their vulnerability to large predators, and reduced energy reserves and migratory ability, as a consequence of plastic ingestion (McCauley and Bjorndal 1999). Plastic bags may attract sea turtles solely on the basis of their transparency and similarity in shape to jellyfish, yet the role of polarization signals in the interaction between plastic garbage, sea turtles, and other aquatic organisms deserves further study. Polarization vision in piscivorous predators should enhance detection of silvery-colored fish, by breaking their spectral camouflage (Marshall *et al.* 1999). The polarized light signatures of plastic refuse should therefore enhance its attractiveness to a number of polarization-sensitive predators (eg fish, cephalopods, birds; reviewed in Wehner 2001; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006), making the potential scope of the problem both taxonomically and geographically widespread.

Navigation and orientation

Many taxa (eg birds, reptiles, fish, insects, crustaceans, and echinoderms) use polarized light patterns in the sky or hydrosphere as an orientation cue (reviewed in Danthanarayana and Dashper 1986; Schwind 1995; Wehner 2001; Labhart and Meyer 2002; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006). Artificial polarized light (eg reflected from glass buildings or scattered in water around fishing boats and undersea research vessels) could therefore disrupt evolved polarization-based navigation and orientation behaviors. Certain bees, crickets, desert ants, and beetles, for instance, use the skylight polarization patterns as a cue for orientation during their dispersal and migration (eg von Frisch 1967; Labhart and Meyer 2002; Dacke *et al.* 2003), yet a wide range of nocturnal insects are attracted to, and "trapped" by, artificial point sources of polarized light (Kovarov and

Figure 5. *Predators feeding on polarotactic insects attracted to two PLP sources. (a) A great tit and (b) an orb-weaver spider feeding on caddisflies attracted to vertical glass surfaces; (c) carcasses of a European goldfinch and (d) a bat trapped by a waste oil lake in Budapest, Hungary.*

Monchadskiy 1963; Danthanarayana and Dashper 1986). The maximum p of skylight is highly variable, ranging from 15–75% (Coulson 1988), so highly polarizing artificial surfaces (Horváth and Pomozi 1997) that reflect light downwards may easily become supernormal polarization signals to which different species are attracted. Field crickets (*Gryllus campestris*), for example, can orient to degrees of polarization of only 5–7% (Henze and Labhart 2007), while artificial polarizing surfaces may produce a signal as high as 80–95% (Horváth and Varjú 2004). Artificial surface reflections may therefore be confused with natural polarized light produced by scattering in the atmosphere.

Predation

Although the direct effects of PLP on polarotactic organisms are commonly negative, PLP can indirectly benefit species that feed on, or compete with, polarotactic organisms. Anuran amphibians, reptiles, birds, bats, and spiders hunt insects attracted to streetlamps at night (reviewed in Rich and Longcore 2006); this is a well-known, secondary effect of conventional (non-polarized) ecological photopollution. Similarly, wagtails (*Motacilla alba* and M *flava*) readily hunt polarotactic insects attracted to dry asphalt roads and highly polarizing black plastic sheets laid on the ground, which function like a huge bird feeder (Kriska *et al.* 1998; Bernáth *et al.* 2008). Caddisflies attracted to vertical glass surfaces lure diverse predators, including birds, such as European magpies (*Pica pica*), white wagtails (M *alba*), house sparrows (*Passer domesticus*), and great tits (*Parus major*; Horváth and Kriska unpublished data), which systematically hunt and catch the caddisflies that have landed on glass panes or are swarming near windows (Figure 5a). Spiders are also attracted in large numbers to feed on these caddisflies (Figure 5b).

Cascading effects may result if predators, initially benefiting from the abundance of caddisflies attracted to the glass surfaces, become prey themselves. For example, magpies gathering near caddisfly congregations could represent an enhanced predatory risk for the chicks of other bird species that nest in the immediate vicinity of glass buildings, because magpies are nest predators of other, smaller birds (Parker 1984). In this way, the ecological trap for caddisflies could actually trigger a secondary ecological trap for several bird species that prey upon the caddisflies. Spiders attracted to prey upon caddisflies also become prey animals in this altered food web (Figure 5b; Horváth and Kriska unpublished data).

A similar, but more complex food web has been observed by Bernáth *et al.* (2001a) at an open-air waste

oil reservoir in Budapest, Hungary. The strongly, horizontally polarizing black surface of the oil (Figure 3b) attracts large numbers of polarotactic aquatic insect species. These insects lure various insectivorous birds and bats, which are then trapped by the sticky oil (Figure 5c, d). The carcasses of these birds and bats in turn attract other carnivorous birds (eg owls, kestrels, hawks), which may also become trapped in the oil. Ancient natural asphalt seeps have acted as massive animal traps, the most famous example of which are the Rancho La Brea tar pits in Los Angeles, California (Akersten *et al.* 1983). It is generally thought that animals were initially caught when they accidentally stumbled into these tar pools, which may have been camouflaged by dust or leaves (Akersten *et al.* 1983). Alternatively, these asphalt seeps may sometimes have been covered by rainwater, thus strengthening their polarization signature and attracting polarotactic insects and birds, and initiating a cascading trap for predators attracted to the trapped prey species.

Population ecology

The attraction of aquatic insects to PLP sources is one of the most compelling and well-documented instances of ecological traps to date (Robertson and Hutto 2006). Ecological traps occur when rapid environmental change leads organisms to prefer to settle in poor-quality habitats (Gates and Gysel 1978); behavioral cues are no longer correlated with their expected fitness outcomes. Because PLP sources can polarize light more highly than water, aquatic insects prefer to settle and lay eggs upon artificial, horizontally polarizing surfaces, even when there are suitable water bodies nearby (Horváth *et al.* 1998, 2007; Kriska *et al.* 2008a). Ecological traps that result in mortality or reproductive failure are predicted to have severe fitness consequences, leading to rapid population declines and, in some cases, complete extirpation (Kokko and Sutherland 2001). Because the most common response to PLP is attraction, and since highly and horizontally polarized light is more attractive than less polarized light (Horváth and Varjú 2004), supernormal polarization signatures may be a common mechanism for triggering ecological traps among polarization-sensitive taxa.

Because population-scale studies of the effects of PLP are just beginning, its ability to cause population declines or alter the structure, diversity, or dynamics of ecological communities is still speculative. For example, populations of certain aquatic insect groups (eg mayflies and dragonflies) are declining in countries with highly dense human populations, but this could result solely from habitat alteration and destruction. Experimental approaches would address the importance of PLP by using large, temporary, polarization traps near aquatic habitats that are otherwise unaffected by PLP. Subsequent changes in the local population size of polarization-sensitive species, their biotic interactions with other organisms (eg competition, predation), and alterations in community structure or diversity could then be attributed to the effects of PLP. Observational studies could indirectly assess the effects of PLP by comparing populations of polarotactic taxa and their aquatic communities in wetland or riparian landscapes surrounded by varying acreages of artificial polarizers (eg asphalt roads and glass buildings).

Conclusions

The surprising ubiquity of anthropogenic polarizing surfaces combined with the occurrence of sensitivity to polarized light in so many animal taxa suggest that caution in the placement and use of artificial polarizers is warranted from a conservation perspective. Great potential exists for the mitigation and elimination of the ecological consequences of PLP, through the use of alternative materials that reduce the polarization signature of human activity. Because rough surfaces reflect light with lower p values at a given angle of reflection (Kriska *et al.* 2006b), one solution is to use building materials that are as rough as possible (eg avoiding shiny bricks and glass in favor of matte surfaces). Where shiny materials cannot be avoided, lighter-colored building materials should be used in place of shiny dark (black, dark gray, or dark-colored) ones. Night lighting in parking lots and near buildings should be minimized and/or directed away from buildings, asphalt, and cars. It is particularly important for these guidelines to be implemented in proximity to rivers, lakes, and other water bodies. Because polarotactic organisms can also use cues other than polarized light in selecting habitats, even relatively moderate reductions in the polarized light signature associated with human structures (eg with a degree of polarization more typical of natural habitats) may allow organisms to make adaptive decisions.

Although it is clear that the extent of PLP in natural environments is likely to increase proportionally to the enhanced use of artificial polarizers in human endeavors, the magnitude of the ecological consequences associated with increases in PLP is still difficult to predict with certainty. Future research needs regarding PLP can be grouped into two major categories: (1) monitoring and measuring the sources of PLP with imaging polarimetry, and (2) probing the organismal and ecological consequences of PLP. Surveying the human-made optical environment to establish further possible sources of PLP is essential. For example, photovoltaic solar panels are a possible source of PLP (Figure 6a), and production of these is predicted to increase in response to rising energy prices.

Research continues to add to the surprisingly long list of animals that have evolved the ability to detect polarization as well as to describe fascinating new uses for it. Yet our knowledge of the functional nature and the importance of polarization sensitivity in animals remains relatively limited. Because some organisms (eg polarotactic insects) are attracted not only by linearly polarized light, but also by artificial night lights, we need to investigate the synergistic interactions between polarotaxis

Figure 6. *PLP sources to be studied. (a) The PLP induced by the shiny, black surface of photovoltaic solar panels at the edge of an asphalt road running alongside a river bank is synergetically strengthened by the PLP caused by the asphalt surface. (b) The PLP of asphalt roads illuminated by streetlamps at night is synergetically supported by the photopollution of the lamps. Night-flying polarotactic insects may be lured by phototaxis to the streetlamps, and are then attracted to the horizontally polarizing asphalt.*

and phototaxis in the behavioral ecology of these species (Figure 6b). In addition to their diurnal effects, artificial lights illuminate a vast array of marine and freshwater habitats at night, in both urban and rural areas. Night lighting is a major source of ELP, but can also produce PLP via (1) reflection from buildings and other structures (Figures 2 and 3) and (2) the creation of underwater polarization signatures through scattering in the hydrosphere, which may affect ecological interactions among aquatic organisms.

Because the advantages of sensitivity to polarized light in some taxa are still unclear, forecasting the importance of PLP to the survival of populations and the integrity and function of ecosystems remains largely speculative. Even so, the ever-increasing levels of PLP and its ability to negatively affect behaviors and to alter interspecific interactions constitute an important conservation problem, which requires increased attention from conservation professionals and researchers alike.

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Thank you for your comment, James Bryant.

The comment tracking number that has been assigned to your comment is SolarD10022.

Comment Date: January 21, 2011 13:33:07PM
Solar Energy Development PEIS
Comment ID: SolarD10022

First Name: James
Middle Initial: M
Last Name: Bryant
Organization:
Address: 4607 Edgewood Place
Address 2:
Address 3:
City: Riverside
State: CA
Zip: 92506
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The approach being taken by the Administration and DOI to solar energy development is fundamentally flawed, and has the appearance of being manipulated, at least in part, to take huge new areas of wildlands out of preservation status in order to make them available for all manner of future development. The experience the nation has had over two centuries with the "mining" of resources - exploiting them with little or no thought to their replacement or renewal - has been horrible, leaving huge swaths of the continent desolate and bereft of their forests, their water resources, their mineral content, even their very native landscapes. While solar energy may be in a sense renewable, the landscapes upon which these proposed installations will rest are not. As the Wildlands Conservancy has testified, solar energy installations should be limited to already disturbed lands, and this restriction should probably be revised to be “only the built environment”. New and existing structures, and perhaps entire business or residential districts, should be adapted to solar energy installations. This would help to redeem some of the value of the "brown fields" created by so much of our overbuilt environment, and would place the emphasis on energy generation, and not on more exorbitant spending on energy transmission infrastructure, which is ultimately a huge "waster" of electricity. Utilities (as protected monopolies) should be required to promote and enable the domestic/residential generation of electricity, not the "spinning off" of new for-profit solar energy partners and subsidiaries to be subsidized through cheap access to public lands.

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10023.

Comment Date: January 25, 2011 17:31:41PM
Solar Energy Development PEIS
Comment ID: SolarD10023

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: 636 W. 200 S.
Address 2:
Address 3:
City: Provo
State: UT
Zip: 84601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The unburned portions of the proposed East Mormon Mountain SEZ, located mainly in its eastern and southern parts, should be excluded, if this SEZ is not eliminated altogether. These areas, and possibly the burned area, most likely contain desert tortoises and other sensitive species, as well as joshua trees and other succlents. In 2005, large areas of Mojave desert vegetation burned to the north. Because native vegetation in this area is so slow to reestablish, any unburnt habitat in this region should not be disturbed. Development near the burn boundary may also inhibited seed dispersal and reestablishment of vegetation in the burn area.
In addition, visual resources and the quality of neighboring wilderness areas and of potential wilderness areas nearby would be compromised by development in this study area.

Thank you for your comment, Bruce Fenske.

The comment tracking number that has been assigned to your comment is SolarD10024.

Comment Date: January 27, 2011 14:33:43PM
Solar Energy Development PEIS
Comment ID: SolarD10024

First Name: Bruce
Middle Initial: A
Last Name: Fenske
Organization: Arizona Department of Transportation
Address: 2243 East Gila Ridge Road
Address 2:
Address 3:
City: Yuma
State: AZ
Zip: 85365
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Ltr_BLM Programmatic EIS(012711).pdf

Comment Submitted:

Please see the attached letter. The original will follow.

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Jan Brewer
Governor

John Halikowski
Director

Floyd Roehrich
State Engineer

January 27, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 South Cass Avenue
EVS/240
Argonne, Illinois 60439

Re: Comments on Draft PEIS for Solar Energy Developments

Dear Sir/Madam:

The Arizona Department of Transportation (Department) is a major stakeholder in the use of lands administered by the U.S. Department of Interior's Bureau of Land Management (BLM). The Department oversees thousands of lane-miles of highways within the state, many of which are on easements issued by the BLM to either the Department or to the Federal Highway Administration (FHWA) of the U.S. Department of Transportation. We also plan ways to meet the needs of the traveling public for highways, passenger rail, and air travel both now and in the future.

The Department's oversight of the state and national highway systems includes the authority to issue encroachment permits to public and private entities seeking access to highways throughout the state when developing their lands. The Department also manages an airport and, potentially, will oversee the planning, design, and/or construction of future high speed or light rail systems. The Department completed a framework study[1] in 2010 that identifies Arizona's transportation needs through the year 2050.

In these roles, the Department is familiar with regional and statewide transportation networks and needs. As an involved stakeholder for a couple of planned solar projects on federal lands, as well as some proposed facilities on private lands, the Department offers these comments on the draft programmatic environmental impact statement (PEIS) regarding the potential development of solar energy facilities on federal lands managed within Arizona by the BLM –

- Table 2.2-2, Pages 2-8 through 2-9, Areas for Exclusion. The Department does not object to the areas identified as exclusionary zones; however, we do have specific comments for each

[1] Arizona Department of Transportation (ADOT). 2010. 2010 Statewide Transportation Planning Framework [on-line]. <available: http://www.bqaz.gov/StatewideTransportationPlanningFramework.asp> Phoenix, Arizona: ADOT. [cited: December 26, 2010]

proposed zone regarding coordination and communication under our comments for Section 8 of the draft PEIS.

- Section 3.2.2, Page 3-16, Site Preparation and Construction. The paragraph lists features of a solar power-generating facility that would be needed for an operational facility. The first feature listed is for "establishing site access." We recommend changing this phrase to read "establishing site access, including obtaining local permits and improving the local or regional highway network." The text does not clearly define "establishing site access," but one major component of it will be to obtain local zoning and construction permits. As part of the permitting process, the developer of a proposed solar-generating facility will need to identify its effects on the local transportation system and under state law be responsible for improvements to those systems, if they cannot handle the proposed volume and types of traffic generated during all phases of the project. We realize that Section 5 of the draft PEIS addresses transportation issues more directly, however, we recommend this wording revision in order to introduce the subsequent discussion on transportation in the draft PEIS.

- Section 5.2.1.2, Transmission Lines and Roads, and Section 5.2.3, Potentially-Applicable Mitigation Measures. In Arizona, as well as in other states, local development adjacent to state highway routes requires an encroachment permit in order to directly access the state highway system, including the Interstate Highway system. A proposed solar power facility may affect a highway if it increases traffic volumes, is of a type incompatible with a road's design, or significantly decreases a road's serviceable life. Operation of a solar power facility should have minimal effect on traffic; however, the construction of such a facility potentially has site-specific traffic issues. Information provided to us on previous solar projects in Arizona indicates that up to 1,000 construction workers may arrive and depart from a site at the same time for a year or more. Turning movements associated with such a volume could cause back-ups on a traffic interchange along an Interstate Highway or could cause severe congestion on a state (or local) road. The Department needs future applicants to complete a traffic study in order to provide the Department (and local governments) an opportunity to review and comment on a project's potential effects on traffic along the state highway system and along local roads. The information that we need from such a study are 1) projected daily average traffic volumes during construction; 2) peak morning and afternoon hourly traffic volumes for privately-owned vehicles during construction along with any variations anticipated during the construction period; 3) volumes, weights, and maximum lengths for trucks; 4) directional analysis of the traffic; 5) a queuing analysis according to the Department's standards; and 6) recommendations for site-specific mitigation measures, if any. This traffic study allows the Department (and local governments) to identify any road improvements needed to maintain safe and efficient traffic flow during the construction period.

- Section 8, Arizona Proposed Solar Energy Zones (SEZ). There are three SEZs within the state of Arizona identified within the draft PEIS. The draft PEIS lists these as Brenda, Bullard Wash, and Gillespie. Our SEZ-specific comments are –

    - Brenda. This site does not appear to be in conflict with any of the Department's current or planned facilities; however, we recommend that any future applicant coordinate with

the Western Arizona Council of Governments (WACOG), La Paz County, and the Department to identify and address site-specific issues.

- Bullard Wash. Local governments, the Department and the FHWA are reviewing the potential for a new I-11 corridor between Phoenix, Arizona, and Las Vegas, Nevada. This corridor could include a freeway and/or railway that may run near any potential solar facility. The proposed I-11 corridor can be found in the Hassayampa Framework study[2], as well as the State Rail Plan[3] and the 2010 Statewide Transportation Framework Study. The dimensions for an I-11 corridor are in planning and still remain broad at this time. The Bullard Wash SEZ does not appear to be in conflict with potential departmental facilities; however, we recommend that any future applicant coordinate with the Maricopa Association of Governments (MAG) and the Department. These two agencies will have the latest information on the I-11 corridor and local roads within Maricopa County.

- Gillespie. The 2010 Statewide Transportation Planning Framework Study and the State Rail Plan identify the rehabilitation of the Wellton branch rail line for freight and passenger service. In addition, a high-speed passenger service may also use this corridor. However, the one mile utility easement identified in the draft PEIS as an area to avoid should be sufficient for these transportation activities. As a result, we do not expect the proposed SEZ to conflict with the Department's current or future facilities. In order to confirm a lack of conflict in the future, however, we recommend that any future applicant coordinate with the Department on site-specific issues.

If you have any questions regarding these comments, please feel to contact me and I can arrange to meet with you or have the Department's appropriate staff available to discuss these issues.

Sincerely,

Bruce A. Fenske

Bruce A. Fenske, P. E.
Development Engineer, Yuma District
Arizona Department of Transportation
2243 East Gila Ridge Road
Yuma Arizona 85365

cc: S. Allred – Multi-Modal Planner, Phoenix
J. Toth – Director, Multi-Modal Planning Division, Phoenix
R. LaJeunesse – Regional Traffic Engineer, Prescott

[2] Maricopa Association of Governments (MAG). 2006-10. I-10 Hassayampa Valley Roadway Study [on-line]. <available: http://www.azmag.gov/Projects/Project.asp?CMSID=1099 > Phoenix, Arizona: ADOT. [cited: January 19, 2011]

[3] ADOT. 2008-10. Statewide Transportation Planning Framework – Arizona State Rail Plan [on-line]. <available: http://www.bqaz.gov/rail_asrp.asp > Phoenix, Arizona: ADOT. [cited: January 19, 2011]

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10025.

Comment Date: January 31, 2011 16:27:29PM
Solar Energy Development PEIS
Comment ID: SolarD10025

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

FACT: Solar technology will help take harmful pollutants out of the air and land therefore directly benefiting BLM and us Americans who love our land and country so very much.

Therefore, I would like to see BLM, local colleges, our government, and our city governments working together at implementing way more solar energy projects. We need to take this seriously people.

Did you know we have the natural resources right here on our own soil which are being shipped overseas currently to make much of the solar technology, to then be shipped back to us at a high cost? Why not use our own natural resources better and more efficiently huh?

I will be graduating with my degree in Industrial Technology with Solar Emphasis this Spring 2011. This plan would directly benefit jobs in my state and area, including my own business quests. We need to keep an open mind and put Americans to work making stuff again. Let's work together to bring the trade jobs and industry back to USA. MW

Thank you for your comment, Victoria Allen.

The comment tracking number that has been assigned to your comment is SolarD10026.

Comment Date: February 1, 2011 18:25:24PM
Solar Energy Development PEIS
Comment ID: SolarD10026

First Name: Victoria
Middle Initial:
Last Name: Allen
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

A dispersed infrastructure of solar energy development on pre-existing structures is a possibility. Advantages include transmission lines would be pre-existing, road access for installation and maintenance would be pre-existing, and disturbance of natural areas would likely be significantly decreased. Also, if there is a safety issue (given the value of solar panels), many pre-existing structures (VCs, housing, office buildings) have local or regular law enforcement patrols.

Thank you for your comment, Jeff Pauly.

The comment tracking number that has been assigned to your comment is SolarD10027.

Comment Date: February 2, 2011 14:07:12PM
Solar Energy Development PEIS
Comment ID: SolarD10027

First Name: Jeff
Middle Initial: M
Last Name: Pauly
Organization:
Address: 30 Locust Drive
Address 2:
Address 3:
City: Yerington
State: NV
Zip: 89447
Country: USA
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Attachment:

Comment Submitted:

My name is Jeff Pauly and I have been enjoying the area of Goldpoint and the Lida Valley for over 40 years. I own a small cabin in Goldpoint.
I object to a solar energy field in this area because of 2 reasons.
1.- This is one of the last historical mining areas for people to visit and enjoy in Nevada. It is one of the last still standing mining camps and it's solitude and beauty is enjoyed by thousands every year.
2.- The sheer beauty of this area. There is no other place that cradles a mountain like Mt. Jackson. I will attempt to send one photo by attachment to illustrate this. We may need the solar energy fields, but with so many hundreds of square miles to use, this is one area that needs to be preserved.

In reading over the material about these solar energy fields, it would also appear to cost less to put them close to existing transmission lines. This can be done. In a time when our country has such a defiecet , we need to to make this as cost effective as possible. I look forward to learning what these cost are projected and what they might be if the areas under consideration were in line with existing power lines.
I was not able to send an attachment as a photo, so I will send to send it another way.

Thank you: Jeff Pauly

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10028.

Comment Date: February 7, 2011 09:35:04AM
Solar Energy Development PEIS
Comment ID: SolarD10028

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

It seems that way too much of our desert West is up for sacrifice. A major concern is the visual pollution and the destruction of wildlands.

What lands should be made available for solar development must be decided and allowed only in concert with an overall national energy program and honest and intelligent analyzes of the costs and benefits of the various options.

Thank you for your comment, Claudia Alongi.

The comment tracking number that has been assigned to your comment is SolarD10029.

Comment Date: February 8, 2011 12:13:47PM
Solar Energy Development PEIS
Comment ID: SolarD10029

First Name: Claudia
Middle Initial: K
Last Name: Alongi
Organization:
Address: 68512 Calle Prado
Address 2:
Address 3:
City: Cathedral City
State: CA
Zip: 92234
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This whole idea is ridiculous; to destroy the last vestiges of our beautiful desert so a private company can charge us millions for FREE energy is contemptous and contemptable! Why would the public fall for another big-business conspiracy against the future? Shame! Shame! Shame!

Thank you for your comment, Coulter Stewart.

The comment tracking number that has been assigned to your comment is SolarD10030.

Comment Date: February 9, 2011 11:38:45AM
Solar Energy Development PEIS
Comment ID: SolarD10030

First Name: Coulter
Middle Initial: H
Last Name: Stewart
Organization: Democrats in Sun City, Palm Desert
Address: 78804 Links Dr.
Address 2:
Address 3:
City: Palm Desert
State: CA
Zip: 92211
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear Linda,
We attended your presentation last night in Indian Wells, CA.
My thoughts:
1. The nation and Southern Calif. needs you to carry out the maximum development of this solar resource. not only in the 677,000 acres in the 24 SEZs but also on the 22 million acresof BLM land within the 120 million that is authorized for application.
2. There is no conflict with either Joshua Tree NM or the Chuckawalla Valley. As for Desert Center, it is already a blight on the landscape and should be bulldozed and turned into a solar array.
3. As you may know there is already a 1.2 MW solar PV plant at Chuckawalla State Prison at the intersection of wiley Wells Rd. and the I-10 Freeway, which they can't even see.
4. Your environmental mitigation measures are sensible and adequate.
5. Your RFDS should be doubled to 64,000 MW on 320,000 acres (5 acres/mw) using CSPV or similar systems to minimize water cooling requirements.
6. Make the Indian Tribes economic partners in this as power providers and/or transmission companies.

General Comments:
Riverside, San Bernardino, and Imperial Counties can band together in an Energy Consortium to pool resources, financing and make this happen.
For us it is about jobs, jobs, jobs...
For the nation it is about National Security and Defense.
Good Luck.

Thank you for your comment, Theresa Langlois.

The comment tracking number that has been assigned to your comment is SolarD10031.

Comment Date: February 9, 2011 12:52:50PM
Solar Energy Development PEIS
Comment ID: SolarD10031

First Name: Theresa
Middle Initial:
Last Name: Langlois
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I moved to the Desert in 1992 after visiting the area for many years prior. Loving the beauty of the mountains, night skies, clear air, birds, animals and flora. I could go on and on. Each day brings a new experience. Living in a natural corridor for migrating birds,the osprey was exciting, just passing thru (documented). Yesterday I saw again, a single coyote going west for the night, east in the mornings. The coyote has been doing this since 1992. Watching the balance of nature, sometimes brutal, is part of life. Wildflowers not seen for hundreds of years reappear with the right amount of rain (1997-1998) from untouched land.
Any large industrial projects changes the natural progress of nature. You can't just move a tortoise and say go this way now. Putting a solar field up againist a National Park (Joshua Tree) would affect nature. You can't and shouldn't put an unnatural fence near the Park.
One most inportant question: Who benefits from this solar energy? Since these are remote areas, where does the power go? Will there be transmission lines? Are they above or below? What about the protected Burrowing Owls, seen usually at night? Much activity is at night.
One project usually brings more. Example, the windmill fields in the Palm Springs area. The whole landscape is changed forever!
A last comment. One of my neighbors clear a portion of their land. The effect was many new critters, including sidewinders in our backyard. They had to find a place to go!

Thank you for your comment, Jim Bell.

The comment tracking number that has been assigned to your comment is SolarD10032.

Comment Date: February 9, 2011 14:12:48PM
Solar Energy Development PEIS
Comment ID: SolarD10032

First Name: Jim
Middle Initial:
Last Name: Bell
Organization:
Address: 4862 Voltaire St.
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 92107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

When Good is Bad
By Jim Bell
www.jimbell.com jimbellelsi@cox.net
619-758-9020

Here we go again, justifying doing something bad to do something supposedly good.

I'm referring to the plan to scrape off hundreds of square miles of desert and other habitat areas to install solar collecting devices that convert direct solar light into electricity. This approach will also require that more plant and animal habitats will have to be damaged to construct and maintain transmission lines to deliver electricity produced by remote solar power plants to cities where most of it is needed.

Obviously, scraping off land to install renewable energy to electricity producing devices will hurt all the plants and animals on the land to be scraped off. It will also hurt animals that now use the land to be scraped off for food, water and migration. But don't we have to have remote solar to electricity sites to become renewably electricity self-sufficient in urban areas?

Absolutely not!!!

In fact, much of the United States can become renewable electricity self-sufficient, and do it in ways that are both cost-effective and life-support-system-effective. Because of laws like AB 117 (CCA or Community Choice Aggregation) in California, this option is already available to cities and counties in some states. Basically it allows cities and counties in those states to become CCA municipalities. This means that cities and counties in those states can choose to become electricity supply and price secure by making their buildings and infrastructure more electricity use efficient and by installing PV panels on roofs and over parking lots.

Assuming 1.000 sq. ft. of roof and parking lot per capita, San Diego County, where I live, can use free-market forces to cost-effectively become renewably electricity self-sufficient. This can be accomplished by increasing the County's electricity use efficiency by 40% and installing 15% efficient PV panels over 17% its roofs and parking lots, (shaded parking).

Other benefits of becoming renewable electricity self-sufficient include:

+ Eliminating the need to scrape off habitat to accommodate remote direct solar installations and transmission lines to deliver the electricity they produce to urban areas. Land under buildings and parking is already disturbed and damaged plant and animal habitat. Installing efficiency improvements in building and PV panels on roofs and over parking lots eliminates the need to impact new land.
+ Being more electricity supply and price secure. The increase in electricity use efficiency and the electricity produced on local roofs and parking lots cannot be cut off by the failure of transmission lines from remote suppliers to urban areas. Increasing electricity use efficiency and installing PV panels on roofs and over parking lots would also make it difficult for acts of nature, accidents or intentional human acts to cause serious damage or disruption to a county's production, distribution and storage of renewably generated electricity.

+ Changing San Diego County's negative-electricity purchase cash-flow into a positive-electricity-purchase-cash-flow. Currently San Diego County exports one billion plus dollars each year to purchase imported electricity or imported natural gas or nuclear fuel to make electricity locally. If the County were renewable electricity self-sufficient today, all the money now exported to pay for imported electricity or fuels to produce it locally will be kept in the County's economy. Initially this money will be used to hire businesses and its employees to make the county more electricity use efficient and install PV panels on roofs and over parking lots. Because the businesses and workers making the county more electricity use efficient and renewable electricity self-sufficient will be local, much of the money they earn will be spent locally, helping everyone's bottom line. Assuming an economic multiplier benefit of two, a renewable electricity self-sufficient San Diego County would add around $3 billion of economic activity to the County's economy each year. This is assuming that electricity is 10 cents per kWh. If the cost of electricity on the Western States Electricity Grid Market is more than 10 cents per kWh, the positive-cash-flow and economic multiplier benefit of becoming renewable electricity self-sufficient in San Diego County will grow accordingly.

+ That local efficiency and PV installations do not require new power lines or existing power line enhancement. The electricity produced with PV on roofs and over parking lots is already grid connected. Excess electricity produced during peak PV output can be sold or traded for electricity through out the Western States Electricity Grid for times when local PV panels are not producing sufficient electricity to meet the county's electricity demand.

+ Eliminating the County's contribution to pollution, general life-support damage and to climate change related to its dependence on producing electricity using fossil and nuclear fuels. It also eliminates the life-support damage connected to producing and delivering remotely produced renewably generated electricity to urban areas.

+ Eliminating price shocks related to the rising cost of electricity; made with price uncertain non-renewable energy resources. Unlike fossil and nuclear fuels, renewable energy resources are free and even delivered free. We are still becoming more cost-effective at becoming more electricity use efficient and making and installing PV panels over roofs and parking lots.

+ Increasing local business and employment. Becoming renewable electricity self-sufficient in San Diego County will create over 400,000 job-years of direct and indirect employment.

+ Changing ratepayers into utility company owners. As owners, ratepayers can meet all their electricity needs. If they produce more than they need, they can sell excess production into the Western States Grid.

+ Fostering the potential for the cost of increasing electricity use efficiency and renewably generated electricity to become less expensive. The manufacture and installation of electricity use efficiency measures and renewable energy collection and conversion to electricity devices is still becoming less expensive and the energy to power them is free and even delivered free.

+ Serving as a free-market example of how communities, in general, can save money and the environment by becoming renewable electricity self-sufficient. With some modifications, this investment strategy can be used by many communities to become completely renewable energy, water and food self-sufficient.

+ Becoming more electricity use efficient and installing PV panels on roofs and over parking lots adds zero heat to the county's incident solar load. When electricity produced in the desert is used locally, it will add heat from the desert to the county's incident solar load. It's a small addition but now is not the time we need more heat.

For details on the free-market plan (zero subsidies needed) to make San Diego County renewable electricity self-sufficient, go to www.jimbell.com and click on "Green Papers"

Thank you for your comment, Patrick Jordan.

The comment tracking number that has been assigned to your comment is SolarD10033.

Comment Date: February 9, 2011 19:55:31PM
Solar Energy Development PEIS
Comment ID: SolarD10033

First Name: Patrick
Middle Initial: V
Last Name: Jordan
Organization: Land owner in SEZ area of Blythe, CA
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

After listening to the presentation last night 02/08/11 in Indian Wells, CA and studying the proposals presented I feel the best compromise for all parties is sticking with the proposed SEZ's and also requiring mitigation of both undisturbed and disturbed lands. Generating new park facilities or areas that have been previously un accessable to the general public while using our natural resources to generate much needed renewable power with the proposed solar energy zones. I also agree that Eagle mountain and the border radius of the National parks are important to protect and should not be allowed for development.

Thank you for your comment, Renee Castor.

The comment tracking number that has been assigned to your comment is SolarD10034.

Comment Date: February 10, 2011 17:23:29PM
Solar Energy Development PEIS
Comment ID: SolarD10034

First Name: Renee
Middle Initial: W
Last Name: Castor
Organization: Chairman-Desert Center Area Chamber of Commerce
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

This statement was also given at the meeting held at the Indian Wells Hyatt meeting Feb. 8 2011

My name is Renee Castor and I am the Chairman of the newly formed Desert Center Area Chamber of Commerce in the town of Desert Center. I am not an environmentalist and I am here to represent a different perspective.

While the Sharpied's (?) and I normally sit on opposing sides of issues that effect our valley and small town you (BLM and DOE) have managed to create and issue we whole heartily agree on, if not for entirely the same reasons.

The Desert Center community formed the chamber of commerce this year to find ways to fight to keep our town from dying and becoming a ghost town in the current economic crisis. Yet while we fight to improve the economic growth and development of our community your (BLM ans DOE) proposed expansion of the solar energy program guarantees our extinction. There are millions of acres available with no towns within a hundred miles that are more suitable to this issue.

Our community is gaining no benefits from this project. All the energy that will be produced will be exported to large metropolitan areas. Yet your proposed Solar Energy Zones (SEZ) surround our small town on all sides. If you could imagine that Indian Wells Resort is Desert Center and every other roof top from here to Desert Hot Springs and from here to Coachella Valley is a solar panel that they plan to place in our valley, that would be the view we would wake up to everyday.

This program will destroy our valley's only natural resource, the unadulterated views and beauty of the Chuckwalla Valley. The beauty and majesty of our valley that brings Snowbirds and nature lovers who love to bike, hike and live in our valley every winter, will be gone and the economic boost they bring to our local economy will be gone with them.

These solar farms of such monstrous scale will disrupt the habitats and migration patterns of our local wildlife. We will lose the birds the bring the birdwatchers every year. We will lose the dove, quail, and deer that bring hunters every year and the business that comes with them.

We would look like one huge industrial complex which would amount to the same as post a huge sign that says "DON'T STOP HERE" to passersby. Tourism keeps us alive and this will kill our tourism.

The rural human population is an endangered species of its own and your program would guarantee our extinction. My mother was raised here, I was born and raised here, I returned to raise my own children here but if this program succeeds there will be nothing for my grandchildren. Our town is the last of the Mayberry type towns and this program will ensure its demise.

I agree with the alternative of roof top solar on all the houses and business that would benefit from the energy it will be farming any way. Instead of exporting from our valley place it directly at the source. I'm pretty sure the roof top space in the greater metropolitan areas this is intended for anyway would equal out to the acreage of our ecosystem your taking form us for this project. Our ecosystem is just as important as the protected ecosystems in Yosemite and Yellow Stone. Our Ironwood tree forests (yes we have forests) are just as environmentally important as that of the Red Wood Tree.

For groups who's job it is suppose to be to protect the environment and ecology of an area you seem to have been working

successfully to devastate not only an entire ecosystem but also and entire town.

Thank you for your comment, kim bauer.

The comment tracking number that has been assigned to your comment is SolarD10035.

Comment Date: February 10, 2011 22:24:17PM
Solar Energy Development PEIS
Comment ID: SolarD10035

First Name: kim
Middle Initial:
Last Name: bauer
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

the development of the desert regions of s.ca. as well as the rest of the desert regions in the west u.s. should be better studied ,documented,etc. as even the blm studies have stated that the projects would cause significant damage to area's flora and fauna.the projects should be denied access to building in these area's and any solar projects should be built in the cities that need them.

Thank you for your comment, lee Whitman.

The comment tracking number that has been assigned to your comment is SolarD10036.

Comment Date: February 12, 2011 21:24:09PM
Solar Energy Development PEIS
Comment ID: SolarD10036

First Name: lee
Middle Initial:
Last Name: Whitman
Organization:
Address: 59845 anzanita ln.
Address 2:
Address 3:
City: Anza
State: CA
Zip: 92539
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

consider; installing the panels on city rooftops, no transmission lines, no power drop.

Thank you for your comment, Duane Porterfield.

The comment tracking number that has been assigned to your comment is SolarD10037.

Comment Date: February 13, 2011 19:24:59PM
Solar Energy Development PEIS
Comment ID: SolarD10037

First Name: Duane
Middle Initial: L
Last Name: Porterfield
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Covering the entire Southwest with solar panels and wind machines will not get us off of foreign oil. It will not provide jobs because the majority of wind machines, solar panels, and "reflective panes" (you can't call them mirrors because it costs more to import them into this country), are not made in this country. In fact the companies that are building most of the solar installations are not U.S. companies. Thermal solar is not free or clean, a small 70 MW plant uses 300,000 gallons of a toxic heat transfer fluid that freezes at 56 degrees and turns to benzine after being heated beyond 600 degrees for a period of time. It will also give the BLM another excuse to close millions of acres of public land to multiple use. In addition, no one wants to admit that this type of renewable energy requires 100% backup by some type of additional generation for night time, and periods of little or no wind/sun. There are better uses for my tax money.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10038.

Comment Date: February 15, 2011 21:20:10PM
Solar Energy Development PEIS
Comment ID: SolarD10038

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am against the proposed solar plants alongside the Hwy 10 corridor in California. I am a snowbird and reside in the area during the winter months for the peace and quiet and pristine beauty of the desert. I am planning on residing here for the next 20-30 years and do not want the beauty of the desert destroyed by mass solar!! Our area in Desert Center will literally be destroyed by the solar propositions. This is a small community trying to survive and people will not come here if our beauty is destroyed by mass solar. We need the freedom of our land around us to explore and enjoy. There is enough land in our states to put solar plants, ect. where they will not be seen by every passing person and destroying small communities. Use the territory where there is no traffic and towns. Do the 'due diligence' research and make sure where you are putting these plants is best for all involved!! Do Not Rush to get these plants in because they may 'save' energy in the future. Lets take a good look at what is being done and make sure it is best for all. Please Do Not Ruin our Home and Lifestyle for the possible benefit of saving energy without doing the research to know this is the only option there is.

Thank you for your comment, Richard Nelson.

The comment tracking number that has been assigned to your comment is SolarD10039.

Comment Date: February 18, 2011 12:04:33PM
Solar Energy Development PEIS
Comment ID: SolarD10039

First Name: Richard
Middle Initial: H
Last Name: Nelson
Organization: Nye County, Nevada, through BEC Environmental, Inc
Address: 7660 W Sahara Ave, Suite 150
Address 2:
Address 3:
City: Las Vegas
State: NV
Zip: 89117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SolarPEIS_Comments 20110214 rn.doc

Comment Submitted:

Standard Review Form
Draft Solar Energy Development PEIS

Reviewer's Name: _Richard Nelson_____ **Reviewer's Organization**: _Nye County, Nevada___

Reviewer's email address: _Richard@becnv.com_____ **Reviewer's Telephone numbers**: 702-304-9830_____

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Oversight_____

Section or Chapter Number and Date of Reviewed Document: DES 10-59 – DOE/EIS-0403, December 2010_____

EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
3.1.1 Parabolic Trough	**3-4/27-28**	**When comparing per capita water usage to solar technology water usage, a differentiation between rural and urban water usage should be noted as the two can vary significantly (e.g. agricultural lands vs. inner cities).**	
3.1.5 Comparison of Technologies	**3-11/Table 3.1-1 Footnote d**	**Actual panel washing water requirements for PV should be included in this table and are likely available from data collected at the previously cited Nellis Solar Power Plant, Nellis Air Force Base, Las Vegas, Nevada, and the Arizona Public Service Company facility at the Prescott, Arizona, airport.**	
3.1.5.2 Water Use	**3-13/33 to 3-14/2**	**In discussing the drawbacks for utilizing reclaimed wastewater in operations in dry environments, it should be noted that many of the solar facilities currently operating in these environments, or applications for facilities in these environments, are not close to population centers and therefore the development of an extensive piping system would incur additional monetary costs and impacts to the environment. Trucking water in would also greatly increase the initial and operating costs of the facility.**	
11.1 AMARGOSA VALLEY	**FIGURE 11.1.1.1-1 Proposed Amargosa Valley SEZ**	**The Southern Nevada, Las Vegas Field Office, Resource Management Plan designated corridor should be included on the Nevada maps indicating the location of designated utility corridors.**	

11.1.3 Specially Designated Areas and Lands with Wilderness Characteristics	**FIGURE 11.1.3.1-1 Specially Designated Areas in the Vicinity of the Proposed Amargosa Valley SEZ**	**The Southern Nevada, Las Vegas Field Office, Resource Management Plan designated corridor should be included on the Nevada maps indicating the location of designated utility corridors.**	
General Comment		**The Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States, approaches the development of the Solar Energy Zones (SEZ) based primarily upon immediate environmental impacts. Based upon water use, a obvious response would be to require the use of photovoltaic (PV) generation within the SEZs. PV is an intermittent source of energy that provides specific balancing problems when transmitted over the grid. Restricting SEZ development to PV would require additional equipment and cost in order to balance the load, could require additional land, equipment and resources for backup generation or energy storage to achieve the necessary load balancing, and could render projects financially impractical. In addition, PV provides the lowest rate of job return for site operation – removing a source of long term jobs and tax revenues for nearby communities if development is restricted to only PV.** **Therefore, the selection of specific technology for a SEZ should be evaluated upon (1) available resources at that location, (2) input from nearby communities which will be affected by the development, and (3) the ability of the technology or utility to provide the required load balancing for grid transmission.**	

To add addition boxes, press tab.

Thank you for your comment, Eric Flodine.

The comment tracking number that has been assigned to your comment is SolarD10040.

Comment Date: February 18, 2011 18:03:37PM
Solar Energy Development PEIS
Comment ID: SolarD10040

First Name: Eric
Middle Initial:
Last Name: Flodine
Organization: Strata Equity Group
Address: 4370 La Jolla Village Drive
Address 2: #960
Address 3:
City: San Diego
State: CA
Zip: 92122
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom It May Concern:

RE: The SOLAR PEIS Approach is Backwards!!!

Federal and State Agencies "own" (i.e. manage) over 45% of lands in the State of California. A MAJOR FLAW of the Solar PEIS approach is focusing large scale solar development on undisturbed public lands while requiring mitigation lands to be purchased on private lands. This is backwards!!! Public lands contain large, cohesive swaths of habitat for many desert species. These areas should not be compromised for solar development. The right approach would be to encourage solar development on consolidated private lands and then establish permanent conservation areas within public lands as mitigation. This not only keeps the habitats intact, but just as important, allows local agencies to reap the economic benefits of increased property taxes on the developed lands. Why create permanent open space on private land and eliminate significant revenue sources for local agencies due to capping property tax levels at vacant land levels???
Protect Public Lands. Protect Private Property Rights. Protect Local Property Tax Revenues.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10041.

Comment Date: February 20, 2011 22:20:29PM
Solar Energy Development PEIS
Comment ID: SolarD10041

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Locomotive Power Sources.docx

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments. For example, attached is my compilation of candidate power sources for high-speed locomotives. I am confident that developing some of these locomotive power sources would eventually lead to practical replacements of wind turbines and solar power plants.

High-Speed Locomotive Power Sources

High-speed trains typically rely on some means of supplying energy to the locomotive from an external source. For example, cumbersome overhead electric lines are tapped to directly power a locomotive's electric drive wheels. Another method of connecting the locomotive to an electricity grid is with a dangerously exposed high-voltage third electrified rail. Linear magnetic propulsion mechanisms have been researched.

It would be much cheaper and easier to build and operate high-speed trains if their locomotives utilize an internal practically fuel-less power source.

The following candidate high-speed locomotive power sources appear worthy of further research. Some may be found to be worthwhile for building and testing prototype self-powered locomotives.

BlackLight Power's Hydrino Generator

BlackLight Power, Inc., is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. BlackLight Power, Inc., has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

BlackLight Power, Inc., is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. BlackLight Power, Inc., claimed some years ago that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles.

BlackLight Power, Inc., has already licensed 8,250 megawatts of clean, safe hydrino generation fueled by water to seven utilities (Hoover Dam's capacity is 2,080 megawatts) – eliminating $2 billion/year in fuel costs.

Focus Fusion

See http://www.focusfusion.org/. Apparently this method is much less expensive than hot fusion.

Thorium Powerpack

Bob Dratch's thorium powerpack would generate electricity at approximately one-tenth of the cost of current methods of producing electricity. Thorium is sufficiently abundant that the entire planet can be powered for millennia. After ten years of continuous operation, a trace amount of U-233 is produced. U-233 recovery to re-purify the thorium is easily accomplished. Thorium thus lasts a long time when recycled and consequently is a very efficient energy source. After extraction from ore, thorium does not require energy-intensive enrichment as is the case with uranium.

A thorium-powered reactor is inherently safe. It doesn't run the risk of "meltdown" or explosion nor can even a dirty bomb be created. Its nuclear reaction simply stops when its neutron exciter is turned off.

The simplest and smallest "table top-sized " neutron exciter design is something close to the size of a 4-D cell flashlight, and starts at about 500-kilovolt neutron output. In fact this smallest most cost-effective system can run off 4 D cells for its power.

A thorium powerpack's neutron excitor does not use radioactive flux components as conventionally done for portable systems. Instead it relies on Dratch's invention of a novel method of resonant phonon pair cleavage using specifically designed nuclear lattice holo-forms (holographic waveforms) to induce neutron imbalance in a host atom where the host atom then attempts to establish "balance" through the liberation of neutrons. Dratch demonstrated the first model of this novel design back in 1966.

Commercial thorium powerpacks can be developed with 50 or 100 kilowatts of output for home use, and up to 1 megawatt for industrial use. They actually are "power amplifiers" with power outputs of 60 times over input power. Maintenance would be minimal.

Thorium-227 Electricity Generator

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, from 1951 through 1991 secretly employed 6600 of the most brilliant theoretical physicists in the entire Soviet Union to work for nearly 50 years with complete freedom. They were able to develop whole new sciences, technologies and materials unknown in the West.

Their models of non-linear quantum mechanics, plasma physics, atomic engineering, nuclear physics and related mathematical and theoretical constructs, which made their development possible, are so unique that they challenge the validity of the most fundamental assumptions embodied in the Copenhagen Interpretation model currently held in general acceptance in the West.

For example, Western-developed particle/wave quantum mechanics is described by Einstein's $E = MC^2$. The Soviet nonlinear model of quantum mechanics is described by the formula $E = M_K v$ [Energy = Mass @ rest as a function of a mathematical constant].

Einstein's theory of relativity assumes that the speed of light is constant. However, measurements have shown that the speed of light has slowed down 7 per cent over the past two centuries. (See http://worldnetdaily.com/news/article.asp?ARTICLE ID=39733.) Einstein's famous equation is therefore not based on the real world of peer-reviewed experimental results. Consequently the more correct Soviet model has enabled numerous technical advances not even dreamed of by Western science.

Among several energy inventions developed by the IPMS are free-standing thorium-227 isotope electric power generating plants. They can be small enough to power a single home and large enough to power whole communities. They also can operate for up to 18 years without ever requiring refueling or maintenance.

Micro-Fusion Reactor Employing Stable High-Density Plasma Electron Spiral Toroids In Neutron Tube

Several thousand neutron tubes are in use in the US today that safely collide hydrogen ions to produce neutrons, which in turn are used for medical testing, industrial process control, and homeland security. An ion source produces hydrogen ions (deuterium), which are accelerated to 110 kilovolts, then directed to hit a hydrogen target (also deuterium), which produces neutrons, and also heat as a waste product. Neutron tubes today produce neutrons and a low level of heat energy. The low density of the hydrogen ions limits the amount of energy produced.

In the 1970's, Dr. Wells at the U of Miami collided two plasma toroids to produce low-level fusion energy in the TRISOPS system. The amount of energy produced was limited by the short duration time of the plasma toroids used, as well as their low density and their low level of energy.

Electron Power Systems, Inc., (see www.electronpowersystems.com) has discovered a plasma electron spiral toroid that remains stable without magnetic confinement, by using background gas pressure for confinement instead. These new plasma toroids are observed to remain stable for thousands of times longer than classical plasma toroids, which opens the way for new clean energy applications.

The Company's new stable plasma electron spiral toroids will overcome each of the neutron tube's limitations, and will potentially result in fusion with no magnetic containment required, thus producing a practical micro-fusion reactor. The Company's challenge is to adapt the new stable plasma toroid to the TRISOPS method.

The micro-fusion reactor invention, owned by Electron Power Systems, Inc., adapts the Electron Spiral Toroid (EST) Spheromak to the neutron tube design. The EST Spheromak is patented jointly with MIT scientists who also have published papers confirming the EST Spheromak physics and data. The EST Spheromak will overcome the neutron tube limitations by increasing ion density by 2500 times. A metal containment can be used for efficient heat energy collection and conversion.

The EST Spheromak micro-fusion reactor will be less than three feet in length, the same as for present neutron tubes, and small enough to fit in an electric car. Elimination of the need for magnetic containment allows this power supply to be small and compact. A micro-fusion reactor will use hydrogen/boron to produce clean energy without neutrons. One pound of hydrogen/boron replaces 250,000 pounds of gasoline. Hydrogen and boron are plentiful and will not run out, as oil is projected to do in the 21st century.

The EST Spheromak micro-fusion reactor is scaleable from 1 kilowatt to 1000 megawatts, and operates safely, reliably and silently at both extremely high and low outdoor temperatures. Electron Power Systems, Inc., has developed preliminary designs for a 10-kilowatt supply that will heat and power a house, and for a 100-kilowatt supply suitable for powering an electric car. Electron Power Systems, Inc., has a preliminary design for a model and can provide calculations that support the 1000-megawatt application.

The company first plans to make a small EST Spheromak furnace to heat homes and buildings at one-tenth the cost of oil, gas, or today's electric heat. The Company next plans to make a non-polluting car engine since an EST Spheromak-based car would cost 10% less to buy and 90% less for fuel than today's gasoline cars, and will be silent and pollution free.

The cost to produce a 10-kilowatt EST Spheromak electricity generator would be about $1100 in production quantities. The EST Spheromak generator would have fewer parts than a comparable Sears generator.

Electron Power Systems, Inc., does not have a working prototype. The company has identified the instrumentation and needs another $100,000 for laboratory work. With $2,000,000, the company expects to have in two years a demonstrable prototype. In an additional year for $8,000,000 a production prototype is expected to be built. Remember, each piece of the project uses technology others have demonstrated.

Thin-Film Electrolytic Cells

A number of seasoned technology integrators have developed thin-film energy storage technologies which hold considerable promise. Dr. George Miley, Dr. Robert Hockaday and others have developed thin film technologies with energy densities exceeding 250-400 watt hours per kilogram. Dr. Miley's invention is illustrative. Using a flowing pack-bed type electrolytic cell with 1-molar $LiSO_4$ in light water, 1mm plastic beads with a very thin [500-1,000 angstrom] film of metal [nickel, palladium, titanium] are employed. A special sputtering technique is used to spray the metals onto the surface of the beads. With 2-3 volts of electrical power and 1.5 milliamperes of current, the single film experiments have shown the material to produce more than 10 times as much output power as input. The input power is no more than 0.01 watts while .5 watt of heat is produced.

It is likely that the physics involved in this reaction involve the release of energy as a by-product of nuclear transmutation. Dr. Miley has written, "The key finding from these studies has been the observation of a large array of "new" elements (i.e., different from the original bead coating), many with significant deviations from natural isotopic compositions, after the run.

Great care has been made to ensure that these elements are distinguished from isotopic impurities by use of a "clean cell" with high purity components and electrolytes, in addition to the pre-and post-run analyses. Even low-energy radiation was detected from the bead days after each experiment. Applications to space power, providing a 1-kilowatt cell with only 500 cubic centimeters of active electrode is predicted." Note that this particular invention, with its large over-unity energy yield, was awarded a NERI grant by the DOE. At the insistent urging of the American Physical Society and representatives from MIT and other universities whose laboratories are currently engaged in high-temperature gas-cooled nuclear reactor research, Secretary Richardson eventually withdrew the grant. The tangle-footed Department of Energy actively discourages the development of new sources of energy, presumably to appease the oil, uranium and coal companies. The U.S. Patent Office has unfairly classified secret nearly 5000 energy patents. Luckless energy inventors then risk 20 years in prison if they work on, sell, or publicize their energy invention – often created at great personal sacrifice.

Searl Effect Generator

The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don’t touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a “governor”, either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG’s primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small “inverse gravity” vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue. The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

Two Russian scientists replicated the Searl effect generator and vindicated all of these somewhat unusual claims. See their paper “Experimental Research of the Magnetic-Gravity Effects”,
V. V. Roschin and S. M. Godin, Institute for High Temperatures, Russian Academy of Science, Izhorskaya 13/19, Moscow 127412, Russia.

At one time, a German power company reportedly considered replacing a nuclear power station with eight fuel-less SEGs costing a total of about $4.5 million and generating a total of 240 megawatts with no pollution.

Noble Gas Plasma Engine

Joseph Papp was granted US Patent #3,670,494 for his “Noble Gas Plasma Engine”. A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

Clem Over-Unity Vegetable-Oil Engine

Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine's durability, the only working model of the Clem engine has been continually running on his son's farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop for manufacturing hollow shafts and cones.

Magnatron – Light-Activated Cold Fusion Magnetic Motor

During the late 1970's Howard Rory Johnson, a brilliant inventor in Elgin, Illinois, combined light-activated cold fusion with a new type of magnetic motor into a "Magnatron". His prototype Magnatron produced 525 horsepower but only weighed 475 pounds. It could propel a large truck or bus 100,000 miles on about 17 ounces of deuterium and 1.5 ounces of gallium before being recharged. This was years before either Pons and Fleischman or Dr. James Patterson entered the scene with their cold-fusion technology.

Johnson discovered the light-activated cold fusion portion of the Magnatron by accident when as he was developing a new type of electronic circuit using deuterium oxide and gallium, he noticed the two materials were producing energy on their own. He could not figure out what was triggering the energy production for some time until he finally discovered it was light.

The Magnatron's flow of deuterium (an isotope of hydrogen) is controlled by magnetic tunnels. At the point where the deuterium strikes the gallium (a heavy metal electron donor), a beam of light from a diffraction prism forces their fusion. That controlled reaction results in the fusion of two atoms forming a new atom. In the process, electricity is released, and that is what powers the magnetic motor. The Magnatron is sealed, however, so 'light' is provided from photon energy produced from coils tied directly to the motor. It is more or less a pulse-generated system.

A photon is a football-shaped particle of electromagnetic wave energy. Its energy content is a product of its frequency f and Planck's constant h. When an electron in orbit around the nucleus of an atom drops to a lower, less energetic orbit, a photon containing the energy equivalent to the electron's energy drop is emitted. This explains why light and other forms of electromagnetic energy such as gamma rays and radar are sometimes observed as particles and other times as waves. The heated filament of a light bulb is an example of photon production.

There is no way to explain, using contemporary electrical theory, how his relatively small motor could produce such tremendous horsepower. Utilizing his own new electrical-magnetic energy theory, involving a process he called "attract-attract", Johnson exploited the magnetic field. He used the top and bottom rotors in his motor. First, the top rotor attracted, released; then the bottom rotor attracted, released. The action of attraction, alternating between upper and lower magnets, used the windings to complete the attract field.

Robert Nelson's compilation of articles about the Magnatron provides much more technical detail on the Magnatron than the foregoing. (See http://www.rexresearch.com/magntron/magntron.htm.)

Johnson constructed his prototype Magnatron's 525-horsepower magnetic motor without any of the hardware that is presently used in present state-of-the-art electric motors. Conventional motors use the accepted principle of attract-repel, an energy form that doesn't utilize the magnetic field to its greatest advantage. For comparison, a typical 500-horsepower electric motor has wires exiting it that are the size of a garden hose.

The sealed self-contained Magnatron has no wires. Thus, other than the Magnatron's infrequent refueling with small amounts of deuterium and gallium, the stand-alone Magnatron uses no input power. The Magnatron's entire output power is conveyed by its magnetic motor's rotating shaft.

Fuel for the Magnatron is plentiful: deuterium is derived from water, and gallium is extracted from abundant aluminum bauxite. Commercially available pure gallium is still scarce and expensive. It may well be possible, however, to cheaply transmute another less expensive element into gallium. See Gary Vesperman's list of over two dozen methods of neutralizing radioactive waste in http://freeenergynews.com/Directory/NuclearRemediation/Vesperman/ which includes possible transmutation methods. Additional methods are briefly described in http://freeenergynews.com/Directory/NuclearRemediation/. Dr. Santilli's method plus an explanation of suppression of radioactivity neutralization methods are available at http://www.nuclearwasterecycling.com/. Robert A. Nelson's survey "Transmutations of Nuclear Waste" is at http://www.rexresearch.com/articles/nukewa.htm.

The Magnatron uses no fossil fuel in its operation, and it emits no pollution. The magnetic motor's RPM is 8,000 with a gear ratio of 2:1. Lubrication for the sealed motor is synthetic motor oil which does not need changing and does not need a filter, because foreign materials such as carbon and varnish are not introduced into the system, as they are in the internal combustion piston engine.

This writer, Gary Vesperman, attended the 3rd International Symposium on New Energy in Denver, CO (April 25-28, 1996). I remember being impressed by Gerald Orlowski''s lecture "Magnatron, Fusion Magnetic Motor", during which he provided substantial technical information on the Magnatron.

Orlowski reported that, “Some inside information revealed that OPEC had been keeping track of all competitive technology", and Johnson was #1 on their hit list! Johnson was about to manufacture the motors through a nationwide dealership. Some motors still exist, but the owner wants several million dollars for them.”

This writer Gary Vesperman knows of very few inventions of new energy sources which are reasonably large stand-alone energy producers. Besides the Magnatron, they include Oleg Gritskevitch’s hydromagnetic dynamo, and Electron Power Systems’ micro-fusion reactor, which employs stable high-density plasma electron spiral toroids. Almost all inventions of new energy sources are, or claimed to be, relatively small over-unity power converters that convert input power to greater amounts of output power. Bob Dratch’s thorium powerpack is an exception (see above).

At the September 14, 2005 public meeting in Green Valley Ranch casino regarding the proposed Regional Fixed Guideway traversing Las Vegas, Nevada, this writer Gary Vesperman submitted comments suggesting possible power sources for the train, including descriptions of the hydromagnetic dynamo and the micro-fusion reactor
(http://www.rtcsouthernnevada.com/rfg/documents/September2005PublicMeetingMinutes.pdf, pp. 19-77).

No wonder the Magnatron’s inventor, Rory Johnson, was rumored to have been “Number One” on Organization of Petroleum Exporting Countries (OPEC)’s hit list.

The following is an excerpt, slightly edited, from Orlowski’s lecture transcript where he tells about his unwitting personal involvement with the U.S. Government’s suppression of the Magnatron:

“After I saw the Magnatron motor, my life changed. I was no longer a happy camper working by myself in a wonderful, fully equipped research machine shop for the Greyhound/Armour Corporation in Arizona. While on a business trip, I saw this motor running in the Magnetron, Inc.’s showroom located in Eglin, Illinois.

“During my 15 years of electric motor repair, among the hundreds of motors I repaired, I rewound a 500 HP electric motor. That motor had wires exiting it that were the size of a garden hose. The Johnson motor being shown had NO wires. Surely this motor was unreal, a con-job to get money for dealerships. Yes, there he was, Rory Johnson standing next to his sealed self-contained electric motor.

“Upon returning to the Greyhound Towers and telling them what I had seen, they instructed me to call Mr. Johnson. Greyhound wanted Johnson to put forth a plan to install a motor in one of their buses for testing purposes.

“I called Johnson. He was delighted that a Greyhound employee had seen the motor running, and replied that the testing idea was acceptable. He would set a time frame for just when a bus should be delivered to him.

“Two years went by, with no business proposal from Johnson. Then, his former business partner, Mike Marzicola, called to say Johnson had passed away. He wanted me to work with him to get one of the motors running. I flew to Orange County, CA, saw the motor, took pictures, and put forth a plan to Greyhound. Subject to a contract with Marzicola, one of the old worn motors would be brought to the research shop. I would then very carefully reconnect the generator wires that Johnson had cut off prior to moving from Elgin, IL to California.

“Discussions with Marzicola brought out that the U.S. Government (given the authority by the Congress of 1952) had issued a GRAB order to take Johnson's motors. Rumor has it, the DOE is run by US oil companies and OPEC, and they want no competition, period. Because of this grab order, Johnson had cut the generator wires. He had then put his `total shop', with motors and all, on several U-Haul trucks and left Illinois in the middle of the night. He went to California to re-establish his business. But before he could get a motor running, he passed away.

“Surely, Greyhound would agree to let me re-start one of Johnson's motors. The wonderful proposal put forth to Greyhound was rejected by mail. Very agitated, I went to the top office at Greyhound demanding an explanation. I was met at the door with the comment, "We know why you are here." Knowing the potential savings to the bus company, surely they could have only one reason for rejecting the proposal. They must have believed I was not qualified to start up the motor.

“Greyhound’s top legal advisor stated he was present when the Greyhound board met and discussed my written proposal. He stated the following, "At NO time was the thought put forth that you would not succeed. In fact, we discussed all of the hardware designed and constructed by you, and started the conversation from what happens when Greyhound has a running motor. We contacted a State representative who felt this motor should not be allowed to be used in 4,000+ buses. The loss in tax dollars for fuel alone would be a very huge sum.” He then asked me to leave, stating he was sorry that he had to tell me the reason the plan was rejected.

“Telling Marzicola of the rejection, I offered to personally put in a few thousand dollars toward the parts to get one motor running. In return, I would be assigned the dealership for the Phoenix metropolitan area. We signed legal papers in exchange for the money agreed on, and went to work. (I still have the signed dealership.)

“The first thing I noticed was that someone had been working on repairing the motors. Three motors already had new commutator assemblies installed. Each assembly consisted of 3 commutator assemblies on one insulated tube with a metal case to secure it to the shaft.

“One motor still had the old worn commutator assembly, as it had not yet been repaired.”

Orlowski goes on to describe his reconstruction efforts and includes interesting technical details about the Magnatron’s structure and theory.

Johnson did not know that OPEC tracks all potential competition to its oil business and that he was reportedly number one on OPEC’s hit list. His first mistake was publicizing, in many magazines, his plans to manufacture and distribute his revolutionary motor.

Erik Masen has spoken with a few people who even signed up for distributorships. Erik Masen had included Johnson and his Magnatron in his energy invention suppression anthology (see http://www.electrifyingtimes.com/erik masen suppression.html).

In 1979, Johnson placed his engine in a Buick Electra and was preparing to drive it around the country to sign up more distributorships when the US Department of Energy and the State of Illinois teamed up to prohibit his company Magnatron, Inc., from producing and selling Magnatrons. They first placed a gag order on all the people in the company by using the Secrecy Act of 1952.

Secondly, the State of Illinois immediately requested the company to provide information about all of their employees, distributors, stockholders, investors, suppliers, etc. They asked questions that blatantly deny anyone's constitutional rights to privacy. The pressure from the State of Illinois became so overwhelming that Johnson decided to move his entire business to California in the middle of the night.

After a year of hearing nothing but silence from Johnson, Greyhound agents tried to contact him – only to be notified that he had passed away unexpectedly. This is a particularly troubling part of the story, since he had been in his early fifties and in robust health. Later, Greyhound learned that shortly before he died, Johnson had inexplicably moved out of his laboratory in the middle of the night and taken all of his motors and technology to California.

Bob Bass, in his report copied below on low-energy nuclear transmutation, claims that the CIA, the KGB and the Mossad, etc. all have "sprays" which can be sprayed upon someone and cause him or her to die of apparently natural causes. One speculation is that Johnson's death – apparently due to heart failure – had been artificially induced by such a spray.

In a January 20, 2007 email to Gary Vesperman, Terry Sisson reports:

"Hi Gary,

"I visited Magnatron, Inc., in July 1979. I wish I would have taken a photo. Placards were placed over every inch of the large windows in the front of the building listing all of the questions the State of Illinois requested his company to provide. He wrote, "When has the government ever had the right to ask this of any company." I peeked in the front window and saw one of his motors mounted on an engine stand. Nobody appeared to be there so I walked around to the rear of the building. I found the rear garage door open and could see the Buick Electra inside. I was about to approach nearer when a man emerged. We talked, but he quickly informed me that due to a US gag order he was unable to talk about anything. I managed to get his phone number and called him from time to time for years following. He was an assistant of Rory's and he kept the information very close to the vest. He did tell me that it was real and it worked, yet not how it worked.

"About 1984, I began to call all the Johnsons in the phone book in Elgin. I finally got a hold of Rory's son. He too said that it was real, but I got nowhere. Around 1992, I met Jerry Orlowski, and he told me his experience as the employee of Greyhound who was sent to investigate the technology, since he wound electric motors for several years. Jerry was very upset about the whole incident, particularly Greyhound's Board of Directors refusal to utilize the technology after he found the technology to be authentic. Jerry even witnessed the government's seizure of the motors in California. --- Terry Sisson."

Hydro-Magnetic Dynamo

The hydro-magnetic dynamo is a large-scaled emission-free electrical generator which does not requires external fueling and operates safely, reliably and silently at moderate temperatures. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One doughnut-shaped 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics who were unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at $500 per kilowatt which is competitive to nuclear power's capital costs of $5,000 per kilowatt, windmill capital costs of $4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, buses, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street $4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ball park of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day of the year to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent IPC H 02 K 44/00 "Method of deriving of electrical energy and organization of Gritskevich's MHD-generator for its realization":

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water's friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavitatal-vacuum structures, and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Note that the hydro-magnetic dynamo is always producing electricity once it is manufactured and jump-started at the factory. Whenever a locomotive is parked in sub-freezing weather, its hydro-magnetic dynamo's electricity output would be used to heat the dynamo's containment to prevent its water-filled toroid from freezing.

Whenever a locomotive is parked, its hydro-magnetic dynamo's excess electrical output could be sold to the local power grid.

IPMS Energy Storage/Battery Device

During the summer of 1984, airborne intelligence surveillance teams of the United States Air Force, operating out of specially configured and equipped Boeing 707 airframes (called AWAC's) electronically detected (and then shortly thereafter photographed) bursts of coherent light of enormous power originating in the vicinity of Dushambe, Turkministan. The bursts of light, a brilliant blue-green color, lasted just a few seconds and were shifted almost to the ultraviolet end of the light spectrum. The "laser" beams were directed upwards out of the atmosphere towards American military communications satellites.

At precisely the same time the AWAC's detected and photographed the laser bursts (they were referred to in that jargon by American military analysts but later proved to be something almost entirely different), several of the satellites essential to America's global military command and control communications systems became inexplicably inoperable.

The Defense Intelligence Agency, under the direction of the National Security Council and assisted by the National Security Agency, escalated its surveillance of the remote site in the Ural Mountains from which the bursts first originated. For several months, during a concerted campaign of uninterrupted observation by AWAC's and American spy satellites, no additional bursts were observed or reported. Then, without warning, in the middle of the night nearly seven months later, AWAC's crews operating just outside the territorial airspace of Afghanistan detected similar laser bursts of lower intensity during a period of intensive localized ground warfare.

The Afghanistan bursts were apparently aimed at targets under attack by Soviet infantry units. The laser bursts continued in a sustained, localized but obviously mobile attack pattern, as frequently as four or five times per hour, until nearly sunset of the next day. Photographic evidence gathered at the time by the AWAC's crew, and later corroborated by photographs taken at the actual site of the fire fight and forwarded to the U.S. for analysis, showed that the targets of the laser bursts were ammunition and fuel supply depots located in the remote desert. Several of the ammunition and fuel caches had apparently been destroyed during the attack, as demonstrated by the evidence of explosions, fire, smoke and residual infra-red heat patterns detected, photographed and electronically recorded on-board the AWAC's.

All this information was transmitted (via encrypted communications bursts, routed through the military Global Command Control satellite system) to the National Security Agency (NSA), located at Fort Meade, Maryland. Analysts there recognized that they were looking at evidence of a weapons system which had never been observed before. They did not know what had produced the laser bursts. But they did know that the technology which made such a thing possible was not available to the countries participating in the NATO Convention. They were terrified at the implications of such a development.

Within hours, the information was packaged into classified documents and conveyed to the Joint Chiefs of Staff. The Joint Chiefs examined the information while they were being briefed by the AWAC's crews which had witnessed and recorded the events. After the briefing, the crews were dismantled, and their various members stationed far away from one another, with orders never to discuss the events they had witnessed. Officially, the laser bursts never had occurred.

Secretary of Defense Frank Carlucci took delivery of the packet at his residence in Falls Church, Virginia, three days later, at a private, secret meeting held in the middle of the night. No one has yet adequately explained why the Joint Chiefs waited three full days to brief the Secretary. Early the next morning, he was driven in a specially prepared bulletproof limousine to the White House. He personally delivered the information to the new President of the United States, Ronald Reagan. The content of the Secretary's report had an immediate, measurable impact.

It was this series of events which principally precipitated the Strategic Defense Initiative, a program of military defense and reprisal based on America's state-of-the-art satellite-borne laser-optical and particle accelerator technologies. The S.D.I. system was intended to provide the U.S. with a meaningful deterrent to further aggressive use of the technology developed by the Soviet Military.

There was only one problem with this system, aside from the fact that its astronomical costs almost bankrupted the American economy: it did not work. S.D.I. was designed to respond to a kind of technology which was not achievable in the West, and which could not be explained by any of the models, materials, technologies or sciences known in the West.

In 1985, the top-secret military version of the space shuttle, code named Atlantis, embarked on a special orbital mission. One of its mission assignments was to retrieve, examine or photograph the military spy satellites which had been disabled by the laser bursts recorded in 1979-84. The results of this investigation have not been declassified or released in any but the most censored version to the public. What we do know for certain, as a matter of publicly available non-classified information, however, is that each of the disabled satellites appeared to have had at least one, and in some cases as many as four or five precisely measured holes, approximately the size of an American silver dollar, melted completely through them from the outside.

The photographs taken of the satellites show evidence of intense heat, charring and carbonized residue evenly distributed around the perimeter of each hole. The evidence is clear and unmistakable – the satellites were disabled by a coherent beam of some sort, characterized by such intense energy that it was possible to melt consistently measured holes through the exterior and interior components of American military satellites, after having passed through the atmosphere of the planet and into space for as many as 325 miles. Such a thing has scarcely been dreamed of by the American military, much less put into any but the most nominally effective operational form.

After more than ten years of political, economic and technological wrangling, and after the expenditure of more than one hundred twenty billion dollars in largely ineffectual research and development efforts, it is inescapably clear that no amount of money or political pressure, no amount of geo-political posturing or economic sanctions was going to compel the disclosure or replication of the technologies which produced the results photographed over the Carpathian Mountains and the Afghanistan deserts. The Soviets had developed a weapons system which was so revolutionary that it could not be explained, replicated or defended against.

The Reagan Administration's lack of specificity about the nature of the implied threat to which S.D.I. was supposed to respond subjected the Administration, the Defense Department and the R&D proponents of the most prominent American aerospace corporations to an endless barrage of charges by the Press and the Congress. They were characterized as being disingenuous and accused of being unreasonably secretive during successive appropriations battles in the Congress.

The truth of matter is that the Administration and the Pentagon were not being disingenuous at all. They simply could not admit to the American public that they were attempting to develop an effective response to a weapons system which they did not understand and could not replicate.

There are a number of issues intrinsic to this set of circumstances, along with several dozen others which, though less well known or economically dramatic, are no less important from a technological standpoint. It is certain that the implication of these technologies has not been lost on those multi-national corporations whose entire capital structure may be threatened by the new sciences, technologies and materials which have been developed in secret laboratories, hidden in caverns excavated beneath the Carpathian Mountains, in the former Soviet Union.

Over the past decade the West has enjoyed occasional gratuitous glimpses into the heart of Soviet science. Attempts to disclose or discuss these developments in the press have been ruthlessly suppressed by powerful special interests vested in both the public and private sectors.

The science which underlies the series of events recounted here remains at the outer limits of the most advanced technology of which the West is capable. The questions posed by the military and corporate analysts about this laser beam weapons system are far-reaching in their scope and implications. Some of them are illustrative:

1) New Model of Quantum Mechanics: The sciences and models of quantum mechanics which produced such stunning recent developments in the West as the laser and maser make quite clear how much energy is required to create a beam of coherent light powerful enough to penetrate the atmosphere, retain its coherence in spite of atmospheric diffraction (and other effects described in quantum mechanics as "thermal blooming"), and melt a two-inch hole clear through a satellite made of the most sophisticated alloys ever produced in the West. Except for limited short-distance demonstrations conducted with industrial grade lasers used in cutting operations, there is no known combination of materials or technologies extant in the West to make such a thing possible.

2) New Materials: The materials necessary to create an electrical charge large enough to power a device capable of producing such a beam certainly do exist. In quantum mechanics the term large enough does not make sense, but we can agree for the purposes of this discussion on the effect of it as represented by such commonly accepted constructs as frequency, voltage, current and ionic flow rates [as distinguished by the phenomenon of resistance].

Hydroelectric plants and large, fixed-base nuclear power plants are capable of producing enough energy to theoretically power such a device. But the energy bursts in both the Carpathians and the Afghan desert were generated by sources which moved from one location to another. In order to do that, several additional considerations must be addressed:

a. Portability: The power source would have to be transportable or be capable of storing sufficient energy to repeatedly power such a device. Western technology cannot produce either a portable power production unit or energy storage system capable of the performance requirements everyone agrees must be met to make the weapons system work, either in the laboratory or in the field. System portability was the most puzzling feature of the NSA/DIA report.

When carefully analyzed, the computer-enhanced enlargements of the photographs taken by the spy satellites and AWAC's crews failed to provide evidence of any tracks which could be attributed to wheeled or tracked vehicles operating in the precise locations and at the same time as the laser bursts which were observed. The implications of this set of circumstances was almost too much to believe – the devices were apparently either hand held or transportable and rechargeable in such a way as to allow them to be transported by one or more foot soldiers, without vehicular support.

b. Enormous Power Requirement: The materials and technologies used to construct a device capable of generating a beam of such enormous power and magnitude would have to be sufficiently advanced to enable the components to be transported without damage over significant distances in unpaved areas of very rough terrain. Such strategies, engineering techniques, construction technologies or materials do not exist in the Western inventory.

c. The continuous repetition of the laser bursts suggests that the devices can be operated repeatedly at short intervals of 12-15 minutes. This means they can be triggered with significantly higher frequency and intensity than anything which can be produced in the West, even for laboratory use. Industrial strength lasers used to cut metals require careful setup, accommodate only limited use in short bursts, require extensive cooling and must be continually recalibrated. These limitations obviously did not apply to the devices being operated in the Afghan desert. Analysts at AMTL agreed that the units would either have to be recharged via an external, independent device or somehow be capable of self-recharging in the field.

Such a thing is almost unthinkable by current Western military standards. Not only can we still not replicate the technology in any meaningful form, but the Soviets had refined the technology to a point which allowed it to be carried on the shoulders of ordinary foot soldiers and recharged in the field without motorized support.

Unbelievable! How was such a thing possible? According to some of the highly qualified scientists who scrutinized the photographs, it is not possible. The "Not Invented Here" syndrome is alive and well in the American engineering community. Some of them still insist that the pictures were either fabricated or demonstrate something completely different than this narrative suggests.

3) Energy Recharge-Batteries: How did such high-intensity laser beam generators get recharged in the middle of the Afghan desert, in the absence of powered support vehicles or fixed-based power plants? There are a number of possible alternatives. They could have been powered by some sort of advanced battery technology. It's possible, but if the battery technology used in the West is used as a model to support such a thesis, it would take a bank of the most sophisticated batteries ever designed by NASA, arrayed in series and parallel configurations larger than five full-sized Soviet T-60 tiger tanks to power such a device.

This theoretical battery bank, operating at 100% efficiency (which is not practically or theoretically possible; the best batteries manufactured in the West operate at less than 60% discharge efficiency), could conceivably produce enough direct current voltage (in a zero resistance super conductive circuit, which is not possible, either) to perhaps produce one burst of light equal in intensity to 20% of the power required to burn a 2-inch hole through a satellite moving at 20,000 miles per hour at a distance of 325 miles.
Soviet ground forces were generating bursts of this magnitude every 12-15 minutes for more than 10 hours with nothing but ground troops. During eight hours of this exchange, it was totally dark. Something pretty remarkable must have been going on to make such a thing possible.

4) Energy Recharge – Solar Cells: Another alternative would have been to have whatever energy storage devices were being used to power the "laser cannons" recharged by sunlight. The state-of-the-art in photo-voltaic cells produced in the West simply would not support such an undertaking. The very best solar cells ever produced in the West have been produced by the Japanese.

These cells operate at a maximum of 19% efficiency - that is, they convert as much as 19% of the ambient visible sunlight shining on a clear, cloudless day into ion flow, which then becomes low voltage direct electrical current flowing through a circuit. The Japanese panels require months per section to manufacture and literally cost more than their weight in gold to manufacture. They are very heavy and are so sensitive to vibration and calibration that once installed, they cannot be moved at all.

Photo-voltaic cells capable of providing enough electricity to recharge a theoretically infinite energy well would have to operate at efficiencies of 50-80% to recharge batteries of infinite electrical capacity with enough power to trigger such a device. Such cells would have to be very light weight and able to withstand extremes of heat, cold, vibration, dust, wind and other conditions encountered in a hostile battlefield environment. Nothing like that exists in the Western technological arsenal.

5) Dielectric Materials – Transformers and Capacitors: Another consideration must be reconciled before this issue can be theoretically put to rest. In order to produce a burst of coherent light of sufficient intensity to have the effect which was observed and recorded by the surveillance teams, the voltage and amperage required to support such a device would have to be staggeringly high. In order to operate at all, the voltage supplied to the system must be released all at once, not in a continuous stream but in a single coherent burst so intense that any materials known in the West would either evaporate or melt. Not only would the best dielectric materials known to Western Science melt because of the heat produced by such enormous energy bursts, but before a bolt of energy of this magnitude could even be released to such a device, it would have to be accumulated and stored somehow.

A similar set of requirements of a less dramatic type is present in all the electronic devices manufactured and marketed in the West. This includes the entire range of electronic devices such as VCR's, computers, televisions and sound components, telecommunications, information storage, transmission and retrieval systems of every kind. We could not live as we do without them. The components which convert, store and release ion flow into the circuitry of these devices are known as transistors, transformers and capacitors.

This discussion delves into a slightly technical area here, so non-scientific types will need to either become familiar with the fundamentals of electricity to understand what is meant or simply give it a possibility that what is developed in the next section is a true representation of the way such things actually operate. The discussion deals with such commonly used and seldom understood concepts as voltage, current, frequencies and resistance.

(a) Transformers convert voltage at one level of current (amperage) to either higher or lower voltage levels. When the voltage is increased, the amperage or current is proportionately decreased. A low voltage produced at a high current level can be transformed into a much higher voltage at a proportionately lower level of current or "power."

(b) Capacitors: The decrease in amperage which accompanies a transformation of low voltage to higher voltage is often compensated for by a device known as a capacitor. In the most simplistic terms, capacitors "store" electrical energy until the amount of voltage and current reach a certain minimal threshold. When that point is reached, the entire store of energy is released all at once in a single burst.

The tantalum materials used in the West to manufacture such devices conform to certain standard rules which are commonly accepted by electrical engineers. These rules have only recently been stretched by new technologies and materials developed in the West. For the purposes of this discussion, though, it is safe to say that electrical engineers have long relied on these rules because they have always produced the same results when applied in the same way. Here's an example.

It is standard engineering fare which dictates that a transformer capable of accommodating one volt at one ampere of current across a grid of one ohm of resistance will be one cubic meter in dimension. If followed to its logical conclusion, this standard rule of electrical engineering would require that a transformer capable of supporting a laser burst device of the kind operated by the Soviet ground forces in the Afghan desert would have to be approximately the size of a building built on a base 100 feet to a side, nearly 150 feet high.

Surely such a device could not have been hidden from the AWAC's eye in the sky which can clearly photograph the letters on a license plate from 60,000 feet altitude, nor could it have been moved on the shoulders of ground troops without wheeled vehicular support. The fact that there was absolutely no trace of such a huge, massive transformer device (or any other kind of structure or vehicle which could be construed to serve that purpose) means that something else must have been used instead. Military analysts had absolutely no idea what it could have been.

Such a burst system cannot operate without a capacitor of some sort. A capacitive device capable of storing the amount of energy required to power a single burst from a laser cannon, made of the most advanced dielectric material known in the West, would have to have been equally massive and, further, would have to have been cooled by some sort of strategy which would have been instantly and unmistakably detected by the infrared cameras and spectroscopic scanners used aboard the AWAC's and the spy satellites which investigated the scene.

The practical requirements of such a system are best demonstrated by the massive equipment required to operate and cool the Super Conductor Super Collider linear particle accelerators recently designed by the United States and Japan. No evidence of any such capacitive device was recorded in either the Carpathian Mountains or the Afghanistan desert. How can we explain it?

Without going into any detail about how the technologies were developed, suffice it for now to say that the Soviet ground forces in Afghanistan were equipped with a prototype of a hand-held plasma beam accelerator, the likes of which had only been roughly imagined by American military analysts. The device relied on some innovative strategies. Among these were:

Energy Storage Devices: The power source for the Soviet light cannons was comprised of a back-pack array of specially designed energy storage devices. The closest thing we have in our vocabulary to compare to them is described by the term “battery.” In the limited sense that these devices store electrical energy, they are batteries. Any other similarity to the batteries we are accustomed to in the West ends there. The literal translation of the Russian name for them is energy accumulators.

The batteries relied on in the West are based on the chemical properties of components which, when combined in certain configurations and proportions, interact chemically with one another. The result of this chemical interaction is that it creates both heat and a stream of liberated ions – electricity. In dry cell batteries, the process of chemical interaction is one way – once they have been expended, they are simply disposed of. It is estimated that more than 12 billion expended dry cell and lead-acid batteries are dumped into America’s landfills every year.

Other batteries are designed and constructed so that the chemical reactions which liberate electrical current are reversible in some degree. These rechargeable cells are characterized by the lead-acid batteries which are used in automobiles and in commercial and industrial applications. Various strategies have been developed to make batteries relying on chemical reactions maximally effective, but the theoretical limits of effectiveness of such devices have surely been reached.

A consortium of aerospace companies working with NASA recently announced the development of an advanced sodium-hydride-based rechargeable cell which is the most efficient battery yet invented in the West. Unfortunately, it operates at an ambient temperature of 2000 degrees centigrade and, if allowed to reach temperatures outside a very narrow safe operating zone, will explode with the force of a small thermo-nuclear device of approximately ten-kiloton yield. It is not safe, but it is the best Western science has come up with.

The energy storage device developed by the I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, works on a completely different principle. Its construction is the result of a completely unique nonlinear quantum mechanical model which makes it possible to create crystalline lattices of absolutely pure carbon (and other materials) in sheets of infinitely variable dimension which are exactly one molecule thick. The crystal formation techniques and the whole body of new science which allows for their creation in the first place are completely unknown to Western science.

The mono-molecular sheets deposited by this technique are wrapped back and forth on top of each other, more than one million times per millimeter, and are separated from each other by a distance of less than one atomic diameter. At this level of construction, the material becomes subject to the rules of quantum mechanics which are almost entirely probabilistic. That means a whole atom of carbon (or almost anything else except an electron or photon) will not fit in the space which separates the lattice sheets.

When viewed under an electron microscope, the sheets produce a pattern which looks for all the world like an endless field of four-sided pyramids, connected base to base, on a single plane, with the tips of the pyramids protruding endlessly, uniformly upwards. When wrapped back and forth on top of each other, these sheets of pure carbon crystal, made of carbon molecules shaped like trillions of identical tiny pyramids, all arrayed endlessly in identical formation, are positioned so that the tips of the pyramids on the bottom sheet are matched with the tips of the pyramids on the top sheets. What remains between the pyramid tips are open “spaces” or energy wells.

The quantum physics which describes the characteristics of the energy wells created between the layers of crystalline lattice is largely unknown to Western physicists. The Soviet model predicts with a high degree of probability that the quanta of energy referred to in the West as electrons (and, in some cases, photons), the stuff of which electricity is made, will, when introduced to the lattice structure, search, find and fit into the energy wells with military precision.

During the recharging or loading phase, the energy storage devices made of the crystalline lattice material channel one electron at a time into each well created by four carbon pyramids on the bottom layer and four carbon pyramids on the top layer. Because the rules of quantum mechanics which operate in this tiny environment demand it, each electron or quanta of energy has a certain polarity, spin and "color" (and other mathematically defined characteristics) which must be accommodated if it is to find, fit and stay in an energy well. Interestingly enough, when a current is applied across the lattice-work structure, the electrons behave precisely as nonlinear quantum mechanics predicts they will. They flow much like a fluid into the lattice field, then separate into individual energy quanta and spin into the last energy well in each layer, automatically adjusting their individual spin, polarity and color to match their characteristics to fit the requirements of each well, until the lattice is full.

Because no chemical reactions are involved in the process of marching electrons into or out of the energy well fields, there is no resistance in the circuit. In the absence of resistance, the electrons fill the wells at light speed, never missing a space, automatically adjusting polarity, spin and other characteristics, and creating no heat. The amount of time required to "charge" such a cell is less than 5% of the time required to recharge a conventional chemical battery of similar voltage and current.

The validity of $E = MC^2$ is called into question by the way these devices function. When the battery is fully charged, it actually demonstrates more mass than when the energy storage device is empty or discharged. The laws of quantum mechanics relied on in the West state categorically that this is not possible. It is the answer to the question, "How much does a beam of light weigh?"

According to the Soviet model, this is precisely as it should be. When this phenomenon was first demonstrated to scientists in the West who were testing the energy storage devices at INEEL in Idaho, they were thunderstruck. The quanta of energy, or electrons as we refer to them, which are poured into the crystalline lattice demonstrate characteristics of mass even though they are bundles of pure energy sitting in stasis, literally at rest. The characteristic of mass is verifiable – you can measure it by weighing the energy storage devices before and after they are charged. When they are charged, they demonstrate appreciably more mass than when they are fully discharged.

If this is confusing to you, to suggest that pure energy can be shown to demonstrate verifiable mass while at rest (in stasis), perhaps you can begin to appreciate how fundamentally different the physics of all this is when viewed in the terms of Einstein's classic equation $E = MC^2$.

The existence of this technology clearly is proof positive that not only does energy demonstrate the characteristics of mass, but it does so in a state of non-motion or stasis, sitting idly in an energy well. A state of stasis is a very far cry from the terminal theoretical velocity required by the constant in Einstein's equation, equivalent to the square of the speed of light.

The scientific implications of this phenomenon are truly staggering. At very least, the verification of mass as a property of energy quanta at rest suggests that Einstein's theory of relativity may be altogether incorrect as a means of describing the dynamics underlying the real nature of the material world and its relationship to energy.

The existence of this technology suggests at very least, that energy and mass are equivalent characteristics of all things which are manifest in the material world. It is this fundamental contextual difference which distinguishes the Soviet model of quantum mechanics from the Western model. "The proof of the pudding," they say, "is in the eating."

Theoretical physicists may argue endlessly about the validity of the assumptions relied on by the IPMS scientists to develop their unique sciences, technologies and materials. But they cannot argue about the existence of the materials which have arisen from that context. They are as real as they can be. And they are unlike anything ever seen or contemplated in the West.

In the same way energy quanta stored in the energy wells of crystalline lattice materials demonstrate complete mathematical satisfaction with staying there indefinitely, when allowed to flow out in the form of an outgoing wave of electrical discharge, these quanta (electrons or photons, as you prefer) march right back out without resistance at light speed through a closed circuit to another use.

When these energy storage devices are discharged, they demonstrate other attributes which are not known in Western science, and which, because of the very nature of the chemical reactions we are accustomed to, are not theoretically possible according to conventional wisdom. Conventional chemical batteries, when fully charged, produce electric current at a useable voltage for perhaps 30-40% of the total discharge cycle. After that, either the voltage or amperage (or both) drop to low enough levels that the devices being powered by them cannot recognize or use the electrical current which remains available. At that point, the batteries either have to be recharged or replaced.

The crystal lattice batteries have been demonstrated to produce precisely the same current and voltage levels throughout 98% of their discharge cycle. They produce no heat during discharge, regardless of the rate at which they are discharged. This is absolutely contrary to our experience with batteries, transformers or capacitors. Until the crystalline lattice materials were specifically engineered to register an electronically detectable blip at 95-96% discharge, it was impossible even for the scientists who developed them to distinguish a partially discharged battery from a fully charged one.

There is another characteristic which is intrinsic to energy storage devices which comes into play here. It is a characteristic of materials which is described as energy density. For non-scientific readers, this concept can simply be construed to mean the amount of measurable electrical current which can be produced by any device or material when its mass is converted into electrical energy. The concept is expressed in mathematical formulas as the number of watts and hours of consumable energy which can be converted from each kilogram of material. It is expressed as watt-hours per kilogram.

Here is an example we can all understand. Consider gasoline. When converted into electrical power at 100% efficiency, gasoline has been theoretically shown to have an energy density of between 550 and 600 watt-hours per kilogram of mass. In easy terms, that means that if one kilogram of gasoline were converted into pure electricity at 100% efficiency (with no loss due to heat, resistance, waste, etc.), the reservoir of energy would power a 100-watt light bulb for 5.5 to 6 hours.

Most of the high-end conventional automobile batteries of the lead-acid variety operate at an energy density rate of between 20-25 watt-hours per kilogram. The best NASA sodium-hydride batteries operate at 48-50 watt hours per kilogram. The energy accumulator devices which have been tested at the Idaho National Electronic Laboratories have demonstrated energy densities of between 850 and 1050 watt-hours per kilogram.

What does this mean in practical terms? It means, for one thing, that for the first time in the history of science an energy storage device has been created with an energy density which is greater than gasoline or any other refined fossil fuel. It means that devices which rely on these energy storage technologies can theoretically be designed to store and deliver clean electrical power at higher rates of efficiency than any fossil fuel ever discovered.

The global implications of this technology are irresistible. It means, among other things, that the technology exists, right now, to eliminate the need to build another nuclear power plant or dam another river to produce hydroelectric power. It means we can no longer justify burning another ounce of petroleum, another piece of coal, another cubic centimeter of natural (or unnatural gas) or another tree to produce heat, electricity or power for any purpose, including transportation.

When coupled with the plasma beam devices being tested by the Soviet infantry units in Afghanistan, these energy storage devices operated at such unbelievably high rates of discharge efficiency that they made it possible to repeatedly induce huge electrical discharges in a highly mobile configuration.

The same technologies which were used to produce the energy storage devices have been adapted to create transformers and capacitors with previously unimaginable performance characteristics. Instead of adhering to the conventional western model of “One Volt at One Amp across a resistance of One Ohm equals One Cubic Meter,” the Soviets have produced a capacitor which measures more than 1200 farads at 10,000 amperes in a package the size of a tuna sandwich.

When tested by the Technology Materials Testing Laboratory of the Defense Department at the Pentagon and at the I.N.E.E.L. in Idaho, totally new testing equipment had to be designed, engineered and constructed just to test the devices. The scientists at those laboratories had never tested anything like these materials before.

Instead of having to house transformer and capacitor devices in a series of trailers towed by diesel tractors or huge fixed-base facilities, the operating apparatus which supplied transformed power and high intensity capacitive bursts to the light cannons weighed less than ten pounds and could easily be transported in a backpack by a foot soldier.

One final question remains unanswered. “How did the energy storage devices, once dissipated or discharged, become recharged in the field, especially in the dark of night?”

The back-pack plasma beam device detected by the AWAC’s during limited combat use in the Afghanistan desert was powered by energy storage devices constructed of crystalline lattice materials. After each laser burst, the energy storage devices were recharged every 12-15 minutes (nearly 45 minutes in the dark of night – the residual ambient heat of the desert is a very efficient source of infrared energy) by sunlight, collected and converted to electricity by four-foot square panels of “solar cell” material arrayed on a pole like a flag, each weighing less than ten ounces.

The electrical energy stored in the back-pack energy accumulators was transformed into enormously high voltages and released at almost unbelievably high current levels when the super-capacitors were sufficiently charged. The beam of "light" detected by the AWAC's crews was a field of plasma, flowing at the speed of light and demonstrating characteristics of mass (and, therefore, kinetic energy). The phenomenon represented by these bolts of lightning are not comprehensible according to the model of quantum mechanics and plasma physics currently being used in the West.

Battery packs utilizing these energy accumulator materials have been designed, produced and tested which provide more than 14 hours of continuously transmitted power on a single charge to conventional hand-held cellular telephone devices. Similar improvements in conventional battery/energy storage capacity have been developed and are being tested for such devices as video camcorders, laptop and portable computers and other similar consumer, commercial, industrial and military applications.

IPMS research in the field of layered crystals has thus led to the creation of capacitors with a very high level of capacitance (measured in farads). This technology is based on a revolutionary production technique which forms polarized surfaces of one molecule thickness, separated by less than one atomic diameter of space, held together by weak Van der Waals energy forces. The special properties created by these layered crystalline structures provide previously unimaginable internal surface areas. Super capacitors are constructed of layered materials numbering more than one million dipole sheets for each millimeter of crystal thickness.

These devices provide a virtually limitless number of charge-discharge cycles at astonishingly rapid charge and discharge rates. The potential impact of such devices on all electronic equipment currently being produced is incalculable, since virtually all electronic devices rely extensively on the West's state-of-the-art tantalum capacitance technologies.

At present, IPMS has on hand (among others) a super-capacitor roughly the size and dimension of a sandwich which develops more than 1,200 farads at 10,000 amperes. It also boasts production of a battery whose active mass energy density exceeds 850 watt-hours per kilogram. For the non-scientist (and all the rest of us as well) this means that a "battery" has been produced which, for the first time in history, produces more power per unit of mass than any fossil fuel ever devised.

Prototype testing of larger-scaled devices designed specifically for providing power to electric vehicles is currently underway. Prototypes are expected to be capable of sustained highway speeds of up to 70 miles per hour with a range of 525 miles on a single charge. The power plant for this application has been recently improved by the inclusion of a proprietary solid-state ceramic electric motor which weighs 7.2 kilograms and produces 100 horsepower on 12-volt direct current. For comparison, an electric vehicle employing a 100-horsepower electric motor performs the same as with a 500-horsepower gasoline engine.

If these performance attainments can be sustained in broad-based applications, electrically powered vehicles could be produced which would meet or exceed virtually all performance characteristics currently available in equipment relying on internal combustion, petroleum-based engines. Gasoline/diesel-powered transportation devices can be replaced by cleaner, more efficient and significantly less expensive alternatives.

The world market for current energy storage applications which will be superseded by these energy storage technologies is estimated to be in excess of $24 billion per year (1991), exclusive of electric vehicle considerations.

Metamatter

9/25/1997 11:16 AM
From: Robert Bass
To: James Bowery<jabowery@netcom.com>;
CC: Robert W. Bass<rbrtbass@pahrump.com>;Gary Vesperman<vman@skylink.net>;
Subject: for the postulated "Bass page"?

Jim,

I just went to http://www.generalstore.com/ and see nothing but "under construction, etc." Is this you, or someone else in another state? Do you know how to (reasonably economically) do Mass-eMailings? Say either from a rented Data Base of known Investors, or just blindly to "millions"?

How about posting the following

Potentially Awesome Speculative Investment Opportunity?
==========
Venture SEED Capital? Low Risk, AWESOME Payback!!!

I seek one or more High-Technology-Oriented "High-Roller" Nerves Investor(s) who would be intrigued by the following proposition (if demonstrably sound and absolutely genuine): Suppose you go to "Super Monte-Carlo" in the sovereign nation of Erehwon, and you come to a table with a Croupier who says:

"I have here a coin the size of a U.S. silver dollar, which is perfectly evenly balanced between Heads and Tails to 10 decimal places [with the edge for Heads in the 11th decimal place]; and a certificate from the US Bureau of Standards certifying it is not "loaded" to favor either Heads or Tails to the best measurements they can make.

"You can flip the coin yourself.

"I have here Certificates of Deposit for $30 Billion in a centuries-old Swiss Bank of spotless reputation.

"My croupier's fee for allowing you to play is ridiculously modest.

"How much are you willing to wager on the honest flip?

"Now suppose the preceding scenario is repeated, except that several of the most reputable scientists in the world assure you that the coin is 'loaded' so that the chances of Heads are between 95% and 99%. Your own experts assure you that you have at worst One Chance in 20 of losing.

"Finally, the croupier says, you may play for $150,000."

To recapitulate, the odds are 20-to-1 that you will win $30 Billion, versus one chance in 20 that your entire $150,000 wager will be lost.

Would you play?

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-------PRIVATE Communication-----
------(NOT a Publication)--------
==========

I need Seed Capital of $150,000 under circumstances exactly analagous to those outlined in the Risk/Reward scenario above. If "Heads" comes up, then my patented Plasmasphere technology can be escalated to a Metamatter technology, where by METAMATTER I mean a solid, *crystallized* fully-ionized plasma.

An ordinary crystal has nuclei spaced apart distances of about 10^[-8] cm, the Bohr radius, because the electron cloud makes the atoms behave like little billiard balls of the size indicated.

However, in a plasma, the positively-charge nuclei and the electrons are equal in number, but the electrons are not in orbit around individual nuclei; they are "mixed up" as in a plum-pudding. Most plasma physicists will tell you that in order for hydrogen gas to be fully ionized (i.e., all electrons stripped from all nuclei) the temperature of the gas would have to be above 150,000 degrees Kelvin (i.e., 15 times hotter than the surface of the Sun). But this is demonstrably FALSE (both theoretically and experimentally). If the gas is dense enough, it can be fully ionized at "low" temperatures, e.g. 5000 Kelvins [so-called "pressure ionization"].

Now suppose that the fully ionized low-temperature gas is condensed into the physical state of a liquid metal. I call this a Liquid Metallic Plasmoid (LMP). The characteristic of an LMP is that, like mercury, it keeps a constant volume; unlike a gas, it does not expand to fill all available space (if in a vacuum). The positive nuclei remain on average equidistant, and the electrons circulate around the dynamic lattice as in a giant crystalline molecule. Cook called it a "Cryscapade"; whereas others might call it a Liquid Crystal.

Fewer than a score people in the world understand that LMPs can exist. One LMP was photographed in half a dozen or so photos on the cover of the Journal of Applied Physics in 1957 by [later] Nitro-Nobel Medalist, physical chemist, Dr. Melvin Cook. The theory by which Cook explained his accidental discovery has been *independently* rediscovered (in 3 separate countries, USA, UK & France) by researchers seeking to explain the illusive natural phenomenon of Ball Lighting.

The late expert on High-Energy Lasers and Shock Tubes, Dr. Jay Blauer of Rockwell Rocketdyne, who died early of leukemia, helped me to design an experiment that would prove beyond shadow of a doubt that LMPs can be created at will. The basic idea is to use a combination of Shock Tube technology and High-Energy Laser technology, with my patented Plasmasphere technology, in order to achieve in a non-self-destructive, reusable device, what Cook discovered accidentally with high-explosives in a self-destructive experiment.

Once the mere EXISTENCE of producible-at-will LMPs is achieved (for the Risk Capital of $150K), it will be trivially easy to raise several million more for refinement of the device to move the LMP into a cryogenic vacuum chamber where (since it is electrically conductive) it can be magnetically levitated and allowed to cool by radiation.

Use of the Brush-Sahlin-Teller Equation of State (used to design the H-bomb) shows that as the LMP cools, its volume contracts, and it becomes more and more dense. There can be shown to scientists sufficiently expert to understand the evidence, a mass of recent experimental evidence (as well as expert theoretical evidence) that before the LMP gets down to room temperature it will crystallize into a Metastable Solid Crystal, namely a *new form of matter* never seen before on Earth!!!

The density will be intermediate between that of ordinary condensed matter and that of neutron stars, wherein a teaspoonful weighs tons.

I propose to manufacture 3 kinds of Micro-Crystals of Metamatter: MSP, MSD, and MSD. Each addresses in a truly *revolutionary* way a trillion-dollar market, with a multi-billion dollar profit potential. In many ways, Metamatter will have a bigger impact on human civilization than any prior discovery, including both computers and atomic energy! In fact, consider the following:

MSP (Meta-Stable Protium [hydrogen]) will be the IDEAL room-temperature Superconductor, which will revolutionized both the Computer/Electronics industry and the Electric Power industry.

MSD (Meta-Stable Deuterium [heavy-hydrogen]) will be the ideal 5th Generation Cold Fusion fuel; when triggered by an infra-red photon of 17.7 eV, a micro-pellet will undergo a phonon-mediated and Lattice-Catalyzed ANEUTRONIC chain-fusion reaction to cleanly release the energy of 10 sticks of dynamite, to make steam for mechanical heat and conversion at 67% efficiency into electrical energy. This can make both homes and automobiles independent of the present electrical utility companies, though they will still need to buy the almost dirt-cheap MSD fuel micro-pellets from Metamatter Industries.

MSH (Meta-Stable Helium) will be the IDEAL rocket propellant for expanding human civilization into the Solar System (e.g. to colonize Mars); when a micro-crystal of MSH is triggered by the right frequency of laser-light, it will return to the form of gas as if it had been compressed by tens of millions of atmospheres of pressure; it will release 43 times more energy per unit weight than any conceivable chemical combination!

During the mid 1980s, the Air Force Systems Command sent a group of 7 or 8 Colonels who held Doctorates in the physical or engineering sciences to scour the USA for 9 months, in groups of 2 or 3, and to report back on what futuristic technology would have the greatest potential impact on the USAF and USA economy by the year 2000 if reduced to actual practice. They listened to 600 industrial and academic presentations and selected MSH as the greatest payoff (for least risk) choice! The USAF Rocket Propulsion Lab was supposed to issue 8 parallel contracts for 8 "crash" projects to see if bulk MSH could be manufactured. I was slated to get one of the 8 contracts, but my approach (through solidifying a helium LMP) was radically different from that of the other 7 selected proposers.

With MSH as fuel, one could take a 50 percent payload to Mars and back in two weeks! (Accelerate there and return at one gee.)

But a Princeton professor of Physics, Will Happer, then Secretary of the JASONS [advisers to DOD/DOE], advanced theoretical arguments which appeared to shoot down the practicality of the other 7 approaches, and the whole project was canceled. But Happer's arguments are totally irrelevant to my approach. Moreover, Happer was later Chief Scientific Advisor to Admiral Watkins (Secretary of DOE) when the ERAB Report was produced.

Those who understand the recent work of Arata and Zhang in which the aneutronic conversion of deuterium nuclei to helium nuclei inside of a palladium lattice is recorded in Real Time (inside of a sealed apparatus which contains a Mass-Spectrometer and which give ZERO helium when the heavy-water deuterium is replaced by ordinary-water hydrogen) know that Aneutronic Cold Fusion (CF) is a demonstrable FACT and that Happer and the ERAB Report were WRONG. Therefore it is logical to consider the possibility that Happer was also wrong when, before he shot down CF, he also shot down MSH.

There is ZERO risk in producing an LMP; it is just that 99.999% of all scientists are ignorant of Cook's work. There is a _slight_ technical risk in crystallizing an LMP at room-temperature; conceivably, it will remain liquid until below the temperature of liquid nitrogen, in which case my proposal will have been a failure. But the payoff is so AWESOME, and the chances of failure so tiny, that the risk seems worth taking.

I can supply drawings of the Proof-of-Principle Process Prototype Plasmasphere demonstration designed by Dr. Blauer and myself. Jay Blauer told me that he could do the experiment in his spare time evenings and weekends "in two weeks" using shock-tube and laser equipment already in his lab at Rocketdyne, provided he had $10,000 cash for items and materials not on hand.

Several "reputable" labs have explained to me that they would not even consider bidding on doing the Bass-Blauer experiment for less than $100,000. I have personal contacts at 22 government and private labs (such as JPL, SRI, LANL, etc.) which I would like to visit with my former graduate student Dr. Lou Puls (who, unlike me, is an accomplished experimental plasma physicist) to make joint presentations on the theoretical and experimental aspects of creation of an LMP, preparatory to asking them to bid. After 22 weeks spent in such visits, (and paying Dr. Puls Consulting Fees) I expect to have $50,000 left to offer the Highest Bidder. I also expect that no one will bid less than $100,000. But I also expect that out of the 22 presentations, at least several will become so excited that they will offer to Cost Share. In several labs, the working-level scientists interested in LMPs have told me, "If you can get the Management to pay attention, we have in place already a mechanism and a precedent to Cost Share."

Remembering what happened to Fleischmann and Pons it will accomplish naught for me to take the $150K, rent the equipment, and do it in my own garage. Nobody will believe it, and nobody will pay any attention. However, if we spend 6 months getting suitable technical personnel of nationally reputable laboratories excited about the subject of LMPs, and then some lab with the prestige of, say, JPL or LANL or SRI, announces the production of an LMP, many other labs will immediately undertake to "catch up" and to replicate the result at their own expense. Once 3 or 4 labs have announced successful replication, no one will doubt and then it will be trivially easy to raise the venture capital to go from LMPs to solid, crystallized Metamatter micro-crystals of MSP, MSD, and MSH.

I can supply a large amount of written technical material to anyone who is interested in raising the $150,000 seed capital required to get Metamatter Industries off the ground (and for me to file the pioneering Patent Applications, and since I am now licensed to practice Intellectual Property Law before the PTO I can do it myself at no extra expense – as did the physicist/patent-attorney who invented the Xerox process).

This will be BETTER than getting in on the ground floor of Xerox or Polaroid or Microsoft!

Sincerely,

Robert W. Bass, M.A. Oxon, Ph.D.
Dr. Robert W. Bass, Registered Patent Agent 29,130 [ex-Prof Physics]
Inventor: Topolotron, Plasmasphere, issued; QRT Cold Fusion, pending
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XXX.YYY
XXX Venture Partners

Dear XXX,
Have you got your _____ Fund off the ground yet? Did you receive the Proposal I sent you last week?

Do you agree that the logic of the Analogy I used for the proposed Low-Risk, AWESOME Payoff, "Proof-of-Principle" (POP) Experiment is sound? If a rational Investor were convinced (e.g. by the photos published by Nitro-Nobel Medalist, Melvin Cook) that it is possible to put a plasma in the state of liquid metal (Liquid Metallic Plasmoids, or LMPs), and that the ONLY risk is that when cooled to room temperature they will not yet crystallize [but won't crystallize until down below, e.g.. the temperature of liquid nitrogen], which risk will be taken by OPM [Other People's Money] when the scientific community realizes that LMPs can be created at will, and that there is ZERO risk in performing the proof-of-principle demonstration experiment to convince them of this fact, and that this can be done for as little as $150,000 (which will also permit Patent Applications ensuring the inside track when LMPs get crystallized), don't you agree that the Reward to Risk Ratio of $3 X 10^[10]/$1.5 X 10^[5] = 2 X 10^[5] multiplied by the probability of crystallization at room temperature (which is supported by hundreds of theoretical papers on MSH and at least one recent paper in Physical Review Lettersw on MSP, as much, much better than 50%), namely an EXPECTED REWARD/RISK RATIO of more than 100,000-to-1 implies that this Proposal is "better" than any proposal made in this field yet, when you note that each of the 3 main products to be manufactured from crystallized LMPs, namely MSP, MSD, and MSH, EACH separately addresses a different Trillion-Dollar Market with a clear Profit Potential of more than $10 Billion?

Moreover, this is a Proposal in which the Investor who RISKS $150K will know within a mere 6 or 7 months WHETHER OR NOT Phase One of his speculation has paid off! (And it is highly likely that the Absolute Answer will be known within another 3 months, considering how fast the scientific community reacts to something, e.g. High-Temperature Superconductors, which is both surprising and EASY to replicate!)

Please tell me when a Speculative Investment Possibility better than this one has last crossed your desk? (I'll bet, NEVER!)

Regards,

Bob Bass

Dr. Robert W. Bass, Registered Patent Agent 29,130 [ex-Prof Physics]
Inventor: Topolotron, Plasmasphere, issued; QRT Cold Fusion, pending
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Electrino Fusion Power Reactor

Gordon L. Ziegler has discovered how to make a clean electrino fusion power reactor capable of generating up to 2000 megawatts. The proposed energy source would produce no carbon emissions and no radioactive wastes. (By reversing the order-to-disorder arrow in the second law of thermodynamics, a $50,000,000 electrino fusion power reactor could be built which would also reverse all aging, disease, and decay processes within a one-mile radius.)

Power output, however, cannot occur in this system without the simultaneous operation of two aspects of the invention. One is an accelerator-collider making a field reversing the order-to-disorder arrow in the second law of thermodynamics in a controlled area. Among other things, that field makes the other aspect of the system (the power source) efficient enough to be self-sustaining and prevents the formation of radioactive wastes.

Electrons are generally regarded to be structure-less spinning point charges. But that contradicts a reasonable postulate that occurred to Gordon L. Ziegler in 1967: “A spherically or cylindrically symmetric smooth charge distribution cannot have detectable spin.” Electrons have detectable spins. Therefore they must not have smooth structure-less symmetric charge distributions. They must be lumpy and have internal structure. An application of the Parsimony Principle shows that they must be composed of two half-charges orbiting each other at the speed of light. The reason scientists concluded that the electron was structure-less was that it could not be blasted apart in collisions up to 700 MeV each particle.

But in Ziegler’s model, electron sub-particles are bound together by confinement by a speed of light barrier (they are trapped going faster than the speed of light). They cannot be blasted apart, even though they are two particles.

The two sub-particles of electrons make a whole different structure for matter than quarks and leptons. The sub-particles can also fuse with each other – making new particles. Fusing sub-particles of positrons reverses the order-to-disorder arrow in the second law of thermodynamics – making the power source efficient enough to be self-sustaining and preventing the radioactive wastes from forming. Fusing the sub-particles of electrons comprise the power source.

Key components include a polarized positron source, injector accelerators, inflection magnets, end magnets, and the beam transport.

Governments and utilities would buy electrino fusion power reactors because the process is a clean, inexpensive way to produce electricity. It is 1000 times as efficient as nuclear reactors. It does not require uranium or plutonium for fuel. It can run on anything for fuel such as dirt, sand, sewage, ground garbage, toxic chemicals, radioactive wastes, sea water, etc. without carbon nor radioactive pollutants.

The projected cost of a 2000-megawatt power reactor is approximately $100 million. Electricity could be generated for only about 1.5 percent of current rates (a little over 0.1 cent per kwh).

The size of the market is essentially enormous. It would be up to 50 percent of electric generation world-wide eventually. That’s probably over a trillion dollars.

A self-powered high-speed locomotive powered by an electrino fusion power reactor would need to be at least 85 feet long.

Environmental Heat Engines

Deceased Las Vegas inventor Robert Stewart developed his "Stewart Cycle" engine for transportation vehicles, electricity generators, and large-scale water lifters. His efficient and pollution-free engine uses ambient heat to expand a working fluid such as Freon or ammonia and move pistons through sealed chambers. His patent is for Vapor Actuated Power Generating Device, No. 4,033,136.

A possibly more up-to-date version is Ralph J. Lagow's Method of Generating Power from a Vapor, Patent No. 4,693,087. Ken Rauen's Rauen cycle and Superclassical cycle engines also expand working fluids with environmental heat to provide useful net mechanical power.

Mr. Stewart claimed that his fuel-less engine could lift Colorado River water from below Hoover Dam back up into Lake Mead, thereby doubling Hoover Dam's output of electricity. He also proposed lifting water from the Columbia River into the Colorado River via a canal, generating electricity as the water flowed back downhill.

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Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10042.

Comment Date: February 20, 2011 22:26:59PM
Solar Energy Development PEIS
Comment ID: SolarD10042

First Name: Gary
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State: NV
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Advanced Technologies2.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments. For example, attached is my compilation of "Advanced Technologies for Foreign Resort Project". It is also available in www.padrak.com/vesperman, http://www.icestuff.com/%7Eenergy21/advantech.htm and http://www.linux-host.org/energy/advantech.htm. It contains descriptions of approximately 50 energy-related inventions. I am confident that developing some of these energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Advanced Technologies

for a

FOREIGN RESORT PROJECT

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Introduction

I used to be associated with a resort complex to be built on a large tract of raw land which is located outside the United States. This project presented a rare opportunity to incorporate on a large scale current thinking and ideas prevailing among experts in urban planning, ecological sustainability, wildlife habitat preservation, etc. The project also provided an opportunity and the freedom to utilize advanced technologies which may lie outside the generally accepted theoretical constraints of mainstream science. The resort ended up being built by other people on an adjacent property. The exercise still was somewhat fruitful in stimulating some fresh ideas.

For the past few years, I have been accumulating knowledge of futuristic technologies not commonly known among mainstream scientists. I have personally had the pleasure to know some of the top scientists and inventors involved with what has been referred to as a mostly unpublicized international "underground" science research network. Disregarding the scientific dogma taught by academia, these people have chosen to follow their own independent paths of scientific discovery to whatever they feel the genuine scientific truth may be.

I have selected several advanced technologies which seem to be usable for the foreign resort project. Their selection was based on their being available for purchase and are definitely past the research and development stage. Implementation of most of these technologies could occur anytime before, during or after the construction phase of the project. However, it should be noted that the electric station car and photo-luminescent therapy technologies ought to be adopted as soon as possible as they happen to substantially impact architectural design and construction. The electrical power infrastructure could also be affected by adopting one or more small-scaled electrical generation technologies. Retrofitting at a later date could be costly.

I also have selected a few advanced technologies which are still under development but may have potential applications for the resort project.

Please be warned that investments and purchases in any of these advanced technologies should proceed only after a thorough and cautious exercise in due diligence. Yet their developers usually do deserve respect and fairness. In most cases, I can not personally take responsibility for the accuracy and validity of my descriptions; I am only editing other people's reports.

The literature on the devices which involve extracting energy from radioactive substances, the ether, hydrogen, etc. contains anecdotes of strangely behaving devices and explosions and, in some cases, of bodily injury and even death!

WARNING!

Before experimenting with such devices, protect yourself from harm! Please try to be well-informed of other experimenters' experience with these strange devices and beware of danger.

Gary C. Vesperman

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Davis Tidal Turbine

The worldwide electrical energy market has been estimated at $800 billion (US) per year and rising. “There are 2 billion people who still lack electricity today, and the world demand in developing countries is doubling every eight years." (World Watch Institute, May 1997)

The Institute for New Energy maintains a database of 127 new energy production devices which includes a list based on commercialization criteria ranging from 0 (found to be lies) to 10 (proven prototype – ready for commercialization). (I know of several such devices that don’t appear to be included in their database.) The Davis tidal turbine, invented by Canadian aerospace engineer Barry Davis, is one of only two new energy devices which have earned a ranking of 10. His company, Blue Energy Canada, Inc., owns one patent and has filed additional patent applications.

The Davis tidal turbine captures the power of ocean currents and tides to generate electric current in a module fitted with slowly rotating hydrofoils. The module does not emit gas of any kind, nor do the hydrofoils offer any threat to marine organisms swimming through them. With fixed rotor blades mounted in durable marine concrete caissons, the Davis tidal turbine’s mechanical simplicity is profound. The basic concept is the multiple vertical-axis hydro turbine. They are large marine structures of reinforced concrete and steel that provide the necessary economies of scale. They generally can be installed in areas with a tidal regime of about 1 meter or more, or where velocities exceed about 2 meters per second. Standardized tidal turbine modules can be grouped to meet any site application from ocean to river in sizes that range from 7.5 megawatts to 15 megawatts for ocean use, and 5 kilowatts to 500 kilowatts for river use.

The Davis tidal turbine is a low-cost, eco-benign energy alternative. Fueled by the free forces of rivers and ocean tides and currents, tidal power can provide a significant amount of the world's energy needs. Energy costs with the Davis tidal turbine will be around $0.06/kilowatt-hour and eventually should drop to $0.035/kilowatt-hour for tidal fences in the 1000-megawatt range. Power outputs from the larger units can be accurately predicted to within 2% accuracy.

In many instances, tidal fences can double up with transportation corridors, providing dual infrastructure use with essentially single infrastructure cost. Coupled with existing grid prices and mounting social and environmental costs associated with conventional power generation (health care, climate change, etc.) tidal power is an outstanding and sustainable energy choice. Remote sites can also produce hydrogen, hydrogen peroxide, methane and other valuable energy intensive products for widespread distribution, as well as provide irrigation and desalination facilities.

Tidal energy sites in the world's oceans can provide a significant, viable and cost-effective source of reliable, inexhaustible energy. Many are strategically located close to populated areas where they can be economically harnessed using an ecologically benign, low-head technology. For example, British Columbia may have up to 50,000 megawatts of potential tidal power resource.

The Philippines Presidential Office had announced on December 20, 1997 a $136,000,000 (US) order for a pilot tidal power generation facility which is likely to be in the Hinatuan Passage area just north of Mindanao. Its average power output will be 30 megawatts, and its peak power will be 55 megawatts. The pilot project is performance-coupled to the future development rights of a 1000-megawatt commercial project. The Philippines hope to become energy exporters.

Electric Station Cars

The Las Vegas Chapter of the Electric Auto Association appears to be one of the association's stronger chapters. I have attended over 80% of their monthly meetings for the past several years. I myself have written an Advanced Self-Powered Electric Vehicle concept (see end of this paper). The "super car" concept is a proposal for combining advanced technologies I have collected over the past few years into a futuristic self-powered car superior to conventional cars.

On November 20, 1997, at their November meeting, Martin J. Bernard III, Ph.D., Executive Director of the National Station Car Association, spoke on "Station Car Potential in Las Vegas". Of all the meetings I have attended, his talk was the most practical application of electric vehicles I have heard. Because I could see an obvious application of the station car concept to the foreign resort project, I thought I would list a few key points for further discussion:

Many pages of additional information and diagrams concerning electric station cars are available on the National Station Car Association's Web site (www.stncar.com). The Web site includes a photograph which shows some of the 40 electric station cars currently being used in conjunction with the Bay Area Transit District in the San Francisco Bay Area. There are a total of 60 other station cars in several other cities around the United States.

The resort project as presently planned probably allows for lots of parking space for gasoline-powered cars, gas stations, auto repair facilities, etc. Because the project is still in the planning stages, there is a high probability that it can be easily converted to emphasis on electric station cars. Only three simple changes would have to be made to the plans:

- A substantial reduction in paved parking space in exchange for a substantial increase in landscaping and preserved wildlife habitat. (I think Martin said up to 90% reduction.)
- Reductions in gasoline refueling stations and auto repair facilities.
- Installation of electric vehicle charging stations in the remaining parking lots.

In return, the resort would gain the following benefits:

- A more pleasant environment in the immediate vicinity of the resort's buildings, featuring silence (except noise from an occasional diesel or gasoline-powered truck), less dust and particles from vehicle exhaust, and zero runoff from oil dripping on pavement.
- More efficient use of the small country's electric power plants which otherwise can not be operated as efficiently in a small market as compared to huge markets such as the United States. When I looked up the country's power information on the Internet, I noticed that a new coal-fired power plant enters operation in mid-1999. It happens to be impractical to reduce power output in a coal plant during the middle of the night.
- Lower vehicular operating costs.
- Less pavement, more landscaping, and increased preservation of the resort's natural features and greenery.

Electric station cars are *not* owned by the drivers. Instead they are owned by an operator such as a municipality or transportation authority. They are intended for use at places featuring frequent usage and regular access such as train stations, airports, hotels, convention halls, and downtown areas.

A driver who has previously bought a smart card (similar to a credit card) swipes the card through a card reader which allows him access to the station car. He or she then unplugs the car from the charger, drives off, and leaves it either at the same charging station or a different charging station, which is then available for the next driver to drive. Arrangements can be made to leave it at home overnight providing it is driven again the following morning.

The cars are manufactured in Norway by a family-owned plastic manufacturer. The car body is a simple lightweight one-piece plastic shell framed with extruded rods made of recycled aluminum. It is surprisingly sturdy and can carry two passengers. The pack of nickel-cadmium batteries is hung underneath the body and range up to 65 miles.

It is reasonable to anticipate that a variety of sizes and improved models of electric vehicles will become available in a few short years. For instance, on October 23, 1997, a pre-production Sunrise prototype built by Solectria Corporation, Wilmington, Massachusetts, was driven from Boston to New York City on a single charge of its Ovonic nickel/metal-hydride battery with enough electricity left over to drive an additional 66 kilometers to Atlantic City for a total range of 405 kilometers (IEEE Spectrum December 1997). Power Technology, Inc., has a brand new battery, compared to lead-acid batteries, that is 30% to 50% lighter, insensitive to temperature, long-lived, cheaper, environmentally friendly, quickly rechargeable, and quadruples the range.

Blacklight Power, Inc., is developing a battery which weighs only 10 kilograms but can supply 150 horsepower for 1,000 miles. Blacklight compresses hydrogen atoms into lower-energy-state hydrogen atoms called “hydrinos”. When the hydrinos are formed, energy is released which is considerably more than the energy from chemical reactions but less than from nuclear reactions.

Each car is equipped with a commercially available electronic tracking device. The San Francisco Bay Area is ringed with 15 transmitting towers. Each car can be located with an accuracy of 4 feet in case it is stolen.

At each station, a driver returning a car is responsible for cleaning the car and plugging the car into a battery charger before leaving it.

Crime, Substance Abuse, and Birth Defects

In 1996, 10,510 crimes in Atlantic City, New Jersey were reported. Of that total, the number of crimes that had occurred on the floors of the city’s 12 casino hotels was 5,705 (Las Vegas Review-Journal December 22, 1997).

One unpleasant memory I have of my stay in Honolulu, Hawaii about 15 years ago was the necessity to leave unessential valuables in a hotel lock box before venturing on to the streets and beaches.

Fortunately, once the root cause of crime and substance abuse is understood, a substantial reduction in social misbehavior could be surprisingly simple and inexpensive to achieve and require only moderate organizing. A relatively crime-free resort area should offer competitive advantages.

I own an interesting book "RARE EARTHS: Forbidden Cures" which substantiates the thesis that mineral deficiencies in food causes crime and substance abuse in addition to medical problems. The book's authors are Joel D. Wallach, BS, DVM, ND, and Ma Lan, MD, MS, and it can be ordered at 800-755-4656. One of their more authoritative sources of information and data was the U.S. Department of Agriculture (USDA). The USDA has been noticing with dismay statistical correlations between mineral depletion in soils and the combination of increased crime and declining mental and physical health among the U.S. population since at least the 1930's.

Veterinarians ensure nearly 100% healthy and strong livestock by adding trace elements to their feed. Research has found that people also equally need trace elements. The tally so far is 60 minerals including many obscure elements such as gallium, 16 vitamins, 12 amino acids, and 3 essential fatty acids. Furthermore, to be usable by the human body, the minerals in particular must be in a plant-derived colloidal suspension. Evidently, combination vitamin/mineral pills taken by many people are mostly useless as well as incomplete.

Decades of application of synthetic fertilizers have severely depleted agricultural soils of trace elements. One result of mineral deficiencies in food is increased disease such as cancer and heart disease. Not so obvious but proven are substantial increases in alcoholism, narcotic addition, and violently anti-social behavior.

Studies have also proven that nutritionally complete diets from conception through college age ensure the raising of children who are taller, stronger, brainier, well-behaved, more energetic, longer-lived, and relatively free of birth defects and disease. 98% of birth defects are caused by nutritional deficiencies.

Some health food stores sell colloidal mineral dietary supplements. Mineral supplements could be added to the lunches that are served children in schools and colleges. Prisons and mental hospitals could easily add minerals to the diets of their inmates. Government-sponsored educational campaigns would be required to educate general populations.

Another Las Vegas company sells an inexpensive mineral fertilizer from the world's most complete deposit of trace elements. Enriching agricultural soils with their mineral fertilizer so as to add trace elements to foodstuffs would also help alleviate crime and substance abuse.

(Since the foregoing was written, questions have been raised concerning the effectiveness of colloidal mineral dietary supplements. The human body's need for trace elements remains undisputed; it's the delivery system using colloidal mineral suspensions that is being questioned. Some experts claim that chelated minerals offer more thorough absorption by the body, and that with chelated minerals, manufacturers are able to control which minerals are placed in their dietary supplements.)

Photo-Luminescent Therapy

For a couple of years, I have been accumulating information on alternatives to the unsatisfactory and expensive conventional cancer treatment methods of radiation, surgery, and chemotherapy. The following is a list of about two dozen cancer treatments that I sometimes provide in private to friends and relatives. To my knowledge, none of them have been legally approved for cancer treatment by the Food and Drug Administration. Please note that I am not a licensed medical practitioner. I can not legally recommend any of them for treating cancer.

- Induced remission therapy. Cancer practically never occurs in the small intestine even in very advanced cancer cases. The small intestine has its own fast-acting immune protection in the form of lymphocytes. They are necessary for destroying hostile organisms in food coming through from the stomach and also stopping bacteria from migrating up from the large bowel. Not surprisingly, they are extremely fast and thoroughly effective in killing cancer cells.
- Some diseases such as syphilis attack cancer tumors and cause them to disappear. After introducing syphilis, for example, antibiotics can then be administered to cure syphilis.
- Micro-colloidal silver. Kills 650 species of viruses and bacteria. The FDA has partially banned micro-colloidal silver because it was impacting veterinarian profits from antibiotics.
- White powder gold (also known as orbitally rearranged mono-atomic gold). Strangest material I ever heard of. For example, in its mono-atomic white powder state, gold loses 46% of its weight. When reheated, the gold gains back all its weight. Ingesting white powder gold corrects the body's implementation of its DNA coding and is apparently the secret of the long lives of Biblical figures such as Noah.
- Nature's Tea (sold by Enrich) and other herbs such as pau d'arco. It's a complicated subject.
- Powdered dried rattlesnake. Mexico's Yaqui Indian tribe use dried rattlesnake powder as a seasoning like salt and pepper and don't get cancer.
- Essiac tea. Also known as Ojibwa tea.
- Dimethyl sulfoxide (DMSO). I have heard that there is another version called MMS which offers the same potency as DMSO but without the negative side effects.
- Noni fruit juice. Used for its healing properties by the Polynesian Islanders for 2,000 years, I became a distributor of Tahitian Noni Juice™ for Morinda, Inc. I understand noni juice is also beneficial for numerous other ailments. I am currently circulating a handout comprising of my own one-page article on noni juice, Morinda's three-page article on scientific research studies of noni, and Morinda's four pages of testimonials. Noni may have been responsible for the shrinkage of my brother's lemon-sized lung tumor.
- Shark cartilage. According to a promotion for the monthly newsletter ALTERNATIVES, "… it is being used to totally eliminate cancer in thousands of cases once thought to be hopeless". However, some shark cartilage products are supposedly better than others.
- A local Las Vegas company told me April 1, 1997 that they know of a substance that can cure cancer in 10 days. It was undergoing testing, and they expected to be selling it late in 1997.
- Dr. William Koch's treatment for cancer and allied allergies focuses on blood purifying remedies.
- Dr. Jerry Jacobson's electromagnetic/relativistic cancer cure. An extremely weak but precisely calibrated electromagnetic field provokes oncogenes to revert to normal genes.
- Wilhelm Reich's orgone therapy.
- Helga Clark's intestinal parasite killer.
- Hydrogen peroxide. Hydrogen peroxide kills disease organisms as it spreads though tissue.

- Ozone blood treatment. Ozone infused into blood simply oxidizes molecules in virus shells.
- Vitamin C megadoses. Vitamin C creates extra hydrogen peroxide in the body.
- Rudolph Steiner's therapy.
- Dehydrepiandrosterone (DHEA). However, the April 1997 AARP Bulletin claims that "women who take DHEA have suffered hair loss, deepening of the voice and hair growth on the body, which may be irreversible. In men, DHEA may stimulate the growth of prostate cancer."
- Dr. Max Gerson's vegetable/fruit juice diet. I read a book on his apparently successful cancer treatments 20 years ago.
- Reikki. I almost cured someone terminally ill with cancer doing this a couple of years ago. I had a feeling I should go back and try again with another session, but didn't because I didn't know him (he was a friend of a friend), and a few days later he died from a pulmonary blood clot. But he did make an immediate and impressive short-term recovery.

  All I do is rub my hands together for a few seconds, close my eyes, mentally say to myself "The mind has no providence for limitations", open my eyes, and then lay my hands on the patient's problem area. If I can feel heat flowing through my hands, I know it is working. When the heat stops, I either quit or move to another spot on the patient's body. I have cured elbow pain, headaches, and even my brother's shortness of breath for a short while.

  Since 1989 when I learned Reikki, I have struggled to understand the underlying mechanism. I have repeatedly seen it work, but it's obvious Reikki's effects are hardly explainable by conventional science. Recently I finally picked up a clue from a French acupuncturist's report in www.keelynet.com/keely/belizal.text. The ancient Egyptians were able to correlate different wave forms with different geometric shapes. There is an implication that objects can store and transfer between them, when touching, subtle forms of information. So possibly when an ill or injured person is touched by healthy people with positive minds, information is somehow transferred to be used for correcting damaged tissue.

  Monarch butterflies are unique in that migratory information is passed from generation to generation. They are somehow able to fly north for the summer from their winter homes in Mexico and certain Central California coastal areas such as Monterey and Santa Cruz and then able to fly back to their winter homes, passing along *precise* migratory information from generation to generation. It has been suggested that their migratory information is somehow embedded in their genetic code. Another possibility is that their migratory information is accurately retained by their physical bodies in more subtle form, possibly in the halo which appears in Kirlian photography, as the Monarch butterflies reproduce again, again, and again for thousands of generations with absolutely no loss of migratory information.

  If true, an even more startling speculation arises: Many of the ancient peoples have acquired beliefs (colored by various religious symbols and rituals) that people don't just die and that's the end of them. Instead, the information and memories accumulated within each person as a result of genetic heritage and his or her living a life is retained in a very subtle form not normally perceivable by people still living. Their information packages are sometimes called "spirits", "ghosts", or "souls".

If the progression from Reikki healing and the association between waveforms and the shapes of objects to Monarch butterflies to a conscious being surviving the dying process is accepted, then perhaps we have physical evidence, however flimsy, of the existence of the soul.

- Lactoferrin. It's an immune stimulant - a protein in mother's milk.
- North poles of strong permanent magnets (for localized cancerous tumors only, I believe).
- Antineoplastins. Instead of being treated as a hero, the researcher was jailed by the FDA. However, he was later acquitted of all charges. Disgusting.
- Bob Beck's electronic pulse generator. Battery-operated, it is strapped on the wrists for minutes per day. Seems to kill a variety of parasites such as most viruses, infectious bacteria, etc. Information on three commercially available devices can be found at www.sota-inc.com, http://www.action-electronics.com/ps.htm, and http://www.ioa.com/~dragonfly/vrs.html.
- Royal Rife's electronic frequency instrument. The basic premise of the instrument is that each pathogen has a particular crystalline structure. When exposed to an electromagnetic frequency of the correct frequency and waveshape, the pathogen's crystalline structure will resonant and shatter in a manner similar to an opera singer shattering a glass crystal. The July 14, 1997 issue of Business Week has an article on how pathogens can trigger cancer. A business associate used one on her son several years ago and cured him of an otherwise untreatable virus-caused disease.
- Germanium. Organic germanium (bis-carboxyethyl germanium sesquixoide) increases the oxygen level in the body. Germanium is known to enhance the immune system by stimulating production of natural killer cells, lymphoklines, interferon, macrophages and T-suppressor cells. Germanium deficiencies can result in immunity reductions, arthritis, osteoporosis, low energy as well as cancer.
- Non-invasive photo-luminescent therapy combined with a multiple range of frequencies. It is assumed with this therapy that cancer is a group of mutated cells that lack proper DNA programming. Includes use of super magnets, herbs, and cleaning of bowel, liver, gall bladder, and kidneys and also re-tuning the brain which organizes the immune system. The process is to hyper-oxygenate the entire body and create an alkaline environment in which pathogens can not survive.
- Grapes. Johanna Brandt's book "The Grape Cure" recommends starting with fasting to starve cancer. Then grapes or grape juice only. Then a very restricted diet.

I have been told that there are a total of 28 alternative cancer treatments worldwide. It has been predicted to me that in five to ten years, radiation and chemotherapy will be banned, and surgery greatly reduced because they are so brutal and ineffective as well as being excessively expensive.

It also has been explained to me that cancer must have two conditions in tissue to thrive — acidity and lack of oxygen. It does appear that the basis for some of these alternative cancer treatments is increasing the flow of oxygen through the body and increasing alkalinity. But it is not readily apparent what *all* of these cancer treatments may have in common.

I have some articles on the negative health effects of fluoridation of drinking water. Among them is "couch potato syndrome" which is the cute name for a not so cute physical condition induced by ingesting too much fluoride. One of the characteristics of couch potato syndrome is an overly docile personality. Because fluorine is a proven excitotoxin, there is a hypothesis that the fluoride which is part of poisonous chemotherapy compounds may reduce the will to live among cancer patients by destroying some of their brain cells.

It has been suggested that the machine also generates a strong Reikki-like healing effect which includes correcting the body's implementation of its DNA coding. (See Reikki discussion above.) It appears that only half an organism's blueprint is stored in its genes. The other half is stored in the organism's electromagnetic aura. Perhaps the machine tunes the body to match its electromagnetic design specifications.

The reality and effectiveness of photo-luminescent therapy is backed by many years of research and thorough documentation. More information can be found in the December 1997 issue of Nexus, www.kalamark.com/rife_conference, www.genesistherapy.com/index.html, www.rt66.com/~rifetech/, www.wj.net/dimshah, and www.cseti.org/bearden/aids/priore.htm. I have listened to a demonstration and lecture on the similar "resonant frequency therapy" by James E. Bare, D.C., at the 1995 International Tesla Society Symposium. Dr. Bare later authored an article on the therapy in the Jan/Feb/Mar 1996 issue of the society's Extraordinary Science.

One way to provide photo-luminescent therapy in the proposed resort complex would be to equip each hotel room with a photo-luminescent therapy unit. The electronics could be hidden inside a wall behind a keyed panel. A wall switch would be wired to the electronics. Guests would have the option, by simply flipping a wall switch, of using photo-luminescent therapy for attempting to treat any diseases they may have or just to feel energetic and healthy during their vacation.

A side benefit of installing photo-luminescent therapy machines in hotel rooms is that insects and spiders are irritated by the frequencies and leave the premises. The effective radius of insect control for each power level such as 250 watts or 500 watts was not known at the time of writing.

One variation would be to substitute a credit card reader and a timer for the wall switch. Then additional revenue could be earned from selling photo-luminescent therapy time which would also help pay for the equipment. A coin-operated timer could also be used but probably not without problems of currency convertibility and the extra expense of collection.

The easier to implement but less convenient way to make available photo-luminescent therapy would be to rent portable machines at the hotel's front desk.

Some of the guests could be so impressed with the results of their using photo-luminescent therapy that additional revenues could be earned by selling photo-luminescent machines. However, the machines may need to be disassembled before shipment to certain countries such as the USA for legal reasons.

Because the resort is located in a small, independent country, realistic claims could be made about curing various diseases without offending the U.S. Government's Food and Drug Administration. Thus the resort complex could gain an enormous competitive advantage.

Currently, photo-luminescent therapy in its various forms has not received serious study from medical scientists that it appears to deserve. People staying at the resort may be invited to participate in studies of the effects and possible benefits of photo-luminescent therapy. When they first check in, volunteers would be provided a free medical checkup to document ailments. When they leave, they would be tested again as part of a second free medical checkup. As time goes on, a data base on the medical effects, if any, of photo-luminescent therapy could be accumulated.

Virtual Telemedics

A demonstration virtual telemedics system to be show cased at the March 1999 annual convention of the American Telemedicine Association has been completed and funding is now being sought to support this initiative. The presentation budget has been set at $100,000, with full build out of the prototypes expected to require upwards of $250,000 over a period of six-nine months. This is the system which incorporates wireless broadband digital transceiver technology [802.11], Intel-based computer platforms, 10Base-T LAN systems, video conferencing software [H.320/ 323], digitized optical examination instruments [American Medical Devices] and a variety of FDA-certified pharmaceutical evaluation software into a single operating system. The system qualifies for Telemedicine billing under all five codifications and billing systems and has been pre-approved by Utah's Dept of Health and Family Services Division for use in remote and rural areas.

POWR/MASTR™ Industrial Engine

The commercially available POWR/MASTR™ is a high-efficiency, long-life industrial engine which is fueled by natural gas, propane or butane. A POWR/MASTR™ can be directly connected to gas company pipelines and so never needs refueling. Each POWR/MASTR™ unit can generate over 145 horsepower for mechanical power needs, or 100 kilowatts of electricity for electric power needs. POWR/MASTR™ units can be linked together in parallel and/or linked to utility company electricity to satisfy energy requirements of any size.

POWR/MASTR™ offers savings of up to 50% over other mechanical power costs, or up to 70% over utility company charges for electricity. A San Diego shopping center saves $125,000 per year in electricity costs.

POWR/MASTR™ is environmentally friendly, using only clean burning gases at a maximum rate of 9 therms/900,000 Btu/900 cubic feet per hour of natural gas. When less power is needed than 100 kilowatts or 145 horsepower, POWR/MASTR™ automatically self-adjusts to use less fuel. Operating at less than a quiet 60 dB at 20 feet, POWR/MASTR™ sounds no louder than a new car engine at idle. It also produces far less harmful exhaust emissions than a typical gasoline-fueled automotive engine. POWR/MASTR™ is fully automated and designed for 60 months of continuous use with maintenance regularly scheduled every 1,500 hours.

Each POWR/MASTR™ unit weighs 3,200 lb., and its size is 8 feet long by 5 feet wide by 6 feet high. A POWR/MASTR™ unit can be transported on its own delivery trailer and installed by one person in about four hours after site preparation. No cranes, work crews, nor special foundations are necessary. An adjustable level platform system is built-in so that no poured nor perfectly level pad is required. Controls are included at no charge to allow more than one POWR/MASTR™ unit to deliver electricity with other power generation units or in conjunction with utility company power.

Hydrosonic Pump

The hydrosonic pump seems destined to become a billion-dollar invention with many applications. It is really a zero-pressure boiler, not a pump. The inventor has been calling it a pump so as to avoid entanglement with strict American Society of Mechanical Engineers boiler codes.

Mechanical input power rotates the shaft, and plain water is converted to steam without the need for hot surfaces. The process seems to be actually a form of fusion where collapsing microscopic bubbles momentarily create extremely high pressures and temperatures. The technical term for this phenomenon is “sono-luminescence”. The energy conversion efficiency is around 130%. (To prevent confusion, it should be clearly understood that the hydrosonic pump on the macro scale does *not* operate at high temperatures and pressures as is the case with nuclear or fossil-fueled boilers.)

One application is to use a windmill to turn the shaft. Out of the nozzle comes steam which drives a steam turbine to produce electricity. The steam then enters a condenser from which can be obtained potable water and hot water for space heating. For remote islands, for example, the hydrosonic pump would be very useful. One utility is reportedly already looking at increasing the efficiencies of its nuclear and fossil-fueled power plants by 3 - 5 percentage points.

Nevada has large underground reservoirs of useless mineralized water. The hydrosonic pump could be the centerpiece of a large-scale scheme to generate electricity, heat and potable water.

The hydrosonic pump is actually being commercially manufactured and sold. The inventor definitely is using the correct approach in that since the pump is such a new technology, for some time he has been simply building one unit at a time in various sizes and configurations. He has been purposely restricting their sale to local installations so he can closely monitor their performance and incorporate improvements and changes into future units.

As of May 1996, he had 14 units actually installed and operating. One application is for producing clean steam on demand for a commercial laundry. Based on feedback from customers’ experience with them, he is evolving step-by-step in an organized manner towards eventual mass production of *fully validated* units. It seems to be much easier to obtain expansion capital for actual commercial units than “laboratory queens”.

Pulsed Abnormal Glow Discharge Reactor

A typical flashlight’s light bulb is a glass vacuum tube where the flashlight’s batteries force current through the bulb’s filament, resulting in a power loss equal to the square of the current times the positive resistance of the filament. The power is then radiated out of the light bulb as light and heat.

Physicists have known for many years that the pulsed abnormal glow of a discharge tube has a negative resistance characteristic. What physicists have not appreciated, until the development of the PAGD reactor, was the real possibility or the knowledge of precisely how to go about extracting 'free' energy by exciting self-sustaining oscillations in the plasma discharge.

The pulsed abnormal glow discharge (PAGD) reactor (U.S. Patents 5,416,391, 5,449,989, and 5,502,354) is an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode over-heating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of those tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing are currently under development. The inventors hope that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits. The inventors are presently engaged in negotiating licensing agreements with a view to development of the applications.

Etheric Weather Engineering

Etheric weather engineering is certainly one of the more spectacular products of the international "underground" science network. Unbelievable as it may seem, what looks like an ordinary tin can or handleless frying pan slowly being turned by an electric motor, in less than a half-hour, can cause heavy rain within 10 miles under conditions of high barometric pressure. (I have a video which shows about 20 demonstrations of etheric rain making.) I personally have seen etheric weather engineering effects at least twice in Las Vegas and twice in the Midwest.

So what is the secret of this crazy thing called "etheric weather engineering"? To begin understanding this most remarkable phenomena, we first take a look at just what is the "ether":

Sound comprises of oscillating waves traveling through water, air, and solid matter. Light propagates through space also as a wavelike phenomenon having frequency and wavelength. Over a century ago, some physicists postulated that light is a form of electromagnetism which travels as an oscillating wave through a medium they termed "ether". The famous Morley-Michelson experiment around that time determined that the speed of light is constant. So therefore, it was thought, there can not be an ether.

Subsequently, physics was led on a wild goose chase. For example, the mathematics of Einstein's famous theories of relativity are mostly based on the assumption that the speed of light is constant. Astronomers commonly believe that the universe started with a big bang and is still expanding because the speed of light is thought to be constant.

It has been claimed that the physics of electromagnetism and gravity as presently taught in academia has over 20 serious flaws. Actual measurements with modern instruments have shown that the speed of light varies with both direction and time. (Morley and Michelson erred in measuring the speed of light with both interferometers in the horizontal plane. They should have instead placed one interferometer in the horizontal plane, i.e., orthogonal to gravity, and the other interferometer in the vertical plane, i.e., parallel to gravity.) Actual measurements of the speed of light as it varies by as much as 5 miles per second over time show that the ether is not static but, as the earth travels through space, seems to surge and ebb with both time and orientation with respect to the stars.

Contemporary physics does not answer some of the fundamental questions of magnetism and gravity. For example, just how do magnets attract and repel? What is gravity? How can magnets under specialized conditions produce anti-gravity? What is inertia?

The consensus of some physicists is that two basic changes need to be made to the theory of physics. The speed of light is no longer to be assumed constant. The other change is that admitting the existence of the ether helps to explain many physical phenomena not otherwise satisfactorily explainable by conventional mainstream physics. For example, some physicists are now claiming that the earth's relatively weak gravitational "pull" is actually the ether pushing objects such as the moon, satellites, and people into the shadow formed by the earth on the ether.

Etheric energy, also sometimes called "zero point electromagnetic radiation" and "vacuum field energy", is known as an energy that fills the fabric of all space. Technically, the etheric energy results from an electric flux which flows orthogonally to our perceived dimension or reality.

The energy density of the ether is essentially incomprehensible. The mass equivalence of etheric energy has been calculated by physicists to be on the order of 10^{93} (may not be correct) grams per cubic centimeter using Einstein's famous equation $E = mc^2$. To put etheric energy density in perspective, Nobel Laureate Richard Feynman and one of Einstein's protégés, John Wheeler, have calculated that there is more than enough energy in the volume of a coffee cup to evaporate all the world's oceans! We fail to easily recognize this immense energy source as it is analogous to trying to weigh a beaker of water underneath the ocean's surface.

Dan A. Davidson recently published a book "Shape Power: A Treatise on How Form Converts Universal Aether into Electromagnetic and Gravitic Forces and Related Discoveries in Gravitational Physics" reporting on his many years of measuring and studying the effects of the geometry of objects on the ether. In his book he explains how geometric forms, for example the famous "pyramid power", convert etheric energy into electromagnetic and gravitic forces.

Etheric weather engineering researchers not only claim but have demonstrated many times that precisely machined metal objects similar in shape to cones, tin cans, handle-less frying pans, etc., when slowly turned by an electric motor (but not simply rotated on the axis of their hollow interiors), bore holes in the ether and cause weather upsets and changes. Only by linking the enormously high energy density of the ether with etheric hole boring can the disproportionately immense leverage of small objects upon the weather be understood.

The foregoing is referred to as "active" etheric weather engineering. There is also a "passive" version which generally comprises of a box about two feet high, wide, and deep. The tops, bottoms, and sides are about an inch or so thick and comprise of a thick layer of electrical insulation sandwiched between two thin layers of an electrically conductive material such as aluminum foil. Pieces of a wrecked RV camper's shell sometimes have been used.

Along the four inside edges around the bottom of the box are four magnets. Each magnet is placed in the center of each inside edge. To make rain, the polarities of the magnets are set one way, and to cause fair weather, the magnets are reversed. (I have actually seen this demonstrated in the Midwest.) On the center of the bottom of the box is set a truncated concrete cone about a foot high and a little over a half-foot in diameter. The concrete contains some special materials including mono-atomic gold and is sometimes wetted.

I stuck my head inside the box and could detect a faint mustiness. The experimenter thinks there is something like 20 megawatts of etheric power vertically streaming through the box.

The weather control box is termed “passive” because it takes about a half-day for the weather to react in a large circle of several miles in radius as compared to the half-hour for several miles in radius of weather to react to the rotating metal objects. In the awesome demonstration of the weather control box I saw in the Midwest, an otherwise cloudless day went completely cloudy from horizon to horizon in about an hour, after a buildup of several hours in the morning. I could even see lines or bands in the clouds that were possibly caused by the horizontal aluminum sidings of the garage inside of which the weather control box was located. Then the magnets were reversed, and the clouds had dissipated by the end of the afternoon. I was overwhelmed by seeing, for the first time, etheric weather engineering. It was simply magnificent.

It has been suggested that the precision of etheric weather engineering could possibly be increased by using both passive and active forms of etheric weather control in a mode of operation similar to alternately pressing the gas and brake pedals of a vehicle.

Some of America’s Indian tribes were able to break up droughts by dancing counter-clockwise around a circle, or to stop rain by dancing clockwise around a circle. To illustrate, the summer of 1931 Nevada was suffering through a drought. An elderly Shoshone Indian, Wagon Jack, suggested to the tribal members living in the vicinity of Austin, Nevada that they devote some time to a rain dance. With considerable skepticism, Indians from all over central Nevada showed up beginning August 14 for continuous rain dancing plus of course feasting and political meetings. On August 19, the skies clouded over and rain began coming down in torrents. After four days of heavy rainfall, flooding caused extensive damage. (Nevada Historical Society)

I remember reading another story when during a severe two-year California drought during the mid-1970’s, an environmental group in San Francisco just for fun decided to hold a rain dance in nearby Marin County. They had to cut it short because it started raining! Of course, I didn’t understood then what was really happening and why.

Etheric weather engineering research Trevor James Constable has produced a video “Etheric Weather Engineering” on his weather engineering experiments. Thomas J. Brown has authored a book on etheric weather engineering titled “Loom of the Future: The Weather Engineering Work of Trevor James Constable”.

It was reported in Brown’s book that in September 1994, Hurricane Iniki was bearing down on Honolulu. Constable’s ship happened to be located between the hurricane and Honolulu so he was able to divert Iniki. Unfortunately, the hurricane ended up damaging the island of Kauai instead.

Installing local etheric weather engineering capabilities, probably under contract to an etheric weather engineering researcher, should be a relatively trivial expense. One weather control machine or box should be able to cover the entire resort area. By being able to cause rain or sun on demand, the resort project could achieve a competitive advantage.

I do not know whether local weather control, set to sun, would be sufficient to break up a hurricane should one approach the resort complex. It is possible that weather control machines would have to be installed on ships or planes and located in the path of the hurricane such as happened with Iniki. Being able to break up or at least divert hurricanes should noticeably reduce insurance costs.

Testatika Free Energy Machine

The Testatika free energy machine was developed over a 20-year research period in Switzerland. It resembles a Wimshurst electrostatic generator commonly seen in high school physics labs. Other documents may refer to it as the "Swiss M-L converter" or "Thesta-Distatica." The inventor of this superb machine, Paul Baumann, claims its running principle was found by studying the effects of lightning.

Testatika not only runs on its own energy but produces also a huge amount of excess power. A video shows a demonstrator unit producing at least 3 kilowatts of power. Yet the machine is only about 70 cm wide, 40 cm deep, and about 60 cm tall. It delivers DC voltage ranging from 270 to 320 volts, only depending on the dryness of the air. At this voltage it can supply at least 10 amperes of DC current.

Testatika is not a perpetuum mobile, but an energy machine that collects its "free" energy from the charged and ionized air particles. Some technological tricks are implemented to overcome the normal drag-resistance of a conventional Wimshurst machine, which is still the secret of the Swiss group. However, progress is being made by several researchers in the underground science network in deducing and explaining the basic mechanisms of this remarkable machine.

The initial high voltage, at high frequency, is produced by twin counter-revolving electrostatic disks made from magnetic stainless steel. The magnetic disk segments provide an electromagnetic speed control for the disks, while functioning as electrostatic elements to provide the very high voltage.

The solid-state amplification subsystem consists of polarized sections of barium-iron permanent magnets with multiple coil arrays, as first introduced by Hans Coler in Germany during the 1940's. This subsystem increases the amperage level about 20 times from the 150 watts from the twin electrostatic disks up to about 3000 watts at the output terminals.

An independent feedback subsystem provides the electromagnetic force to power a small DC motor to revolve the twin electrostatic disks continuously. This arrangement consists of two horseshoe magnets with coil sets wound fully around each magnet leg. This feedback method provides that the Testatika free-energy machine is a fully standalone system, with no external power input. Once the two disks are turned by hand, they continue to revolve on their own, producing free energy.

The Testatika machines (some smaller units also exist which only deliver about 200-300 watts) are not yet mass-production type models. They are still laboratory prototype units, although they are built with a very good craftsmanship. No maintenance is required with these units.

GeoExchange Heat Pump

A refrigerator is a one-way heat pump that cools the inside of the box by removing heat, which is then pumped someplace else. Cold air is not pumped into refrigerators.

Conventional air conditioners pump hot air from the inside of a home into the outside air. Because the outside air is already so hot in the summer, the difficulty of pumping hot air into air that is already hot results in low efficiency and high energy costs.

GeoExchange Heat Pumps are electrically-powered devices that use the natural heat storage ability of the earth or the earth's ground water to heat and cool a structure. They are being promoted by the Geothermal Heat Pump Consortium which claims that they can reduce greenhouse gas emissions by 40% or more over traditional air conditioners.

At the Bella Vivente subdivision of Lake Las Vegas, Henderson, Nevada, their GeoExchange system pumps heat into and out of homes with one loop of pipe which is connected to the lake. Residents save an average of $150 per month in heating and air conditioning bills. Other advantages include eliminating noisy and unattractive outdoor condensers and cooling towers.

The following technologies may <u>not</u> be commercially available at this time. However, they may have potential applications for the resort project.

Sewage Treatment

A new method of treating sewage has been patented by a retired federal government employee.

High-Temperature Incinerator

This simple process reportedly incinerates garbage, sawdust, and wood chips at such an unbelievably high temperature that even thermocouples at 3200 degrees burn up. So little odor and smoke is produced that a prototype was tested indoors. Very little waste is left behind which needs to be trucked away. The high-grade heat from this type of incinerator can be used for generating electricity and producing process heat.

Food

About 20 years ago, I read an unforgettable article on Hong Kong's comprehensive and efficient food system. I tried in vain a couple of years ago to find the article or similar information.

As I remember it, the restaurants and institutions in Hong Kong carefully scrape waste food off plates and bowls into bins. The bins are trucked to pig farms. The waste from the pigs is dumped into fish ponds. I think there was another step or two involved in all this. It was impressive how so much additional food could be raised in Hong Kong rather than allowed to go to waste.

I propose that a similar scheme be implemented in the resort complex. In addition, there are refinements that could possibly be made as a result of some research I conducted some time ago on an "aquaponic food factory". Below is the original write-up of the aquaponic food factory:

Merger of tilapia culture with soil-less culture for plants. 220-foot long, 16-foot wide polyethylene sheet-enclosed building with round fish tank in one end. Plants are grown in 2-foot-square plastic foam pads floating in long shallow water tank. The plants start as seedlings at one end of the tank, moved along as they grow, and harvested 3-4 times per week at the other end when mature.

What was difficult to perfect was balancing the chemistry of both tanks as nutrients and water cycle between the tanks. Unskilled labor maintain and harvest several times per week consistently high quality, clean, undamaged, organically-grown produce and tilapia.

No weeding, hoeing, tilling, spraying, hail insurance, etc., are necessary. Water consumption is 50 times less than required by dirt farms. Productivity per acre is about 10 times per acre of dirt farming. A head of lettuce, for example, costs about 5 to 9 cents to produce and brings a higher price than dirt-raised lettuce.

(End of write-up.)

Some of the claims of the above aquaponic food factory write-up may have to be adjusted, particularly in regards to production cost and insect control.

For a while, a group of us were considering installing a similar system in central Nevada except that the project was to be expanded in three respects: One change was to take advantage of the plentiful pure cold water at the site and begin with raising trout and salmon. The overflow from the trout and salmon tanks was then to be piped to tanks of tilapia and shrimp which are not as fussy about water quality and require warmer temperatures.

The second change was to increase productivity and lower costs by taking advantage of the cheap energy to be provided by plasma-injected transmutation thermal reactors and other new sources of energy. Also, a company we are associated with would supply mineral fertilizer from the world's richest mineral deposit of trace elements.

The third change was, in conjunction with the aquaponic food factory, to build a prototype 21st century city for the workers, taking advantage of our access to a long list of advanced technologies. An eminently qualified architect had been selected as the architectural consultant for this unique real estate development. The architect in turn was understood to have access to an extensive network of technologists and financiers. New ideas in construction, community layout, sewage treatment, transportation, communication, alternative medicine, entertainment, recreation, education, landscaping, and home gardening were to be explored.

The site was considered to be ideally suited for the world's first large-scale aquaponic food-production facility with ultimately thousands of acres of greenhouses and fish tanks capable of supplying several western states, western Canada, and Japan with fish and fresh produce.

Some of these ideas and plans could be adopted to help supply the resort complex with locally raised fresh produce and fish. There are islands in the east Caribbean which already have greenhouses supplying fresh produce to passing cruise ships as well as local markets.

Installing photo-luminescent therapy machines in the greenhouses offers two potential benefits of improved plant growth and insect control. There has been some indication of improved plant growth in the presence of the machines. Insects and spiders are irritated by the frequencies and so therefore would be repelled some unknown effective radius. Paybacks are elimination of insect damage, eliminating the cost of insecticide spraying, and easier certification as organically grown produce which in turn usually brings higher prices. One potential problem is the repelling of pollinating bees.

Microporous Solid Gel

Ultrasonic energy blends and hardens gel of polyester resin and water into very hard and strong sheets. Water content varies from 5% to 95%. Markets include on-site fabricated wall panels, plastic pallets, boat flotation inserts, insulation, and packaging.

Computerized Fiber Optic School Network

One dozen to four dozen junior and senior high schools in each large metropolitan area were to be linked with fiber-optic cables into a single network with an average cost of $100,000,000. The recent advent of the Internet possibly offers drastic cost reductions.

The network's three-layer computer system would comprise of a network coordinating and scheduling computer as the top layer, an administrative computer in each school as the middle layer, and personal computers as the bottom layer. The network's customized software would include network management and coordinating functions for the system manager, two layers of software for the teachers to support 100 different functions, and 25 different functions for the students, only one of which is computer-assisted instruction. Each personal computer would have a monitor capable of also displaying telecast or recorded classes.

The typically huge scale of a school network would economically justify the simultaneous teaching in parallel of all week-long segments of each course year round with no seasonal constraints. Segmented courses would still include the standard features of conventional courses such as classes, graded examinations, and academic load standards. Short quizzes on each segment with pass/fail grading would provide quality control. Other nonstandard features of segmented courses include modified versions of the project management tools PERT and CPM, unique statistical techniques for selecting series of two or three local/televised classes for weekly scheduling, nearly unlimited self-pacing, student interest groups, and optimum utilization of the superlearning technique.

The computerized fiber optic school network is my own design. The proposal contains approximately 180 pages and describes several small-scale research projects which should be funded in varying amounts to gain additional information on its workability. Marketing such a radical and complicated program to bureaucratic metropolitan school districts presents an unusually difficult marketing challenge.

The country has a large city near the resort complex which could be a good place to build a prototype network. Its schools may be much more flexible and open-minded than American schools. A multipurpose optic fiber cable could be laid between this large city and the resort complex. Then a satellite campus in the resort complex could be a part of the school network and provide high-technology education to the children of the people working and living at the resort complex.

An optional feature of the school network would be a "virtual reality occupation simulator". There ought to be a huge market, but the technical requirements for such a machine appear almost impossible to meet. The same machine would have to simulate for example a dentist pulling a tooth, laying an oil pipeline across Siberia, welding, carpentry, drafting, the mechanics of a stockbroker buying and selling stock, golf course maintenance, valet parking, etc.

After a person is wired up and fitted with position sensors, pressure actuators, etc., the computer would then have to generate an initial mathematical model of the person's geometry and coordinates. As the person moves and reacts to pressure, sounds, and visual images, the computer would have to instantaneously respond accordingly with signals to the pressure actuators, earphones, goggles, etc.

So a student "drilling" a virtual reality tooth in a virtual reality dentist's office would feel and hear the vibration as he or she moves the drill around the virtual reality patient's tooth. There would have to be safety limits built into the software so that the student doesn't receive unvirtual reality injuries from, for example, getting bit in the fingers by a virtual reality patient who suffers an unexpected virtual reality epileptic seizure!

The required computer would have to be cheap and yet be in the supercomputer class with an enormous instant access data storage device. No such machine now exists. However, ACC Labs expects to commercialize within a few years several computer technologies which together should be able to comfortably meet the extreme requirements of the virtual reality occupation simulator.

Twelve of its 90-gigabit transcapacitor (T-CAP) storage devices will be able to store over one trillion characters (bytes) in a space the size of a flashlight battery. One variation would be a "neural network array" based on 24 billion software configurable nodes.

ACC Labs' liquid addressable memory device (LQ-RAM) would have a capacity of about 10,000 to 100,000 times the density of today's S-DRAM DIMM memory, with longer refresh rates, lower power consumption, and a much higher speed - on an order of 3-800 gigahertz cycle times and even faster. Using both T-CAPs and LQ-RAMs, the entire contents of the Internet's World Wide Web can be stored in a desk-sized storage device, and then retransmitted in a few moments.

Torsion Field-Based Communications

Practically unknown to Western science, several groups of Russian scientists have been developing torsion field physics and apparatus in secret for over three decades. A torsion field is a scalar product of two electromagnetic fields under special conditions. For example, a torsion field can be generated at the interface between two magnetic fields sweeping past each other. Torsion fields come in at least three different types – E fields, S fields, and G fields.

Russian astronomers have determined that torsion fields are transmitted at a speed of one billion times the speed of light. Physicists at Los Alamos National Laboratory have transmitted Mozart's 40th Symphony at 4.7 times the speed of light using torsion field generators and torsion field sensors. The European physics laboratory CERN has determined that torsion field information can be transmitted through 20 miles of mountain without attenuation.

Several first-ever torsion field patent applications have been submitted. A unique design has been developed for a counter-rotating torsion field generator based on a newly patented micro-solenoid technology, counter-rotating mono-polar magnetic plates, mono-chromatic standing wave lasers, and some scalar parallel processor technologies from the Swiss Institute of Technology in Zurich. A commercial version is scheduled for demonstration by late 2000 which will be able to universally transmit information through the entire earth at many times the speed of light with a bandwidth wide enough to allow transmission of three-dimensional holographic video on 16.7 million separate channels.

Gravimetric Sensors

The grand design for a working model of a highly directional and very inexpensive gravimetric sensor device has been developed. Its purpose will be to provide people with a way to detect large objects in space and plot their position in real time. This will make it possible to develop a baseline from which we can then extrapolate the rate at which this information is conveyed via transverse gravitational waves - expected to be greater than 1,000,000,000 times the speed of light. This will provide a cogent baseline to support the concept of superluminal velocities in data transmission via torsion field devices. This project could use some capital - probably in the $75-100K range and has the potential to set a whole new standard for astronomical observation techniques.

Small-Scaled Energy Production

Large-scaled centralized electrical generation facilities typically require costly fuel, pollute, use up large areas of land for generators and power lines, are unsafe in the case of nuclear, have limited operating lifetimes of a few decades, and inherently subject large regions to blackouts. The country where the resort complex is to be located currently is expanding its electricity generating capacity by building large-scaled fossil-fueled power plants.

Small-scaled decentralized electrical generating units ideally do not require any costly fuel, do not pollute, only require a square meter or two of floor space, are standalone and do not interlock with a power grid, and are dependable.

What are referred to as "renewable" energy sources are receiving much attention and R&D support. They include producing and using hydrogen as a fuel, fuel cells, solar, and wind. Some types are already in use such as windmills, solar water heaters, and solar box ovens for cooking. (I myself own and use a solar box oven with excellent results, particularly with baking delicious potatoes.) While the intent is laudable and much clever engineering has been accomplished, solar and wind, for example, are inherently not completely satisfactory sources of energy.

The international science network seems to focus mostly on developing unconventional new sources of energy. The basis of many of their devices is extracting energy in some fashion from the ether (see Etheric Weather Engineering above).

The hydrosonic pump (see above) is a rare example of an unconventional new source of energy which is actually being commercially manufactured and sold. The pulsed abnormal glow discharge reactor is one of many examples of unconventional new sources of energy that, to my knowledge, are not currently being commercialized.

The country's people may be interested in starting up a massive new industry specializing in researching and commercializing new sources of energy, particularly etheric energy. They could follow a path similar to Taiwan becoming a strong computer manufacturer, for example, even though Taiwan is merely an out-of-the-way island.

Since such an organization is a new concept with me, what follows are some thoughts I have come up with:

Our first task should be to try to define somewhat just what is it the new organization is supposed to research and commercialize. The mission of Ether and Charge Cluster Engineering, Inc., (which seems as good a name as any other) would be to take advantage of this small country's freedom from scientific dogma and pioneering entrepreneurial spirit in researching and commercializing applications of etheric energy, the existence of which is pooh-poohed by practically all physicists.

The potential applications of etheric energy are diverse. Major categories I can think of are:

Over-unity gain energy conversion by rotating magnets and electronic circuits
Plasma-injected transmutation for radioactivity amelioration, thermal energy production, and manufacture of scarce elements out of more plentiful elements
High-density charge clusters
Radiovoltaic, petrovoltaic, and super-capacitor batteries
Self-powered electric vehicles
Niches in agricultural technology
Medical treatment devices
Self-powered heating, air conditioning, and ventilation equipment
Stand-alone power supplies for appliances, office equipment, instruments, etc.
Anti-gravity

Weather control
Shape power
Space flight
Archaeology
Machine tools
Electrical power generation

Ether and Charge Cluster Engineering, Inc., should establish a close relationship with the local university's engineering departments for two reasons: One would be to build up, organize, and document the theoretical underpinnings of ether engineering. The other would be to train and inspire young engineers in the exciting new field of ether engineering.

There was a similar situation during the 1950's and 1960's where Stanford University's electrical engineering faculty helped start the computer and semiconductor companies of the now fabulously successful Silicon Valley. I see a similarly wealthy "Ether Valley" starting up in the country's capital city. It could be a sound business decision for several reasons:

- The country could get rid of its coal-fired power plants.
- The country could ensure its long-term financial and energy survival by commercializing new sources of energy and other applications of etheric energy while its primary electrical energy generation and distribution business gradually disappears.
- Ether and Charge Cluster Engineering, Inc., could greatly enhance the livability of employees, customers, friends, relatives, and shareholders who live in the country by eliminating smog, reducing living costs, improving health standards, controlling the weather, and removing unsightly power lines and transformers.

PacifiCorp Holdings, Inc., an Oregon public utility holding company and the third largest power utility west of the Mississippi River, has already set a precedent by investing $1,000,000 in Blacklight Power, Inc., of Malvern, Pennsylvania. Blacklight Power is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. Blacklight has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

Blacklight is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. Blacklight Power, Inc., also claims on its Web site that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles. Parked in a garage, it would seem that the car's battery charger could feed electricity back into the electric power grid and help pay for the car. However, generators in homes and small businesses pose a safety problem for power company workers who normally assume the power is off from the central generating stations when there is a blackout.

The price of Blacklight Power's stock in private offerings has increased from $.75/share in 1991 to $1,500/share in 1996 (not publicly listed). A recent stock offering sold $5,000,000 in one week and may close at $10,000,000. Because energy is one of the world's largest industries, Blacklight Power offers an example of how lucrative a validated new source of energy can be.

As a public service, I would be happy to work part-time as an advisor to Ether and Charge Cluster Engineering, Inc. Film Funding, Inc., for whom I consult, is experienced at incorporating new Nevada corporations and has worked with many startup companies.

I am acquainted with many of the key scientists and inventors who have done so much to create physical etheric devices as well as develop ether physics. I think I can easily line up an advisory board of highly qualified technical consultants.

There seems to be a high likelihood of productive ether engineering research that could be accomplished for two or three more decades. The initial emphasis of Ether and Charge Cluster Engineering, Inc., should be to commercialize an existing inventory of devices and technologies that are at least close to being ready to market and to which Ether and Charge Cluster Engineering, Inc., could acquire licenses and rights. It should be reminded that commercialization of any inventions is contingent upon acquisition to patents, licenses, rights, territories, application fields, etc.

I am certain that a modest amount of advertising in publications which cover the ether and charge cluster engineering fields such as New Energy News, Electrifying Times, Journal of New Energy, Exotic Research, Planetary Association of Clean Energy, Space Energy Journal, Nexus, and Infinite Energy - Cold Fusion and New Energy Technology would attract additional inventors.

However, it is crucial that Ether and Charge Cluster Engineering, Inc., first establishes a reputation for being fair and responsible when negotiating with inventors for the rights to their inventions. It is also crucial that Ether and Charge Cluster Engineering, Inc., recruits competent staff not only for engineering and management, but also for evaluating the reality and economic worth of ether-related inventions.

The human species has laboriously pulled an impressively diverse mix of new energy technologies out of the dark hole of its ignorance. (I have counted about 50 new sources of energy in this report.) Sometime in the future, Ether and Charge Cluster Engineering, Inc., could conceivably find a particular energy technology it has commercialized in competition with some other energy technology. By simultaneously commercializing a variety of ether-related energy technologies, I am confident that profitable niches in the immense energy business as well as applications of etheric energy to industries unrelated to energy production can be found for many years to come.

What follows is a sampling of energy inventions - at least nearly all of which could be candidates as small-scaled energy production units and, in some cases, even as off-grid electricity generators. Please keep in mind that some may require additional development and/or verification.

High-Density Charge Cluster Technology. Nearly solid-state electrical energy converter (U.S. Patent 5,018,180) with a stable over-unity power conversion gain of approximately 5. The gain can be cranked up to a maximum of approximately 30 but then loses stability. A fax sent August 1996 reported that it now "appears capable of providing 1 kilowatt of thermal energy plus 1 kilowatt of electrical output per cubic inch with a power supply (small) and heat exchanger". The high-density charge cluster device also offers ease of manufacture as well as compactness. It is thought that this new technology is so fundamental that ultimately 1,000 doctorate theses could be researched and written by academia. For example, one university is researching flat-panel displays based on high-density charge cluster technology. High-density charge cluster technology

appears to be a credible candidate for an advanced self-powered electric vehicle's on-board battery charger.

Low-Energy Nuclear Transmutation - A Primer for Non-Physicists. The physics of high-density charge cluster technology can be explained somewhat by the following which was written primarily for non-scientists. Low-energy nuclear transmutation is thought by some to be the basis for these technologies mentioned elsewhere in this compilation of advanced technologies: pulsed abnormal glow discharge reactor, cold fusion reactor with thermal-to-electric conversion, fiber-based cold fusion power cell, hybrid cold-fusion hydrogen reactor, and gas-phase catalytic fusion.

Atoms comprise of negatively charged electrons whirling around a relatively small nucleus of neutrons and positively charged protons. Protons have a mass 1836 times the mass of electrons. A neutron is a combination of an electron and a proton with zero net electrostatic charge. An atom's number of protons and its equal number of electrons determine its type of element. Only when a positive ion (such as a proton or nucleus of a helium atom) penetrates an atom's nucleus does the atomic nucleus become another element (or another isotope of the same element) or becomes unstable and splits (fissions) into two or more elements.

For decades, physicists have assumed that changing (transmuting) elements always requires high energies. Elaborately expensive machinery was required to accelerate a positively charged particle of less than atomic size to a high enough energy to overcome the electrostatic repulsion of an atom's nucleus and penetrate its interior.

The inaccurately named "cold fusion" is only one of several types of physical phenomena which indicate the existence of a mechanism by which elements could be changed to other elements without seemingly requiring very high energies. However, the secret of cold fusion's excess heat had remained a mystery until September 13, 1996 when Kenneth Shoulders explained how the fracturing of palladium loaded with hydrogen (deuterons) could produce high-density charge clusters and cause nuclear reactions. Based on this evidence and on the pioneering work of Rod Neal and Stan Gleeson, a trio of physicists, Hal Fox, Robert W. Bass, and Shang-Xian Jin, finally deduced a more complete theory of the nature of the mechanism which extends beyond the discovery of cold fusion. The magnitude of their fundamental scientific discovery can best be appreciated by considering that Hal Fox's Fusion Information Center, Inc., has collected over 3,000 papers on cold fusion since its discovery in 1989 without anyone being able to offer a complete understanding of just how cold fusion works.

What follows is a simplified explanation of their remarkable concept using an analogy of electrons as ping pong balls and protons as bowling balls. Visualize a room with one wall as the positive plate connected to the positive terminal of a battery, and the opposite wall as the negative plate connected to the battery's negative terminal. Each ping pong ball is negatively charged and when released at the negative wall, electrostatic repulsion/attraction will cause the ping pong ball to fly across the room to the positive wall. Each bowling ball is positively charged and when released at the positive wall, it will roll slowly in the opposite direction across the room to the negative wall.

Both the ping pong ball and the bowling ball have an equal but opposite electrostatic charge. So therefore they both draw the same amount of electrical energy from the battery as they fly or roll from one wall to the opposite wall. But because the ping pong ball is so much lighter than the bowling ball, the ping pong ball will strike the opposite wall at a much greater speed than the bowling ball.

Now assume that 1,000,000 ping pong balls are released as a cluster at the negative wall. (At a high enough density, electrons will forget their mutual electrostatic repulsion and cluster in the same manner as ball lightning. Mother Nature sometimes pulls weird tricks.) Embedded in the ping pong ball cluster are 10 bowling balls. Because there are so many more negatively charged ping pong balls, the positively charged bowling balls are going to stick with the ping pong balls and ignore the attraction of the negative wall and the repulsion of the positive wall. So therefore the bowling balls hitch a free ride along with the ping pong balls. When the bowling balls hit the positive wall along with the ping pong balls at the same speed as the ping pong balls, the bowling balls will hit the positive wall with enormously greater energies than if they had hit the negative wall, rolling slowly alone, in the opposite direction.

In the same manner, protons (and other types of positive ions) in "low-energy" nuclear reactions are hurled into the nucleus of atoms by their "piggy-back" ride on high-density electron charge clusters with sufficient energy to split or transmute atoms. This mechanism apparently is the secret of cold fusion's excess heat, eliminating radioactivity, transmutation of common elements into scarce elements, and powerful new atom smashers small enough for college physics laboratories. If the new theory holds up to scrutiny by other physicists, it might win a Nobel prize in physics.

Cold Fusion Reactor with Thermal-to-Electric Conversion. These are small reactors similar to electrolytic cells which produce more thermal energy than their electrical energy input. Power gains have reportedly been measured as high as several hundred. When atoms are being transmuted under specialized low-energy conditions, thermal energy is released. The heat can be directly converted to electricity. The electricity could then be transmitted to another geographically separate site and used to power two or more reactors. Reactors could in theory be cascaded indefinitely. Two drawbacks of cold fusion are the requirement for water and the need to occasionally replace electrodes. Some cold fusion researchers have changed the terminology to "low-energy nuclear transmutation".

Hybrid Cold-Fusion Hydrogen Reactor. This reactor is intended to be an economical super-efficient heater for homes and as a hot water heater. The device is so new that its potential ultimate electrical input-to-thermal output conversion gain is yet to be experimentally determined. Applications could include heating homes and other buildings, greenhouses, and fish tanks. The electrodes are made of nickel. Because the country has nickel deposits, it could manufacture its own hybrid cold fusion hydrogen reactors.

Gas-Phase Catalytic Fusion. Activated carbon catalysts are loaded with various precious metals (by weight, in the range of 0.1% to 0.5%). Palladium works best so far. When these catalysts are heated, considerable excess heat is produced reliably when such catalysts are exposed to several atmospheres of heavy hydrogen gas (deuterium gas). Pairs of deuterium atoms are fused to produce waste helium-4 atoms plus abundant clean heat. No lethal radiation is released. One cubic kilometer of ocean water contains enough deuterium that when catalytically fused, the energy released equals the chemical combustion energy in all of the earth's known oil reserves. With suitable insulation, the process, once started, is self-heating. Temperatures can rise well above the boiling temperature of water. Engineered with efficient heat exchangers, thermal/electrical energy generators can be built in sizes for applications ranging from mobile homes to large centralized generating stations. No electrolysis is involved nor are finicky electrodes required as with some other types of low-energy nuclear transmutation devices. However, the device's requirement for rare precious metals such as palladium could hinder widespread use.

Fiber-Based Cold Fusion Power Cell. This is a cold fusion reactor which is highly competitive with the Patterson Power Cell™. Patents have been applied for. Demonstration products could be manufactured and prototypes readied for distribution within six months after funding. International Nickel Company is considered a strong strategic partner. (The resort's country has nickel deposits.)

Light-Polarizing Photovoltaic Film. The light-polarizing photovoltaic film known as LUMELOID™ is a stretch-oriented polymer film about 0.3 microns thick which mimics photosynthesis. Light energy is absorbed in a molecular antenna which converts it to electron energy. The electron energy is then rectified by a molecular tunnel diode comprising an electron donor, an insulating space and an electron acceptor. Voltage and current is generated in the plane of the film parallel to the stretch axis.

Conventional silicon photocells are 25% efficient in theory, but in practice attain only 4-10%. The silicon concentrator cell theoretically has a 32% efficiency, but in practice has reached only 15%, and is too expensive.

LUMELOID™ has a theoretical efficiency of 72%. Initially its efficiency is expected to be comparable to existing photocells. However, because of the film's high theoretical efficiency, with further R & D, LUMELOID™ is expected to soon surpass conventional photocell efficiency. More importantly, the low cost per watt of LUMELOID™ represents a tremendous cost decrease over presently available sources of solar energy and would facilitate its early acceptance in the energy market.

The projected cost of the basic LUMELOID™ thin film is $1.00 per square meter, and the assembly which comprises a LUMELOID™ film on a substrate with microelectronics circuitry, is about $5.00 per square meter. Its capital investment cost is about 30¢ per watt. This is a fraction of all conventional electric energy producing technologies. The capital cost of fossil fuel generation from large power plants is over $1.50 per watt, nuclear energy is more than $6.00 per watt, and present semiconductor photovoltaic devices are more than $4.00 per watt.

LUMELOID™ will be available in rolls at low cost, affording easy transportation, and any amount of power during sunlight hours by just rolling it out flat on any surface. Eventually with the development of QUENSOR™, which is like a very thin battery (see below), a combined LUMELOID™-QUENSOR™ sheet may be spread out on a roof or on the ground, and will provide electric power day and night, available on demand.

"Diad" is an acronym for donor-insulator-acceptor-device which acts as a diode. Molecular diads have been chemically synthesized. LUMELOID™ incorporates diads in a stretch-oriented electrically conductive polarized film. The linear polarizing molecule in the film acts as antennae to absorb a resolved component of the energy of the light photons in the plane of the film. Diads are essential in LUMELOID™ to convert the energized electrons to unidirectional (DC) electric power.

When two polarized films are positioned with their stretch axes perpendicular, light is almost completely absorbed. Using two crossed films with electrodes connected in series or parallel, ordered diads in LUMELOID™ enable the conversion of light to electric power at 72% theoretical efficiency. This principle was demonstrated at the Jet Propulsion Laboratory by converting microwave to DC electric power using rectifying antennae at 82% efficiency.

Femto Diode Photovoltaic Glass Sheet. The LEPCON™ femto diode concept is similar in principle to LUMELOID™, which provides a technology mimicking photosynthesis, absorbing light energy with a molecular antennae structure, and rectifying the electron energy by the known phenomena called electron tunneling. In contrast to LUMELOID™, however, LEPCON™ comprises the durable materials of sub-micron metal on a glass substrate sheet. (A “femto” is one quadrillionth (10^{-15}).)

A device for fabricating LEPCON™ photovoltaic sheets in commercial production is called “Supersebter”, an acronym for Super Submicron Electron Beamwriter. The Supersebter utilizes 100,000 rows and 100,000 columns to position 10 billion electron emitters on a square meter sheet by a lithographic process. This process produces 10 billion electron beams simultaneously to write the nanostructure patterns of femto diodes on the sheet. A square-meter LEPCON™ photovoltaic sheet could be produced in twenty seconds at a cost of about 50¢ per watt and a lifetime expectancy of over 50 years.

LEPCON™ panels could be utilized by utility companies in solar farms. It has been calculated that LEPCON™ panels covering a 150-kilometer x 150-kilometer area in a desert region could produce over 250,000 MW of electric power, enough for most of the United States.

This successful commercial fabrication of the LEPCON™ femto diode structure should lead to many other advanced nanostructure devices. For example, computer circuitry could be miniaturized 100-fold, efficient laser lighting devices could be produced, and vast improvements could be made on high-definition 2D to 3D TV flat-panel displays. (The 1993 Alvin Marks patent on a monomolecular resist significantly increases the resolution of the nanostructures.)

Quantum High Energy Density Storage or Retrieval Device. Essentially a very thin battery, the solid-state Quantum High Energy Density Storage or Retrieval Device (QUENSOR™) has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

A composite photovoltaic LUMELOID™ and QUENSOR™ panel may be used for the storage or retrieval of solar-electric energy day or night on demand.

Eight patents protecting the LUMELOID™, LEPCON™, and QUENSOR™ technologies have been issued, and additional patent applications have been filed.

Buried Contact Multijunction Thin Film Solar Cell. In the past, to produce high-performance solar cells, expensive high-quality solar cell material were required. This new solar cell approach produces high efficiency cells but with the use of much lower quality material than previously possible; material 100-1,000 times lower in quality than the worst presently used in commercial silicon cells. Using this approach, the major material costs in making the modules becomes the cost of the glass used in the modules.

The approach involves the deposition of a very thin layer of silicon upon the glass cover. During deposition, fluctuations are introduced in the properties of these layers to produce a multilayer structure. Three separate ideas are combined:

The first new idea is to use a multilayer structure, which provides the tolerance to the use of low quality material; material 100-1,000 times poorer than the worst used in present commercial cells. The second is using a laser grooved approach which allows correct contacting to each of the layers in the cell. The third is the automatic series interconnection of the cells which results from the laser grooving approach and greatly simplifies module fabrication, contributing to low processing costs.

High efficiency can still be obtained by this approach but with material costs not appreciably higher than the glass used in the modules. In the normal approach, material costs alone are over $2 per watt of electrical output. In the new approach, material costs are only about 10 cents per watt, about 20 times smaller. Total solar power costs are expected to be cheaper than fossil or nuclear power.

Solar Hydrogen Producer. This simple device efficiently uses all solar wavelengths to make hydrogen in abundance. The hydrogen could replace natural gas in pipelines, and be a base for the so-called “hydrogen economy”.

Hydrogen Tank. A hydrogen tank was developed by the same inventor (now dead) of the above solar hydrogen producer that is so safe it can be punctured with rifle bullets.

Super-Steam Technology. This machine combines compressed air, untreated or even polluted water, and almost any combustible fuel to produce steam at any pressure or temperature. The response is instant compared with a conventional boiler taking hours to reach operating pressure and temperature. The efficiency is over 90%, which compares favorably with a conventional boiler’s efficiency of 40%. Maintenance costs, fuel consumption, and air pollution all go way down. 3500 applications have been found for super-steam technology. Electricity can be generated for 1 cent per kilowatt-hour. Super-steam technology can be scaled from the size of a one-pound coffee can to a house.

Super-steam technology could be combined with the aforementioned solar hydrogen producer and hydrogen tank for on-site renewable energy uses.

Double-Exposure Flat-Plate Solar Collector. Apparently combines photo-voltaic and solar thermal collecting.

Environmental Heat Engine. Has some similarity to refrigerator or heat pump. Working fluid of ammonia or carbon dioxide is expanded by propane heater, cold fusion thermal reactor, or environmental heat to move pistons. Applications include vehicle engines, small-scale on-site electrical generators, and large-scale water lifters for dams and canals. (Could double electrical output of Hoover Dam.) This is a variation of Dennis Lee’s low-temperature phase-change engine which the inventor (now dead) claimed is superior to Lee’s engine.

Brown Nuclear Battery. Small "nuclear" battery uses tritium to power small circuits and electrical devices for several years. Tritium is a radioactive isotope of hydrogen with a half-life of 12 years. These nuclear batteries use beta emitters which are similar to devices used in smoke detectors and to illuminate wrist watches. The key approach is the methods used by the inventor to "funnel" the emitted beta particles (electrons) into the affiliated circuits so that a useable voltage is produced.

The Brown nuclear battery has many uses, especially for computer-chip applications. A very small "nuclear" battery can be used to power a computer chip or computer chip set for several years. The battery could be about the same size as the packaged chip and be mounted directly on or adjacent to the chip. Many other applications are available. The nuclear radiation consists of beta particles which are electrons and can do no harm unless the battery material is ground up and swallowed.

Perpetual Battery. The hyper-cap E-converter is a thick quarter-sized battery which would put out .001 watt "forever" for such applications as critical components inside fail-safe computers, cellular telephones, etc. The energy comes from tapping ether fluctuations.

Clem Over-Unity Vegetable-Oil Engine. Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine's durability, the only working model of the Clem engine has been continually running on his son's farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump at the resort area could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop in the resort's country for manufacturing hollow shafts and cones. Off-the-shelf components could be shipped in for subsequent commercial assembly and sale of Clem over-unity engines. Hydrosonic pumps could be either shipped in or locally manufactured under license and then combined with Clem engines into desalination units. The market for efficient self-powered desalination units ought to be enormous. Unfortunately, I have no idea as to the maximum practical size that self-powered desalination units could be built.

Water Engine. Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank's pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. The existence of zero-point electromagnetic radiation was discovered in 1958 by Dutch physicist M. J. Sparnaay. Zero-point electromagnetic radiation is the same as the electromagnetic waves radiated from radio and television antennas except that the frequencies are random, incoherent, are present everywhere in the universe, and vary from zero cycles per second to infinity. Other names include "zero-point energy field", "vacuum field energy", "etheric energy field", and "ether".

Mr. Sparnaay had continued the experiments carried out by Hendrik B. G. Casimir in 1948 which showed the existence of a force between two uncharged parallel plates which arose from electromagnetic radiation surrounding the plates in a vacuum. This force has since been named the "Casimir effect" to honor the discoverer. (See "Casimer Effect Self-Charging Energy Cell" below.)

Mr. Sparnaay discovered that the forces acting on the plates arose from not only thermal radiation but also from another type of radiation now known as classical electromagnetic zero-point radiation. Mr. Sparnaay determined that not only did the zero point electromagnetic radiation exists in a vacuum, but also that it persisted even at a temperature of absolute zero. Because it exists in a vacuum, zero-point electromagnetic radiation is homogeneous and isotropic as well as ubiquitous.

In addition, since zero-point electromagnetic radiation does not vary, the intensity of the radiation at any frequency is proportional to the cube of that frequency. Consequently the intensity of the radiation increases without limit as the frequency increases. The result is an infinite energy density for the radiation spectrum. (See "Etheric Weather Engineering" above for additional discussion.)

The special characteristics of the zero-point electromagnetic radiation of having a virtually infinite energy density and that it is omnipresent even in outer space make it very desirable as an energy source. However, the high energy densities only exist at very high frequencies. These large energies can be collected with small antenna-like structures (frequency is inversely proportional to size). But the frequencies are so high that they are unusable for practical energy uses.

With two antennas of very slightly different sizes, the converter collects zero-point electromagnetic radiation of two very slightly different frequencies. The converter then superimposes the two frequencies which results in a far lower beat frequency. The energy contained in the beat frequency is then transformed to practical electrical power which can be made available in any location on earth or in space. Applications include transportation, heating, cooling as well as many others.

Water-Fueled Internal Combustion Engine with Garrett Electrolytic Carburetor. Henry "Dad" Garrett and his son, Charles H. Garrett, in 1935 patented and exhibited an automobile that ran on water substituted for gasoline. Actually, the fuel was hydrogen after the water was broken down by electrolysis. The only items needed to convert a gasoline-powered auto to a water burner was an electrolytic carburetor and installation of a generator of double normal capacity for the breaking down of the water. Instant starts in any weather, no fire hazards, cooler operation and plenty of power and speed were claimed.

Rather than store the inflammable hydrogen, the same process makes the gas without a storage chamber in which the flames from the motor's cylinders might react. Water is broken down into its component gases by passage of an electric current through it from electrodes immersed in the water. Hydrogen collects at the negative pole, and oxygen collects at positive. The hydrogen is then mixed with air and introduced directly into the cylinders. For an ordinary automobile, an electrolysis chamber of about a quart in capacity is big enough.

In summary, this simple process can provide:

- Heat - through the burning of hydrogen/oxygen.
- Power for local energy generation - the explosive energy to drive a piston to drive a shaft to power a generator. The generator then charges a battery network which feeds an inverter (converts DC to AC) to run your house.
- Motive power for transport power - explosive energy drives the piston to drive your vehicle.
- Light - condoluminescence - hydrogen/oxygen exposed to phosphor-coated surfaces for light generation.
- Sound amplification - flame speakers where flame is electrostatically deflected at audio rates to produce sound. The hydrogen/oxygen mix is generated *locally* rather than using bottled gases such as propane, butane, etc.

Papp Engine. Joseph Papp was granted US Patent #3,670,494 for his "Noble Gas Plasma Engine". A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

A demonstration of the Papp engine to representatives of the Stanford Research Institute resulted in killing one person and injuring another. Papp himself is believed to have died from apparent neutron radiation from his engine.

Jim Kettner of the Space Energy Association recently stated in a letter to me that this is the best self-running device he knows of which can produce substantial amounts of power. A variation of the Papp engine is currently being built by Jim Sabori and, if sufficiently funded, was to have been ready by the end of 1998.

In a recent letter from Hal Fox of Trenergy, Inc., Fox states that he believes that the Papp engine works but hopes that much simpler ways of making energy can be developed. There are several groups working on versions of the Papp engine. It seems to keep recycling through the new-energy community.

Muller Motor/Generator. Electrical generators in common use require external torque from gas, hydroelectric, and steam turbines, for example, to overcome back electromotive force. Bill Muller's magnetic motor/generator eliminates back electromotive force. The coils are removed from the rotor and instead wrapped around powerful magnets equally spaced around the stator. Magnets are also equally spaced around the rotating disk. However, the number of rotor magnets is one more than the number of stator magnets.

A typical commercial motor involves pushing and pulling magnetically where in the Muller motor/generator only the magnetic pulling effect occurs. A perfectly balanced arrangement of the magnets results in a disk-like rotor that can be turned with no effort at all. The completely reversible result is if current is applied to the stator coils, the rotor turns. If the rotor is turned, the stator coils can generate current to be supplied to a load.

The stator coils are wrapped around cores made of inexpensive Muller-patented amorphous material which eliminates heat-producing hysteresis and eddy current losses. Because of instantaneous saturation and permeability, much less wire is needed for the stator coils which greatly reduces both ohmic resistance losses and inductance losses. No brushes are needed like in conventional direct current generators and motors which wear out. Bearing friction losses are greatly reduced by both weight reduction and using Muller's cone-shaped magnetic bearings (patent applied for).

Electrical Generator. Two pairs of electromagnets warp permanent bar magnet's magnetic fields across field coils to achieve over-unity electrical energy conversion gain, the magnitude of which is unknown. Requires additional resonant circuit components. Appears to be a potentially robust generator of electricity.

Self-Contained Power Supply. Uses tightly wound coil spring, flywheel, and magnets to achieve over-unity energy conversion gain. Potential market is as a battery pack replacement.

Motor/Generator. Incorporates permanent magnets which provide the drive torque by pulling rotor and stator poles together with an electromagnetic *opposed* excitation input pulsation used to weaken that magnetic pull to allow the poles to separate. Power output claimed to be 3 times power input.

WIN Zero Point Electrical Energy Converter. Extracts AC current with an output power over input power gain as high as 268.6%. It generates electricity by collecting electrons between E-dam cermets in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimer effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input.

Conversion of Aluminum Internal Combustion Engines to Magnetic Motor. Heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle. If the electric motor is replaced with a Muller magnetic motor (see above), the combined energy conversion gain is projected to be about 300.

Searl Effect Generator. The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don't touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a "governor", either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG's primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small "inverse gravity" vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue.

The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

A German power company is reportedly considering replacing a nuclear power station with eight fuel-less SEGs costing a total of about $4.5 million and generating a total of 240 megawatts with no pollution.

Gravito Magnetic Device. The gravito magnetic device (GMD), also known as the David Hamel machine, is a cheap version of the Searl effect generator (SEG) (see above) that can be built with off-the-shelf components. The GMD has magnets attached to radial spokes or arms that are jointed. These magnets are floated in a magnetic housing and when properly biased, continue to spin, gaining momentum and speed with each rotation and achieving the same tremendous electrostatic buildup on the outside rim as the SEG.

The parts inside the GMD are configured in such a way as to promote an enclosed constant variation of opposing magnetic fields. In the resting state, the moving cones are balanced and stabilized in a magnetic field repulsion, like a magnetic bearing. The startup of the GMD is initiated by lowering a magnet at the center top of the shell, inside the shell, towards the momentarily magnetically balanced moving cones.

As the center magnet, which opposes the one attached at the center of the upper moving cone, is lowered inside the GMD, it forces the upper cone to move sideways, shifting the magnetic balance between the cones inside the GMD. The cones stay offset to each other for a short while and then plasma-like energy starts to build up around the GMD. This energy built up creates a shift of colors from red-orange to light blue and then white. Following this effect the GMD starts to lose weight and quickly generates an upper lift in a greater ratio than its total weight.

It should be emphasized that the power generated, surrounding the GMD, is extremely powerful and radiates, causing interruptions of electron flow in normal electrical systems, i.e. lights, cars, transformers, and interferes with electromagnetic transmissions. So it is without saying that this machine has to be operated with serious caution when completed and activated. However, if a control system is in place, it is easy to stop its effect. One of the main purposes of GMD research is to understand the effects of enclosed opposing magnetic fields that have varying vector angles.

The GMD is potentially a versatile, useful technology which also generates antigravity. The GMD has a powerful upward thrust causing it to rise in the air in a manner similar to a Searl effect generator (see above). (The first assembled model after two hours of increasing spin velocity unexpectedly crashed through the roof and escaped.) When the inner workings of what causes the secondary electrogravitational fields are understood, it is probable that various devices can be created providing plentiful energy of different types.

It should be noted that all building materials for the GMD are readily available almost anywhere in the world, and the cost is relatively cheap. A lot of hand work is required but nothing that is unreasonably unattainable. No special machining or parts are required. Only patience and devotion is needed.

Casimer Effect Self-Charging Energy Cell. In the above article on etheric weather engineering, the force of gravity is described as the ether weakly pushing two objects such as a book and the earth into each other’s shadow. Gravity can also be thought of as the long-range version of the Casimer effect. The Casimer effect predicts that two metal plates close together will attract each other.

Consider the plates set at a certain distance apart. In the space between the plates, only those ether (vacuum) field fluctuations for which a whole number of half-waves just spans the distance can exist, just like waves formed by shaking a rope tied at both ends. Outside the plates, the fluctuations can have many more values because there is space. The number of modes outside the plates, all of which carry energy and momentum, is greater than those inside. This imbalance PUSHES THE PLATES TOGETHER.

The proprietary Casimer effect self-charging energy cell contains many extremely thin layers of carbon, magnesium, chromium oxide, and a couple of other elements and compounds. The result is analogous to a boat that has some rather large leaks. More water pours into the boat as fast as water is bailed out. Likewise, as electromagnetic energy is drawn out of the Casimer effect self-charging energy cell when inserted in an electrical circuit, energy is drawn in from the surrounding ether. Physically and functionally, the Casimer effect energy cell is like a solid-state battery that recharges itself with some valuable features such as simplicity and compactness.

Switched Reluctance Motor. The switched reluctance motor is a motor design that has been around for many decades but has never been commercialized. The inventor of the Casimer effect self-charging energy cell is also developing an efficient commercial version of the switched reluctance motor specifically designed with modern switching components. The intended end use is for powering electric vehicles. The switched reluctance motor has the key advantages of ease of manufacture, simplicity, and allowing complete vehicle motion control. No claims are being made that it is capable of over-unity power conversion.

Most self-powered electric vehicle power train concepts involve combining an over-unity motor (to extend the range between battery charges) with an on-board battery charger and a pack of batteries or super-capacitors. The Casimer effect self-charging energy cell offers some important advantages such as much simpler mounting of one to several battery-like cells in the vehicle's engine compartment and greatly increased maintainability and dependability. With the cells' self-charging capability, the efficiency of the vehicle's electric motor thus becomes less of an issue. Electric motor features such as controllability, manufacturing cost, simplicity, and reliability can thus be given much greater consideration.

This particular self-powered electric vehicle power train combination may be the best one. If plugged into the electric grid while parked in the owner's garage, the revenue from running the electric meter backwards could eventually pay for the vehicle's purchase cost.

Joe's Energy Cell. The Joe's energy cell basically comprises of two metal containers, one inside the other. Both containers are filled with specially charged and cleaned water with the inner container perforated to allow water to freely move between the inside and outside of the inner container. The outside container is electrically connected to the anode of a battery, and the inner container connected to the battery's cathode. The outside container is closed except for an orifice to which a thin pipe is attached. The other end of the pipe is attached to the outside housing of the carburetor of a gasoline engine. Gas/energy is transferred to the carburetor through the pipe. The entire cell including the pipe must be electrically insulated from the engine.

Various designs and shapes of both containers have been experimentally built. The original and simplest comprised of both containers as long pipes with the inner pipe, which was perforated, inside the outer pipe.

At least fourteen vehicles in Australia have been fitted with different versions of Joe's energy cells to be driven without fuel nor battery charging. The engine, radiator and exhaust pipe stays cold enough to freeze water – warranting replacing water in the block with transmission fluid. The timing does have to be advanced between 25 and 80 degrees, depending on the type of engine, to allow the engine to run smoothly. The engine's power doubles over that when petrol-fueled.

The Joe energy cell is not explainable using conventional mainstream physics. It is not even known if the process inside the cylinders is implosion, explosion, or both. No gasoline is mixed with air inside the carburetor. It appears that zero-point energy is somehow drawn from the ether and converts the air entering the cylinders into some kind of fuel. The inventor claims the process increases the frequency and energy of the air.

For converting existing gasoline-powered vehicles into self-powered vehicles which don't require fuel nor battery charging from a local electric utility, adding the Joe's energy cell seems to offer by far the easiest modification. Nearly the entire engine is left alone. A separate heater would have to be provided since the engine runs cold. The vehicle will not rust, and paint will not oxidize.

Guy McCarthy guy@twelvestar.com has provided the following insightful analysis of the Joe energy cell from a biodynamics perspective:

[0.1] The "Joe Cell" (described in NEXUS magazine, Aug-Sep '98, pp. 43-46) is an electrical device attached to the carburetor of an ordinary automobile engine which allegedly enables it to run for extended periods with the fuel line disconnected.

[0.2] Biodynamics is a science of natural forces and agriculture inspired by the Austrian philosopher Rudolf Steiner. It pre-dates "Organics" as the original alternative to chemical/industrial agriculture. Biodynamics has achieved limited recognition in the United States and Canada, but is widely practiced in Europe, New Zealand, and Australia.

Main Text:

[1.0] The Joe cell uses water as a storage medium, which, when charged above a certain threshold, collects additional energy as needed by the engine. The initial charge is not depleted as the engine runs, but will dissipate under certain conditions. This matches a key attribute of the biodynamic ether, which attracts more ether to itself once the local concentration reaches a certain threshold. Without adequate boundaries (or storage conditions) the etheric charge build-up will dissipate.

[2.0] The motive reaction in the engine seems to be *implosion*, since the ignition timing must be advanced so far into the compression stroke. (Note that 80 degrees is nearly 2/3 of a typical compression cycle, which totals about 135 degrees in a 4-stroke engine.) Implosion may be considered equivalent to "a sudden condensation of the ether" which is also thought to be the motive reaction that creates lightning and thunder in the atmosphere. According to biodynamic researchers, condensation is a state change from a more rarefied ether into a less ratified one, releasing energy in the process.

[2.1] Biodynamics deals with four states of ether which are equivalent to the four elements intuited by ancient philosophers:

Warmth Ether corresponds to the Fire element
Light Ether corresponds to the Air element
Tone Ether (or "Chemical Ether") corresponds to the Water element
Life Ether corresponds to the Earth element

[2.2] In the physical world, substance tends to flow from a high potential to a low potential. This is what the concept of "entropy" and the Second Law of Thermodynamics are based on. But in the etheric world of living energies, the inverse is true. Ether is naturally attracted to itself and flows from low potential to high potential. This is why living organisms continue to draw nutrients and life forces into themselves while the rest of the world is supposedly running down. Ether penetrates substance, and substance influences ether. This dynamic interplay is essential to life on the physical plane.

[2.3] Under favorable conditions, the following etheric condensations will occur:

Warmth Ether --> Light Ether, releasing energy as lightning
Light Ether --> Tone Ether, releasing energy as thunder
Tone Ether --> Life Ether, releasing energy as biological manifestation

[2.4] Recall that lightning and thunder sometimes occur independently of each other (as in "heat lightning" and "rolling thunder"), while at other times they are closely linked. Clearly any reasonable explanation for these phenomena must allow for both cases. The common notion that lightning and thunder are caused by static discharge between air masses is clearly untenable. A buildup of static charge in such magnitudes could only occur under extremely dry conditions; the typical thunderstorm is certainly not dry.

[2.5] The biodynamic researcher points to a well-defined cumulus cloud in mid-summer as the ideal collector of etheric energy. Hour by hour it grows, drawing abundant warmth ether from the atmosphere into itself as well as particles of dust and moisture. The cloud builds itself taller and taller - its boundaries sharply distinct from the rest of the sky. Eventually the cloud becomes saturated - turning darker and forming a mighty thunderhead. At this point, anyone who is familiar with weather patterns in open country is headed for shelter. They know that a violent thunderstorm could be unleashed at any moment.

[2.6] Just a few months ago the author observed such a phenomena in central Maryland. The top of the cloud was puffy and brilliant white, illuminated by the late afternoon sun. In contrast, the bottom was flat and dark, laden with moisture. Great bolts of lightning began to crackle about its upper regions. The air felt clear and energized while all around trees were bending and twisting in sudden gusts of wind. When the storm finally broke it was both fearsome and beautiful, a mighty discharge of lightning, thunder, and rain.

[2.7] We can surmise that the Joe cell becomes highly charged with etheric energy, and that this charge is transferred through the carburetor to the air entering each cylinder. As the compression stroke begins the volume of air is compressed, causing a further concentration of etheric charge. Soon the air becomes saturated with ether. At this point conditions in the cylinder are similar to those within the thunderhead. The ignition spark, far advanced into the compression stroke, serves to catalyze a condensation reaction of the compressed ether. This sudden change of state causes the air mixture to contract sharply, generating power through the remainder of the compression stroke. Therefore the air mixture in each cylinder undergoes a structural change, not a chemical one, and the flywheel is driven by *suction* rather than combustion. With the exception of small amounts of vapor from engine oil and perhaps trace elements from the engine and muffler, the exhaust should be of substantially the same quality as the air intake.

[2.8] Since warmth ether is the most rarefied ether, condensation will have the effect of reducing or consuming warmth. Therefore implosion is a cool process, which tends to absorb heat rather than release it. This matches observations of the Joe cell in which the engine runs cold. Unlike combustion, implosion is a "living" process, and as such produces no waste heat or by-products.

[3.0] All three styles of Joe cell are based on concentric, insulated cylinders. This is similar to the classic "orgone accumulator" discovered by Wilhelm Reich. Reich found that metals tended to conduct ether while organic materials tended to absorb it. By layering the two types of materials together, Reich caused a directional flow of ether to occur. The orgone accumulator was a six-sided box constructed with alternating layers of metal and non-metallic materials.

[3.1] The inclusion of a 1.5-volt battery to maintain the charged condition (and a 12-volt battery to create it) is an interesting variation on the orgone accumulator design. There is precedent for this idea in electrogravity documentation that has become available in recent years. (See the USAF report "Electrogravitic Systems" that was released in 1995 as well as patents by T. Townsend Brown.) The basic idea is that a charged condenser exhibits a tendency to move towards its positive terminal. This is thought to result from a net movement of ether in the opposite direction (from positive to negative). Therefore a static electric charge stimulates a directional flow of ether.

[3.2] The Joe cell design implies a net movement of ether from positive to negatively charged terminals (i.e. towards the center of the cell and towards the engine).

[4.0] The transfer of energy to the carburetor is accomplished by several different conductors including plastic, copper, aluminum and rubber tubing. The common material in all of these configurations is the *air* inside the tubing. This is consistent with the biodynamic view that oxygen is an excellent carrier of etheric forces. (Fertile soils are said to contain 50% air for just this reason.) The metallic carburetor housing would conduct the etheric energy to its interior surfaces, where incoming air would absorb it and carry it into the cylinders.

[5.0] In conclusion, the Joe cell offers a compelling view of how ordinary combustion engines might be modified to run on natural etheric energy. This could be an important direction for future research. Validation of the concept could be approached in three phases:

[5.1] Collecting a high concentration of etheric charge. For some ideas on how to accomplish this, see "Geometric Energy Fields" at http://www.twelvestar.com/sourceworks/ which includes specific instructions for building resonant etheric devices.

[5.2] Stimulating a sudden condensation of ether by means of electric spark and measuring the implosion effect in a pressurized container.

[5.3] Achieving reproducible evidence of successive implosion events within a small engine mounted for laboratory testing.

Advanced Self-Powered Electric Vehicle Concept

Electric vehicles are clean, quiet, powerful, require much less maintenance than gasoline or diesel-fueled vehicles, and inherently much simpler and easier to manufacture. Their drawbacks have been a short range, long battery recharging time, and a heavy, bulky battery pack. Clearly, self-powered electric vehicles, if they could somehow be designed and manufactured at a reasonable cost, would be a commercial success. Forbes January 25, 1999 compares golf carts (400,000 already sold) with personal computers.
http://www.forbes.com/forbes/99/0125/6302088a.htm

Self-powered electric vehicles at minimum must satisfy four requirements: The battery ideally should not have the disadvantages of conventional lead-acid batteries such as temperature sensitivity, low charge-to-weight ratio, toxic materials, and finicky slow recharging. The electric motor should be durable and highly efficient. Heating and air conditioning must be provided. The really key difference from conventional electric vehicles is having an on-board battery charger.

Electric bicycles with only one battery are inherently more practical than conventional electric cars or trucks carrying a half-ton or so of batteries stuffed into every available nook and cranny of the vehicle. When just one battery out of one or two dozen batteries fails, the dead battery can be time-consuming to find before replacement. Once a dead battery is replaced, it could be a short time before another battery fails again. Besides weighting much less and with the batteries taking up much less space, a self-powered electric vehicle with an on-board battery charger would require at most only a few batteries.

What follows is a discussion of candidate technologies which could be combined into a reliable, commercially successful advanced self-powered electric vehicle.

BATTERY

Alvin Snaper's **Power Technology Battery.** Las Vegas resident Alvin Snaper (600 patents and new products) through his company, Power Technology, Inc., is developing a superior new battery with none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally friendly than lead. (For more information, see www.powerpwtc.com/business_of_issuer.htm.)

Maxwell Technologies **Ultra-Capacitor.** Since there is no heat nor waste product buildup as with electrochemical batteries, ultra-capacitors can easily last many hundreds of thousands of extremely rapid and deep charge/discharge cycles. They can supply repeated bursts of power for fractions of a second to several minutes. They are especially useful for supercharging power for accelerations or climbing. With their quick recharge capability, ultra-capacitors can easily capture regenerative braking energy, extending the range of the vehicle. For increased safety, they can be stored, assembled, maintained, and transported while completely discharged. Since the energy stored is directly related to the voltage, the amount of available energy can be easily monitored. This precision eliminates the need for sophisticated state-of-charge algorithms. Other advantages include temperature insensitivity and low maintenance.

Capacitors are inherently more capable than electrochemical batteries of withstanding quick discharges of electricity to the motor when the driver demands high acceleration by stepping on the throttle. It is conceivable that ultra-capacitors could be combined with batteries to take advantage of the best performance characteristics of both types.

Maxwell Technologies' commercially available PowerCache™ ultra-capacitors pack up to 100 times the energy of conventional capacitors and can deliver ten times the power of ordinary batteries. Their ultra-capacitor is a double-layer capacitor incorporating a unique metal/carbon electrode and an advanced non-aqueous electrolytic solution. As a potential is applied across the terminals, ions migrate to the high-surface-area electrodes. The combination of available surface area and proximity to the current collector provide an ultra-high capacitance for this electrostatic process.

Ukrainian **Capacitor-Like Battery.** The I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, has invented an entirely new type of battery. Emtech LTD., Mississauga, Ontario is commercializing the battery and has applied for 11 patents. A set of conventional lead-acid batteries can propel a small electric car for 100 miles or so, require several hours to recharge, and weigh 1000 lb. An equivalent set of Ukrainian batteries is expected to weigh approximately 200 lb., provide a much greater range of up to possibly 200-300 miles, require 15 to 30 minutes to recharge, and maintain full voltage until 94% discharge. The Ukrainian battery operates well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the Ukrainian batteries is that they are made only of proprietary materials which are environmentally friendly, plentiful, and inexpensive. (Dated 1993; claims currently are not considered credible. Emtech LTD, which had the commercialization license, recently went bankrupt. Nu Omnicomm Technologies, Inc., of Salt Lake City, which has close ties to the I. N. Frantsevich Institute for Problems of Materials Science, may be able to revive the Ukrainian battery.)

A Ukrainian battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as one molecule. Since capacitance is inversely proportional to thickness of the separation between layers, the practical consequence of the Ukrainian battery is to electrically function in a manner similar to that of a giant capacitor.

Ed Baldwin's **Super-Capacitor.** Similar in electrical function to the Ukrainian battery, Ed Baldwin's solid-state multi-layered "super-capacitor" has a very high dielectric constant. It is believed ultimately capable of ten times the electrical energy storage capacity per pound of lead-acid batteries.

Yasunori Takahashi's **ultra-capacitor.** The Takahashi ultra-capacitor is rated at approximately 20 farads at 25 volts in a volume of about one cubic centimeter.

Blacklight Power's **hydrino battery.** Blacklight Power is completing a 10-kilogram battery using hydrinos which can supply 150 horsepower for 1,000 miles.

ON-BOARD ULTRA-CAPACITOR/BATTERY CHARGER

The famous inventor Dr. Nikola Tesla reportedly modified and drove a Pierce Arrow automobile in 1931. Tesla's car required neither gasoline nor external battery charging. The power source was an array of vacuum tubes apparently similar to photo-multiplier tubes. Before and since then, dozens of other inventors claimed to have developed or are developing devices for converting relatively small input power to larger output power.

It is generally inaccurate to say that their devices produce more energy than they consume which would violate the widely accepted physical law of the conservation of energy. The accurate statement to make would be that a small external energy input causes very large internal energy to be transformed into large external energy output (electrical, thermal, and/or mechanical).

An on-board charger is required to keep the ultra-capacitor/batteries fully charged while the vehicle is parked as well as when the vehicle is motion. Parked in a garage, the car's battery charger could feed electricity back into the electric power grid and help pay for the car, if it were not for potential safety problems for power company workers. Descriptions of some of the more promising on-board charger technologies follow. (If only mentioned, see additional details above.)

Blacklight Power's "**hydrinos**". It is an exotic new source of clean energy from ordinary water.

Ken Shoulders' **high-density charge clusters** device (U.S. Patent 5,018,180). A nearly solid-state device, it ultimately may put out one kilowatt of electricity and one kilowatt of thermal energy per cubic inch. Its gain can be increased so that it puts out 30 times as much power as its input electrical power. However, the device's power conversion gain is more stable with the gain at about 5 times. (Still being researched.)

Trenergy's **plasma-injected transmutation,** Dr. Case's **gas-phase catalytic fusion**, **fiber-based cold fusion power cell,** and the **hybrid cold-fusion hydrogen reactor** have electric-to-thermal energy conversion gains as high as well over 100 to 1. Their energy comes from high-density clusters of electrons carrying small numbers of protons at very high velocities to target nuclei using relatively low voltages.

W. A. Lambertson's **WIN zero point electrical energy converter** extracts AC current as high as 9.908 amperes using an input current of only 0.2596 amperes. It generates electricity by collecting electrons between "E-dams" in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. Solid-state with no moving parts and no size restrictions, individual units may eventually be built to power a 15-kilowatt home or a 20-megawatt arc furnace with an efficiency of 1000% or ten times the external input power.

The Correas' **pulsed abnormal glow discharge reactor** is an over-sized glass vacuum tube which uses high-density charge clusters to produce useful positive AC-to-DC electrical power conversion gains such as 483%.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. Converts very high frequencies of natural fluctuations of the universal electromagnetic radiation field to usable electrical power at much lower beat frequencies.

John Searl's **Searl effect generator** has three concentric rings of magnetic rollers. Brushes positioned around the outer ring of rollers pick up electricity.

Frank Richardson's **electrical generator.** Two pairs of electromagnets warp permanent bar magnet's magnetic fields back and forth across field coils to achieve over-unity electrical energy conversion gain. Requires additional resonant circuit components.

ELECTRIC MOTOR

Of the many types of electrical rotating machines that have been developed, of particular interest are those which are claimed to incorporate permanent magnets in order to develop more mechanical output power than their electrical input power. Such claims are considered suspect by many skeptics since they apparently violate the so-called law of conservation of energy. Skepticism is often reinforced by frequent power gain measurement errors. However, it has also been suggested that the key to over-unity power conversion gain in such motors is to use super-powerful permanent magnets at a very high rotating speed. A so-called "super-efficient" electric motor, besides providing motive power, could also act as an on-board capacitor/battery charger whether the vehicle is cruising, idling, or parked.

Perm-Mag Motor. An over-unity energy converter claimed to have a gain of up to several times of shaft rotational power over electrical input power, the super-efficient "perm-mag" motor generates 1 horsepower per pound of weight. Used in a self-powered electric vehicle, a 50-pound, 50-horsepower electric motor is equivalent to a 250-horsepower gasoline-fueled engine.

The perm-mag motor's inventor, Ronald Brandt, has successfully demonstrated a 10-pound, 10-horsepower prototype. Further research is expected to lead to a substantial increase in energy conversion gain over the reported gain of 400%. A 50-pound, 50-horsepower model (equivalent to a 250-horsepower gasoline-fueled engine) is currently being mounted in a Chrysler New Yorker for testing. Its companion controller, which is required to complete the resonant circuit for achieving over-unity gain, has been designed. It is not known yet whether a separate on-board battery charger will still be needed for a completely self-powered electric vehicle.

It should be noted that just because a motor can produce more mechanical power than its electrical input power does not necessarily mean that it is suitable for powering an electric vehicle. An electric vehicle motor ideally should have a number of other characteristics such as reversibility, complete variable power control, complete variable speed control, braking, and stepping. It is understood that the perm-mag motor meets all performance requirements for powering electric vehicles. It is not known how the perm-mag motor specifically compares with other types of over-unity motors.

Other Over-Unity Magnetic Motors. There are several other types of magnetic motors claimed to have over-unity energy conversion gain such as the ones that have been developed by Aspden, Reed, Watson, Bergman, Johnson, Labine, Tewari, and Marinov. For example, Teruo Kawai of Tokyo, Japan recently obtained U.S. Patent 5,436,518 for his "Motive Power Generating Device". The patent's key statement is as follows: "Electric power of 19.55 watts was applied to the electromagnets at 17 volts and 1.15 amperes. … an output of 62.16 watt was obtained." Dividing the output power by the input power yields an efficiency of 318%. However, as stated above for the perm-mag motor, such motors may not necessarily have all the characteristics needed for powering electric vehicles. Power gain measurements also can be misleading.

COMPRESSED AIR-DRIVEN AIR CONDITIONER/HEATER

Alvin Snaper has patented a compressed air-driven air conditioner/heater. It relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air.

The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 CFM at 40 PSI. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its efficiency is nearly 30%.

The vehicle would have a redundant pair (for increased reliability) of air compressors for pressurizing the vehicle's tubular frame which would also serve as a storage chamber. The heavy (no fuel economy requirement) and strong (for safety) tubular frame would help distribute compressed air to the power steering, power brakes, power seats, power windows, windshield wipers, door locks, air conditioner/heater, and a computer-controlled air ride suspension system.

CONTINUOUS CLIMATE-CONTROL SYSTEM

Since the vehicle's on-board super-capacitor/battery charger is expected to keep the super-capacitor/batteries charged even while the vehicle is parked, the vehicle's interior temperature could be thermostatically controlled at a comfortable room temperature 24 hours per day, seven days a week regardless of the exterior temperature.

LOW-TEMPERATURE DIAMOND COATINGS

Durability would be enhanced by coating parts such as shock absorbers with diamond using a new nondestructive low-temperature coating process which also was patented by Alvin Snaper.

ADVANCED COMPUTER-CONTROLLED SUSPENSION SYSTEMS

Computer-controlled hydraulic shock absorbers as well as the computer-controlled air ride suspension system would be supplied by Aimrite Systems International, Inc., which owns the patents. Aimrite's Computer-Optimized Adaptive Suspension Technology (COAST) system replaces a vehicle's conventional shock absorbers with specially designed hydraulic shock absorbers. The COAST system utilizes a sophisticated computer and position sensors to monitor the vehicle's level at each corner. The computer's microprocessor checks the sensors 240 times per second and optimally regulates the damping on all four shocks based on this input. The firmware used in the microprocessor is patented and represents the most important element in the COAST system. It controls nine dynamic and static parameters of motion (roll, pitch, sprung natural frequency, unsprung natural frequency, pumping down, stored energy, topping out, bottoming out, and height).

The COAST system is not only totally automatic, but it monitors and controls the vehicle's ride performance on a continuous basis providing soft and stable ride characteristics at all times as needed. The ride is comparable to active systems without the need for pumps nor high-speed servo-valves.

Each shock absorber is actually a complementary pair of shock absorbers mounted in opposing vertical compression/rebound modes. The computer sends signals to valves to release pressure as required. Aimrite considers its shock absorbers more durable and react faster than competing computer-controlled shock absorbers which apply pressure when needed. A built-in safety factor is that if the computer fails, the result is conventional damper operation, and failure of an individual damper is equivalent to failure of a conventional shock absorber.

Aimrite’s air ride suspension system replaces a vehicle's front coil springs and rear leaf springs. The air suspension comprises of a high-quality control subsystem that includes the aforementioned dual redundant air compressors, air dryers and filters, position sensors, computer-controlled solenoid valves, and a dashboard-mounted control to ensure proper operation and a long and reliable life of the air suspension in all weather and driving conditions. While stopped or driving, the control subsystem allows the operator to easily maintain the correct ride height under all loading conditions. For example, the chassis can be raised for a bumpy ride and lowered for stable highway driving. The vehicle body is automatically leveled at all four corners, even when parked on an uneven surface.

Aimrite’s suspension provides a full air suspension ride, with increased comfort and control. Built-in safety capabilities are provided that virtually eliminate traditional problems associated with air ride suspension systems.

Combining Aimrite’s two computer-controlled suspension systems would offer a luxurious ride with sports-car control and additional features at a reasonable price.

MONOCOQUE (UNIBODY) BASALT/CARBON FIBER FOAM BODY/FRAME

Developed by the I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. Test vehicle made with basalt/carbon fiber foam parts was only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

MARKETING

By combining these superb new technologies into an advanced self-powered electric car that would be superior to any other car even envisioned, it is evident that it should not be very difficult to sell a reasonably priced car which would offer the following features:

- Continuous climate control even while parked.

- Computer-controlled luxurious ride with sports-car control and automatic leveling even while parked.
- Powerful but quiet and emission-free electric motor.
- Much less hassle with bothersome and costly maintenance such as oil changes, tune-ups, etc.
- No dangerous gas tank taking up space.
- Only a few maintenance-free lifetime environmentally benign super-capacitors/batteries.
- Heavy pressurized tubular frame and basalt/carbon fiber foam body for increased safety.
- And, above all, never requires refueling nor electricity recharging.

HYDRO-MAGNETIC DYNAMO

The hydro-magnetic dynamo is a recent addition to this compilation of advanced technologies. The dynamo appears to be this report's only large-scaled emission-free electrical generator which does not requires external fueling. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at $500 per kilowatt which is competitive to nuclear power's capital costs of $5,000 per kilowatt, windmill capital costs of $4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street $4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ball park of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent
IPC H 02 K 44/00 "Method of deriving of electrical energy and organization of Gritskevich's MHD-generator for its realization":

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water's friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavitatal-vacuum structures (probably same phenomena used by the hydrosonic pump – see above), and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10043.

Comment Date: February 20, 2011 22:34:49PM
Solar Energy Development PEIS
Comment ID: SolarD10043

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
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State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Invention nominations.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments. For example, attached is my compilation of "Inventions Nominated for Federal Assistance". It contains two categories titled "Energy" and "Advanced Self-Powered Electric Vehicles".

I am confident that developing some of these inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Inventions Nominated for Federal Assistance

Inventions nominated for federal assistance by Gary C. Vesperman, 588 Lake Huron Lane, Boulder City, NV 89005-1018, 702-435-7947 garyvesperman@yahoo.com.

One source of these inventions was Vesperman's compilation of "Advanced Technologies for Foreign Resort Project" which is in http://www.icestuff.com/~energy21/advantech.htm and http://www.linux-host.org/energy/advantech.htm.

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CATEGORY – HOMELAND SECURITY

Wireless Video Conferencing

The Wireless Video Conferencing system makes it possible to conduct fully duplexed, high-resolution video conferencing with audio, telemetry and data components using a proprietary wireless radio-frequency transceiver integration, portable computers and patented magnetic resonance antennas. This system has specific utility in applications such as municipal catastrophe management, in cases where damage is extensive and no conventional infrastructure survives. For instance, in real-time, a disaster headquarters will be able to see what a field agent is seeing, to talk with the agent over a non-telephone wireless link, and even have the GPS coordinates of the agent's current location reported.

The system is patent protected and ready for prototype construction and testing. Two US Government applications are homeland security and disaster management. One inventor is Gary Vesperman's partner David Yurth of Salt Lake City.

Dialog Language Replacement System

The Dialog Language Replacement System uses advanced software algorithms and proprietary hardware integrations to replace the words spoken in one language with idiomatically correct linguistic equivalents in other languages, while at all times retaining the attributes of the original speaker's voice. Even the mouth and face movements of a speaker are linguistically translated. In real-time applications, the latency is 1 to 3 seconds, and the linguistic accuracy is 95 to 97%.

It has been designed for use in movie production, multi-lingual broadcast and telephone applications. Two other applications of possible interest to the US Government are homeland security and translating school curriculums into other languages.

This system is ready for full development and testing. It is patent protected. One inventor is Gary Vesperman's partner David Yurth of Salt Lake City.

Torsion Field Communications

Practically unknown to Western science, several groups of Russian scientists have been developing torsion field physics and apparatus in secret for over three decades. A torsion field is a scalar product of two electromagnetic fields under special conditions. For example, a torsion field can be generated at the interface between two magnetic fields sweeping past each other. Russian astronomers have determined that torsion fields are transmitted at a speed of one billion times the speed of light. The European physics laboratory CERN has determined that torsion field information can be transmitted through 20 miles of mountain without attenuation. Physicists at Los Alamos National Laboratory have transmitted Mozart's 40th Symphony at 4.7 times the speed of light using torsion field generators and torsion field sensors.

A unique design has been developed for a counter-rotating torsion field generator based on a newly patented micro-solenoid technology, counter-rotating mono-polar magnetic plates, mono-chromatic standing wave lasers, and some scalar parallel processor technologies from the Swiss Institute of Technology in Zurich. The theoretical maximum capacity of torsion field communications is 40 billion channels of three-dimensional holographic television at one billion times the speed of light through the entire earth without attenuation. Torsion field communications is expected to eventually displace all forms of electronic communications including telephones, television, radio, fiber optic cable, and communications satellites, plus the entire Internet backbone.

Homeland security applications include secure communications completely separate from current communications channels. Gary Vesperman invented a major advance which is part of the first-ever patent application in torsion field communications. One co-inventor is David Yurth of Salt Lake City. The cost of completion of prototype development and testing is estimated to be $500,000.

CATEGORY – MEDICINE

Electronic Frequency and Pulse Generators

"Electronic medicine" can be defined to be the process of exposing a sick or injured person, plant or animal to some kind of a harmless, electrically-generated signal with the hope of a positive outcome. One pioneer was Royal Rife who during the 1930's experimentally tried to cure cancer and other diseases with his inventions of an ultramicroscope, the world's most powerful optical microscope, and a manually adjustable electronic frequency generator.

Rife's hypothesis was that each species of bacteria or virus has a unique crystalline structure. With his ultramicroscope, he would view living samples of a particular species of virus or bacteria. He would then spend hours adjusting the frequency, wave shape, and amplitude of the electromagnetic wave generator until he found the specific combination that would resonate with the critter's crystalline structure and shatter it. With his ultramicroscope he could actually see a species of virus or bacteria dying once he found the correct frequency, etc. Reportedly he cured 16 terminally ill cancer patients in San Diego by exposing to them his frequency generator when it was tuned to a cancer-killing frequency.

There are basically two modern versions of such instruments available for purchase. One is a computer-controlled electronic frequency generator costing in the neighborhood of a couple of thousand dollars. The resonant frequencies of the crystalline structure of various species of disease-causing organisms are stored in the computer's memory. The computer reads out the digital code of each frequency one at a time. For some seconds or minutes other electronics generate the code's electrical frequency which is radiated out to a person or animal via hand-held electrodes or one or two tubes filled with one or more noble gases such as argon, neon, and xenon. The computer may be programmed with selectable modes of frequency sequencing and duration.

A Las Vegas manufacturer's "Genesis frequency generator" can be seen on www.genesistherapy.com. Visitors are welcome by Genesis co-inventor Norman Howard. There seems to be a couple of other commercially available brands of frequency generators. (Gary Vesperman is credited with being the middleman whereby lucky circumstances enabled two inventors to meet at a conference in 1996 and begin their collaborative efforts in engineering the Genesis frequency generator.)

The other version of electronic devices for generating signals for experimental medical purposes is the much less expensive pulse generator, more commonly known as the "zapper". Powered by a standard nine-volt battery, a zapper periodically generates an extremely narrow electrical pulse. The pulse is sent by wires to a pair of copper electrodes. The electrodes can be a pair of hand-held copper tubes or a pair of thin stiff wires about two inches long fitted under elastic strips on a person's body such as the wrists. The electrical pulses are harmless. Zapper manufacturers include Sota Instruments (see www.sotainstruments.com/), Jaguar Electronics, and the Dr. Clark Research Association (see www.drclark.com). Gary Vesperman uses a $50 zapper with convenient copper handholds made by Jane Kolar (see www.huldazapper.com).

The zapper's medical effect, if any, is thought to be the same as the frequency generator. Fourier frequency analysis of a zapper's pulses shows that a large number of higher sinewave frequencies are added together to make up an electrical pulse. The sharper the pulse, the higher are the frequencies needed for the pulse. The difference is that the frequency generator is programmed to generate specific tuned frequencies. The zapper's "shotgun" effect is to randomly generate numerous frequencies with the expectation that a few will sooner or later resonate with the crystalline structures of a person's accumulation of disease organisms and kill them.

An easy, completely harmless way to demonstrate the zapper's ability to kill a disease-causing organism is to arrange for an obese person to hold a zapper for perhaps 15 minutes twice daily for a few months while watching television, etc. The zapper apparently kills the obesity virus (see http://www.ioa.com/~dragonfly/fatvirus.html). The zapper's inventor Robert Beck claimed to have lost 100 pounds in about six months. Gary Vesperman himself lost about 10 pounds of fat after a few months of zapping with no change in lifestyle nor food intake.

Currently the Food and Drug Administration does not allow any claims of positive medical effects from using electronic frequency and pulse generators. However, there seems to be a sufficient number of positive anecdotes and testimonials to warrant a formal, scientifically irrefutable investigation of using these devices for medical purposes.

For example, the inventors of the aforementioned Genesis frequency generator, after five years or so of intensive research, have finally programmed it with the resonant frequency of the crystalline structure of each and every known disease-causing organism. The federal government should award a grant to methodically expose a number of victims of each and all diseases to the Genesis frequency generator and record the results. The same protocol should be applied to each of the other similar electronic signal generators as well as zappers.

Once it has been irrefutably determined that a specific electronic frequency or pulse generator positively effects a specific disease, especially since it would not induce negative effects like with radiation, knives, and drugs, its manufacturer should then legally be permitted to make claims of medical effectiveness in his advertisements just like pharmaceutical manufacturers are permitted to advertise medical benefits from using their sometimes dangerous chemicals.

Electronic Brainwave Tuners for Permanent Elimination of Substance Addiction

Addiction to alcohol and narcotic substances such as heroin and cocaine causes enormous social upheaval as well as economic and medical harm. Electronic brainwave tuners evidently can easily and permanently eliminate a patient's substance addiction in a couple of weeks. Gary Vesperman selected from his collection of brainwave tuner reports the following scientific explanation. It seems possible to tune an aforementioned electronic frequency generator for brainwave tuning for removal of substance addition. If brainwave tuning can be irrefutably proven to eliminate substance addiction, the federal government could provide incentives for the states to vigorously implement programs to cheaply and completely eliminate substance addiction.

Alpha-theta brainwave training and beta-endorphin levels in alcoholics.
Peniston, Eugene G., and Kulkosky, Paul J.
Veterans Administration Medical Center, Fort Lyon, Colorado 81038, and
University of Southern Colorado, Pueblo, CO 81001.

An alpha-theta brainwave biofeedfack training program was applied as a novel treatment technique for chronic alcoholics. Following a temperature biofeedback pretraining phase, experimental subjects completed 15 30-min sessions of alpha-theta biofeedback training. Compared to a nonalcoholic control group and a traditionally treated alcoholic control group, alcoholics receiving brainwave training showed significant increases in percentages of EEG record in alpha and theta rhythms, and increased alpha rhythm amplitudes. Alcoholics receiving brainwave tuning showed a gradual increase in alpha and theta brain rhythms across the 15 experimental sessions. These experimentally treated alcoholics showed sharp reductions in self-assessed depression (Beck's Depression Inventory) compared to the control groups. Alcoholics receiving standard medical treatment (abstinence, group psychotherapy, antidepressants) showed a significant elevation in serum beta-endorphin levels at the conclusion of the experiment. This neuropeptide is an index of stress and a stimulant of caloric (e.g., ethanol) intake. Application of brainwave treatment, a relaxation therapy, appears to counteract the increase in circulating beta-endorphin levels seen in the control group of alcoholics. *13-month follow-up data indicate sustained prevention of relapse in alcoholics who have completed alpha-theta brainwave training.* (Italics added.)

Bio-Energetic Spheres

Bio-energetic spheres are made of a special ceramic and then kilned to an extremely high temperature. Bio-energetic spheres collect life force energy (i.e., chi, or qi) and transfer it to the water in which they are immersed. They may not at first look like much of anything to get excited about. But they apparently offer major quality of life and medical benefits.

Bio-energetic spheres can be used in three ways:

1. Bio-energized water can be made by leaving 3 or more spheres in distilled or filtered water for 24 hours, or boil the water with the spheres in a saucepan for 3 minutes. Either way, drink a recommended eight 8-ounce glasses of bio-energized water per day and use to make tea, coffee, etc. And don't forget your pets' drinking water – they'll lap it up – literally.

Bio-energized water differs in many ways from the original water:

§ Alkaline-producing when your body processes it

§ High levels of far infrared energy
§ Lower surface tension (for easier bodily absorption)
§ Left-hand atomic spin (rather than the unhealthy right-hand spin)
§ Enhanced negative ion count
§ Low level of deuterium oxide

2. Bio-energized water can be made by leaving three or more spheres in water for a month, or simmering the water with the spheres for 20 minutes. Then the bio-energized water can be sprayed on skin, the coats of pets, and the leaves of houseplants. Plants can also be beneficially watered with bio-energized water.

3. Bio-energetic spheres can be worn on the body, much like people who carry crystals in their pockets. A person wearing bio-energetic spheres reportedly will receive infrared and life-force energy benefits.

Key Benefits of Bio-Energized Water:

Most of the human body consists of water, but the water drunk from the faucet contains very low levels of life force energy and seems to actually deplete the human body's own energy level. So it is thought that the more tap water a person drinks, the weaker the person gets.

The bio-energetic spheres transfer life force energy to the water, introduce far infrared energy, lower its surface tension, and convert harmful deuterium oxide into water. All this has the following benefits:

Alkaline-producing means that the water flushes harmful acidic wastes from your body, which are contributory causes of aging, cancer, arthritis, obesity and kidney disease.

Higher levels of far infrared energy increases oxygen levels in your body, warms fats and toxins so that they can be more easily eliminated, and reduces the body's acidity.

Lower surface tension means that the water can be more readily absorbed by bodily tissues, which better hydrates muscles, organs and skin. This leads to better muscle tone, so muscular strength increases, eyesight may improve, and organs simply work better.

In matter with less than 6,500 Bovis units of life force energy, atoms have a right spin. Bio-energized water has up to a million units and a left spin, which it imparts to toxins, thus rendering them harmless. It also ensures that all body tissues have a left spin.

Unhealthy environments such as offices with many computers running abound with positive ions. Healthy environments, such as beside the ocean abound with negative ions, and usually people live in a balance. In bio-energized water, that ion balance is tipped towards negative ions, which is much better for human body chemistry since it runs on "negative electricity."

Contact with the ceramic spheres removes harmful deuterium oxide. Ordinary tap water contains one deuterium oxide molecule per 6,000 water molecules. Deuterium oxide inhibits cell mitosis or division, which causes aging and the abnormal growth found in cancers.

The foregoing is a summary of the interesting, lengthy text found in www.biorays.com which is operated by Las Vegas inventor Norman Howard. John Martens and Gary Vesperman are well acquainted with Howard's research. Norman Howard is a co-inventor of the aforementioned Genesis frequency generator.

Currently the Food and Drug Administration does not allow any claims of positive medical effects from using bio-energetic spheres. However, there seems to be a sufficient number of positive anecdotes and testimonials to warrant a formal, scientifically irrefutable investigation of using bio-energetic spheres for medical purposes.

The federal government should award a grant to methodically treat a number of victims of each and all diseases with bio-energetic spheres and bio-energized water and record the results. Once it has been determined that bio-energetic spheres and/or bio-energized water positively effects a specific disease, especially since they would not induce negative effects like with radiation, knives, and drugs, a manufacturer or marketing company should then legally be permitted to make claims of medical effectiveness in its advertisements just like pharmaceutical manufacturers are permitted to advertise medical benefits from using their sometimes dangerous chemicals.

If and when positive medical effects are proven beyond doubt, bio-energetic spheres should be provided to all federal employees and clients such as veterans and prisoners in order to significantly reduce medical insurance claims.

Electrolyzed Oxidizing Water

Recently John Martens and Gary Vesperman were introduced to the versatility of electrolyzed oxidizing water from RPA Biotech, Inc. (see www.rpabiotech.com). This special form of *water* kills bacteria, fungi, viruses, molds and mildews with absolutely no harmful side effects. It will not even injure eyes nor mucus membranes. When sprayed on as a topical skin or plant surface treatment and disinfectant, electrolyzed oxidizing water has been proven to also simultaneously enhance the natural healing process in humans, animals and even plants.

Electrolyzed oxidizing water is water that has been processed by equipment that at least triples water's energizing electric potential, reduces the pH factor to less than 2.7 pH, and compresses water molecules which enables much easier transfer through body tissue and cell walls. A very mild saline (salt) solution is used to aid the electrolysis process. *No other chemicals are added.*

Is electrolyzed oxidizing water a new product? No. Electrolyzed oxidizing water products have been marketed in Japan and China for over ten years. It has been extensively researched, lengthy scientific reports have been presented at symposiums, clinically tested, and found to be highly effective and totally safe. Products made with electrolyzed oxidizing water are used by doctors and hospitals throughout Asia for the treatment of all types of skin conditions and the general sterilization of wounds, cuts and abrasions.

Asian-produced electrolyzed oxidizing water remains stable and effective for only up to 19 hours. In contrast, RPA Biotech, Inc., (see www.rpabiotech.com) has patented a stabilizing process which produces equally effective electrolyzed oxidizing water which can be conveniently packaged with a shelf life after purchase of approximately nine months. RPA Biotech, Inc., is one of the first companies to bring electrolyzed oxidizing water products into the US and Canadian markets.

RPA Biotech's primary markets are in animal healthcare, personal healthcare, agriculture, and the restaurant and food preparation industries. RPA Biotech, Inc., makes and packages its electrolyzed oxidizing water in several different convenient products. They contain no caustic, toxic or other ingredients that are harmful to humans, animals, plants or the environment. All of its products are all-natural, totally safe to use, non-toxic, bio-degradable, and safe for the environment. Testimonial to electrolyzed oxidizing water's safety and effectiveness is a 97% reorder rate.

RPA Biotech, Inc., is arranging for other companies to take over its marketing efforts

Currently the Food and Drug Administration does not allow any claims of positive medical effects from using electrolyzed oxidizing water. However, there seems to be a sufficient number of positive anecdotes and testimonials to warrant a formal, scientifically irrefutable investigation of using electrolyzed oxidizing water for medical purposes.

The federal government should award a grant to methodically treat a number of victims of each and all diseases with electrolyzed oxidizing water and record the results. Once it has been determined that electrolyzed oxidizing water positively effects a specific disease, especially since the water would not induce negative effects like with radiation, knives, and drugs, a manufacturer or marketing company should then legally be permitted to make claims of medical effectiveness in its advertisements just like pharmaceutical manufacturers are permitted to advertise medical benefits from using their sometimes dangerous chemicals.

If and when positive medical effects are proven beyond doubt, electrolyzed oxidizing water should be provided to all federal employees and clients such as veterans and prisoners in order to significantly reduce medical insurance claims.

CATEGORY – ENERGY

Electronically Shaded Photo-Voltaic Glass

By laminating a specially designed layer of liquid crystal material between panes of either clear glass or clear polycarbonate materials, which have been coated with an ITO or transparent metallic conductive film, a window transparency control system has been created which enables the viewer to darken the window pane [or other application] electronically, without the aid of shutters, blinds or curtains. The panel also rotates polarity up to 90 degrees from the vertical and substantially reduces infrared transmissivity. Buildings with windows made of electronically shaded photo-voltaic glass should have significantly lower air conditioning loads because they offer full blockage of infrared radiation. Buildings should additionally have lower net electrical power consumption because windows facing the sun will be able to generate usable photo-voltaic electricity.

CRL Opto has built and is testing the initial proof-of-concept prototypes. This application is ready for production and is patent protected. One inventor is Gary Vesperman's partner David Yurth of Salt Lake City.

Collective Ion Acceleration Treatment of Radioactive Waste Materials

The Collective Ion Accelerator has been designed, developed to the point of bench testing in the laboratory, completely documented, submitted to DOE, and is ready for full laboratory testing, prototype construction and testing. Radioactive waste treatment would eliminate the need for geological storage of radioactive waste inside Yucca Mountain. One inventor is Chinese plasma physicist Shang Xian Jin, Ph.D. Gary Vesperman has met Dr. Jin several times. Gary Vesperman's partner David Yurth of Salt Lake City works closely with Dr. Jin. Development phases II and III each needs $2.5 million. Phase IV would involve on-site field testing of a transportable system suitable for remediation of radioactive emissions in both liquid and solid wastes.

Pulsed Abnormal Glow Discharge Reactor

The Pulsed Abnormal Glow Discharge (PAGD) Reactor is an over-sized glass vacuum tube constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the PAGD reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The PAGD reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode over-heating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of PAGD reactor tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing had been under development. The inventors had hoped that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits.

Gary Vesperman has attended a lecture by the inventors Paulo N. and Alexandra N. Correa, a married couple, on their PAGD reactor. Due to lack of financial support, the inventors reportedly were forced to stop their development efforts April 2002. They hold US Patent 5,416,391 for Electromechanical Transduction of Plasma Pulses, US Patent 5,449,989 for Energy Conversion System, and US Patent 5,502,354 for Direct Current Energized Pulse Generator Utilizing Autogenous Cyclical Pulsed Abnormal Glow Discharges.

Hutchison Self-Charged Battery

The Self-Charged Battery generates a perpetual Direct Current (DC) voltage without external recharging. By stacking enough self-charged batteries into a single DC generator, the generator's DC voltage can be converted to regulated Alternating Current (AC) electricity and thereby silently electrify a house without fuel nor emission of pollutants. The DC voltage could also power an electric vehicle's DC motor. The inventor is John Hutchison.

Casimer-effect self-charging batteries are also separately being researched by Mike Windell and Nevada inventor Matt Schadeck. Gary Vesperman has documented several of Mr. Schadeck's inventions. David Yurth of Salt Lake City works closely with Matt Schadeck.

WIN Zero Point Electrical Energy Converter

The WIN Zero Point Electrical Energy Converter extracts AC current with an output power greater than input power. It generates electricity by collecting electrons between E-dam cermets in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimer effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input. 12 sizes of generators are currently being built – one of which would be a 1500-watt unit to generate useful heat and electricity. The inventor is Wingate A. Lambertson, Ph.D. His proposed first-year budget is $1.25 million.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy

The Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy utilizes the special characteristics of the zero-point electromagnetic radiation of having a virtually infinite energy density and that it is omnipresent even in outer space. However, the high energy densities only exist at very high frequencies. These large energies can be collected with small antenna-like structures (frequency is inversely proportional to size). But the frequencies are so high that they are unusable for practical energy applications.

With two antennas of very slightly different sizes, the converter collects zero-point electromagnetic radiation of two very slightly different frequencies. The converter then superimposes the two frequencies which results in a far lower beat frequency. The energy contained in the beat frequency is then transformed to practical electrical power which can be made available in any location on earth or in space. Applications include transportation, heating, cooling as well as many others. Franklin B. Mead, Jr., Lancaster, California and Jack Nachamkin, Poway, California hold US Patent 5,590,031 for System for Converting Electromagnetic Radiation Energy to Electrical Energy.

Borrowdale's Motor/Generator

The Borrowdale's Motor/Generator incorporates permanent magnets which provide the drive torque by pulling rotor and stator poles together with an electromagnetic opposed excitation input pulsation used to weaken that magnetic pull to allow the poles to separate. Its power output is claimed to be 3 times power input. Gary Vesperman and Las Vegas businessman Gary Davis have seen this invention in operation but not performance tested. Inventor is Brian Borrowdale.

Conversion of Aluminum Internal Combustion V-8 Engine to Magnetic Motor

The Conversion of Aluminum Internal Combustion V-8 Engine to Magnetic Motor has its heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on a shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As the crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle or rotating electrical generator. If the electric motor is replaced with a Muller magnetic motor, the combined conversion gain of output power over input power is projected to be about 300.

Gary Vesperman and Las Vegas businessman Gary Davis have seen a partially built prototype. One side of four cylinders had a crankshaft with four super-magnets mounted on it. The inventor is Brian Borrowdale.

Richardson Generator

Two pairs of electromagnets warp a permanent magnet's magnetic fields back and forth across output field coils to induce a DC output voltage. The faster the switching speed, the higher is the DC output voltage, up to the point of magnetic saturation, which is then converted to an AC voltage. Some of the output power is fed back to provide input power for the switching electromagnets and associated signal generator and switching transistors. When the entire circuit is optimally tuned by adjusting variable capacitors to achieve resonance, more output power is generated than is needed for the input power, as claimed by inventor Frank Richardson. A Richardson generator less than the size of a garbage can could generate enough electricity for an average-sized residence with no noise, no fuel, and no emission of pollutants.

Frank Richardson died some years ago. However, Gary Vesperman himself had done some engineering work on Richardson's generator. Vesperman and some Las Vegas inventors have talked about resurrecting the Richardson generator with the help of engineering documents inherited by Mr. Richardson's son who lives in St. George, Utah. Frank Richardson held US Patent No. 4,077,001 for Electromagnetic Convertor with Stationary Variable-Reluctance Members.

Las Vegas businessman Gary Davis owns the rights to the Richardson generator. Davis owned and managed Natural Environmental Solutions, Inc., a Nevada corporation. Gary Vesperman researched and wrote most of the company's Small Corporate Offering Registration for $500,000 of stock to be publicly sold to investors in 1994(?).

Hawking's Generator

The Hawking's Generator results from feeding high voltages oscillating at optimally 150,000 hertz to two 4-inch fluorescent lights. Each fluorescent tube has a strong permanent magnet attached to its center – north pole on one side, and south pole on the other side. The magnetic field between the two poles deflects the electrons in the tube off to one side. The tube is now no longer capable of generating hot electricity. Instead only *cold* electricity is extracted from the zero point energy field by the tube. The cold electricity comes from the other end of the tubes which are each wired to a brass electrode. A 6 to 8-inch white spark of cold electricity 4 inches in diameter is produced between the two brass balls.

Cold electricity can not be measured with ordinary voltmeters and ammeters since there are no electrons. However, cold electricity can power lamps, etc. Totally different applications could result from the observation that materials inserted in a spark of cold electricity sometimes change to elements of higher density.

Gary Vesperman has a video of an earlier version of the Hawking's generator where the dazzling white spark of cold electricity is only about the size of a peanut due to a much lower frequency being used. A weird "singing" noise heard in the video indicates that energy is being extracted from the omnipresent zero point energy field. Even Nicola Tesla himself long ago observed the same connection of singing noise to energy extraction.

The Hawking's generator, although fairly simple and can completely be made with commonly available components, is still in its earliest stages of development. Gary Vesperman's friend Henry Curtis was the one who brought the Hawking's generator to Vesperman's attention and provided him with a video. Curtis has been investigating and attending conferences on new energy technologies for over 15 years. Curtis thinks the Hawking's generator is the most exciting fuel-less energy source he has ever seen. Vesperman has talked with some Las Vegas engineers about building their own prototype for testing.

Frankly, "cold electricity" is still very much a huge mystery. Gary Vesperman has a BS degree in electrical engineering from University of Wisconsin-Madison and has become familiar with all sorts of weird devices. Even he has no idea as to how mathematical formulas could be written describing the most fascinating phenomenon of cold electricity. Hot fusion has received billions of research dollars with no hope of a practical electricity generator for decades to come. Surely studies and development of cold electricity and new energy devices such as the Hawking's generator are equally deserving of massive funding by the US government, if not more so than hot fusion.

CATEGORY – ADVANCED SELF-POWERED ELECTRIC VEHICLES

In Sept 8-9, 2000 for the Institute of New Energy Symposium, Salt Lake City, Utah, Gary Vesperman lectured on his "Advanced Self-Powered Electric Vehicle Concept". His paper was later published in Proceedings of INE-2000, Vol. 5, No. 2 of Journal of New Energy, P.O. Box 58639, Salt Lake City, Utah 84158-0639. Its abstract is as follows:

"Candidate technologies were originally combined into an advanced self-powered electric vehicle concept in 1993. The power train of the concept's current version includes a modern version of Edison's nickel-iron battery or one of four super or ultra-capacitors, a closed-cycle blade-less Tesla-type steam turbine or one of several over-unity magnetic motors, and one of several possible types of on-board battery chargers. Miscellaneous innovations include computerized shock absorbers and air ride suspensions, lightweight basalt/carbon fiber foam for body/frame, parts non-destructively coated with diamond or titanium nitride, and compressed air-driven air conditioner/heater."

By combining these superb new technologies into an advanced self-powered electric car that would be superior to any other car even commonly envisioned, it evidently should not be very difficult to sell a reasonably priced car featuring:

- Powerful but quiet and emission-free electric motor, possibly with over-unity power conversion gain.
- Only a few maintenance-free lifetime environmentally benign batteries.
- Never requires refueling nor electricity recharging due to on-board battery charger.
- Continuous climate control with compressed air-driven air conditioning/heating, even while parked.
- Computer-controlled luxurious but economical ride with sports-car control and automatic leveling even while parked.
- Much less bothersome and costly maintenance including no oil changes, no tune-ups, no radiator, no refrigerant-based air conditioner, and no fuel tank.
- Numerous parts non-destructively coated with diamond or titanium nitride for increased durability and safety.

- Exceptionally tough, crash-resistant basalt/carbon fiber foam body/frame, lighter than fiberglass, for increased safety with lower weight.

Las Vegas, Nevada is uniquely blessed with an active electric car club with at least a half-dozen members who have actually built electric cars. They could design and build engineering prototypes of advanced self-charged electric vehicles as well as kits for converting existing vehicles to self-charged electric. Alvin Snaper, who is the prolific inventor of an advantageous new nickel-iron battery, compressed air-driven air conditioner/heater, and low-temperature process for coating automotive parts, tools, etc with diamond or titanium nitride for greatly increased durability, even lives and works in Las Vegas.

To minimize initial capital outlays, advanced self-charged electric car features would be introduced in phases rather than simultaneously at great up-front cost. The profits earned from each phase would help finance the next follow-on phase. For example, at the beginning existing golf carts could be fitted with on-board battery chargers, and propane generators in RVs replaced with fuel-less battery chargers. Somewhat later, existing cars and trucks could have their engines, radiators, and fuel tanks replaced with electric motors, a few batteries, and fuel-less on-board battery chargers. Standalone businesses selling auxiliary technologies, especially low-temperature coating of parts, tools, etc with diamond or titanium nitride, could be very profitable, fast-growing ventures.

Currently in California, every electric vehicle sold that meets requirements earns 4 EV credits that can be resold to the major automobile makers for $20,000. Even if the company only breaks even on its cars, the total profit on each car sold in California would still be $20,000. So therefore, nearly all new self-charged electric vehicles, not existing vehicles converted to self-charged electric, would be sold in California – a huge market. Other states are considering similar EV credits. For the first 10,000 self-powered vehicles sold nationwide, the federal government should provide an additional credit of $10,000 specifically for each vehicle proven to be self-powered or self-charged with no external fuel nor electricity needed and zero emissions.

The last chapter of Gary Vesperman's aforementioned compilation of "Advanced Technologies for Foreign Resort Project" in http://www.fortunecity.com/greenfield/bp/16/advantech.htm is titled "Advanced Self-Powered Electric Vehicle Concept".

Gary Vesperman has written a 15-page preliminary business plan for a startup company which has the mission to lead to the eventual design, manufacture, and sale of advanced self-charged electric vehicles.

The following are descriptions of electric vehicle inventions. All of them by themselves appear to be deserving of federal aid as part of an overall effort to develop prototype advanced self-powered vehicles for demonstration. See the Energy Category above for additional candidate fuel-less emission-free vehicle power sources.

Quantum High Energy Density Storage or Retrieval Device

Essentially a very thin battery, the solid-state Quantum High Energy Density Storage or Retrieval (QUENSOR™) device has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed. If the upper limit of 15 kilowatt-hours per kilogram is assumed, a 60-pound QUENSOR device can supply an electric car, in round numbers, 20 horsepower of electric power at 50 miles per hour for 30 hours, or a total of 1500 miles on a single charge.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

Nickel-Iron and New Lead-Acid Battery

Las Vegas inventor Alvin Snaper is currently developing and patenting a modern version of the century-old Edison nickel-iron battery through his Las Vegas company Power Technology, Inc. (See http://www.powerpwtc.com/business_of_issuer.htm.) His new nickel-iron battery will have none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally benign than lead.

During an August 2002 visit, one of Snaper's researchers told Gary Vesperman that their lead-acid battery already has the world's highest energy density, and they hope to increase it even higher. It uses some of the components of the nickel-iron battery which has been delayed.

Alvin Snaper holds US Patent No. 6,060,198 for Electrochemical Battery Structure and Method. He may already have obtained one or more additional battery patents.

Ukrainian Capacitor-Like Battery

The I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, has invented an entirely new type of battery. Emtech LTD., Mississauga, Ontario is commercializing the battery and has applied for 11 patents. A set of conventional lead-acid batteries can propel a small electric car for 100 miles or so, require several hours to recharge, and weigh 1000 lb. An equivalent set of Ukrainian batteries is expected to weigh approximately 200 lb., provide a much greater range of up to possibly 200-300 miles, require 15 to 30 minutes to recharge, and maintain full voltage until 94% discharge. The Ukrainian battery operates well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the Ukrainian batteries is that they are made only of proprietary materials which are environmentally friendly, plentiful, and inexpensive.

(These performance claims are dated 1993 and currently are not considered credible without an updated report. Emtech LTD, which had the commercialization license, recently went bankrupt. Nu Omnicomm Technologies, Inc., of Salt Lake City, which has close ties to the I. N. Frantsevich Institute for Problems of Materials Science, may be able to revive the Ukrainian capacitor-like battery.)

A Ukrainian battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as one molecule. Since capacitance is inversely proportional to thickness of the separation between layers, the practical consequence of the Ukrainian battery is to electrically function in a manner similar to that of a giant capacitor.

Gary Vesperman's partner David Yurth of Salt Lake City has personally worked with the IPMS on their Ukrainian super-capacitor battery. Famous Indy 500 race car driver Rodger Ward's American Electric Car Company had planned to use these batteries. Unfortunately, the IPMS was unable to keep its battery prototype delivery commitments. Gary Vesperman researched and wrote most of the company's Small Corporate Offering Registration for $1,000,000 of stock to be publicly sold to investors in 1993(?).

Blade-Less Tesla-Type Steam Turbine

A powerful blade-less Tesla-type steam turbine was developed by Frank Richardson. This turbine has a closed-loop cycle which he claimed is far more efficient than the electric motor in terms of converting electrical energy into rotational energy for application to a vehicle's drive wheels. The water is heated with radio frequencies like a microwave oven into steam which is then forced through two disks in sequence. The two disks are perforated in such a manner as to prevent cavitation (bubbles) even at high rotational velocity. Since steam offers a 1,000-to-1 expansion ratio compared with gasoline's expansion ratio of approximately 300 to 1, the turbine is extremely powerful. An 18-inch diameter prototype's output power was measured at approximately 1,000 horsepower.

By combining his turbine with the aforementioned Richardson electrical generator, Richardson had built a self-powered modified beetle-shaped Volkswagen automobile which he had operated during the early 1970's.

Closed-Cycle Freon/Rotary Turbine

DiMatt Industries's DiMatt Wankel Generator integrates a Freon-based wankel engine and generator system. The system relies on the extremely high expansion coefficient demonstrated by certain Freon formulations to drive the internal rotary piston system embodied by the Wankel. This system has been shown to produce 40-80 brake horsepower (as tested on a fully instrumented dynamometer) without consuming fuel or producing any exhaust. The engineering design specifications, patent application and underlying component patents have been developed for the construction and testing of a transportation platform which relies on a closed-cycle Freon/rotary turbine design to supply power to electric motors with no consumption of fuel and no emissions. Its efficiency is lower in colder temperatures.

One inventor is Nevada inventor Matt Schadeck. Gary Vesperman has documented several of Mr. Schadeck's inventions. Gary Vesperman's partner David Yurth of Salt Lake City works closely with Matt Schadeck.

Gary Vesperman has a videotape and drawings of deceased Las Vegas inventor Robert Stewart's low-temperature phase-change engine which relies on the same basic principle but seems to be a different design.

Compressed Air-Driven Air Conditioner/Heater

The compressed air-driven air conditioner/heater relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air.

The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 cubic feet per minute at a pressure of 40 pounds per square inch. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its laboratory-certified efficiency is nearly 30%. Gary Vesperman has seen during demonstrations conducted in inventor Snaper's garage on a hot Las Vegas summer day temperature measurements of the air blowing out of the cold end at around 0 degrees Fahrenheit.

While the patent on the compressed air-driven air conditioner/heater has recently expired, it is still available for commercialization. Combined with an on-board battery charger, the advanced self-powered electric vehicle would have the exceptionally nice feature of continuous climate control, even while parked! Parked on a cold winter day, the interior of the vehicle would always be toasty warm. On a hot summer day, the vehicle's interior would always be refreshingly cool. Alvin Snaper holds US Patent No. 4,407,134 for Air Conditioning System.

Inventor Alvin Snaper in August 2002 showed Gary Vesperman a Chevy S-10 pickup truck he had bought without air conditioning. He has a budget of $550,000 maximum to do "sweat engineering" of a complete prototype air conditioning system to be installed in the S-10. Alvin is still looking for a more nearly ideal air compressor.

Monocoque (Unibody) Basalt/Carbon Fiber Foam Body/Frame

Developed by the I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. A test vehicle made with basalt/carbon fiber foam parts was reportedly the only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

Dave Yurth's Sept 3, 2002 email to Gary Vesperman is as follows:

From : dyurth <dyurth@xmission.com>
To : "Gary Vesperman" <vman@skylink.net>
Subject : Re: Basalt/carbon fiber foam for EV
Date : Tue, 03 Sep 2002 09:36:14 -0600

Hi Gary:

Thanks for the note...Matt and I have also been working on a variation on a theme for an EV...we've found a digital variable reluctance motor which marries the best of torque characteristics and energy utilization efficiency in a single unit – no windings at all. The shaft is married directly to the motive element – in the current use, it is used to drive a wood lathe. In our design, it would connect directly to the wheel and, on the other side, to a brake/energy conversion device which converts momentum into recharging current like the BART system.

The basalt fiber material is manufactured by the Institute for Problems of Materials Science (IPMS) in Kiev, Ukraine. If you are interested in utilizing this technology to create an automobile enclosure, three technologies are needed:

1. The basalt fiber technology can only be found at the IPMS. I believe there may still exist some spools of the stuff in or around Kiev, but it has been ten years since I worked with them so we'll have to re-establish contact. The principal value of the material is that it has a softening temperature of 805 degrees centigrade.

2. The Russians used powdered metallurgy to alloy their strategic metals – the ideal mix of metal powders would be aluminum and magnesium, since both can be found in finely particulated powders and when mixed together in the right ratios, these two metals form a material which is utterly resistive to corrosion and which has excellent tensile strength.

3. The powdered metals are mixed in a chamber like dry cake mix and then applied using a third technology – in IPMS documents, this technology is referred to as a "High-Temperature Gas Plasma Detonator". The metal powder is poured into a ceramic container, which funnels it into a specially designed high temperature containment vessel which is also surrounded by super magnets, arranged in a very precise order to create a compressive effect. When the powdered metal is brought into the chamber, high voltage, high pressure and extreme magnetic fields reduce the metal powder to a plasma, which is then expelled through a nozzle and onto a target – in this case, the woven basalt fiber which creates the shape of the vehicle.

When the metallic plasma collides with the basalt fiber material, it has a temperature of about 1600 degrees centigrade. This causes the basalt fibers to soften and partially melt – but the cooling gradient for this material is so steep that it cools almost immediately below 800 degrees centigrade, at which point the fibers reconstitute. This creates a basalt fiber reinforced metal alloyed shell which is extremely strong, very light weight and can be polished to a high sheen.

This is the technology the Russians have used for 25 years to create fuel cells for their huge rocket boosters – and it is the reason their boosters are so light, have no gaskets or seams and can be reused over and over again.

Dave”

Advanced Computer-Controlled Suspension Systems

Computer-controlled hydraulic shock absorbers as well as the computer-controlled air ride suspension system would be supplied by Aimrite Systems International, Inc., which owns the patents. Aimrite's Computer-Optimized Adaptive Suspension Technology (COAST) system replaces a vehicle's conventional shock absorbers with specially designed hydraulic shock absorbers. The COAST system utilizes a sophisticated computer and position sensors to monitor the vehicle's level at each corner. The computer's microprocessor checks the sensors 240 times per second and optimally regulates the damping on all four shocks based on this input. The firmware used in the microprocessor is patented and represents the most important element in the COAST system. It controls nine dynamic and static parameters of motion (roll, pitch, sprung natural frequency, unsprung natural frequency, pumping down, stored energy, topping out, bottoming out, and height).

The COAST system is not only totally automatic, but it monitors and controls the vehicle's ride performance on a continuous basis providing soft and stable ride characteristics at all times as needed. The ride is comparable to active systems without the need for pumps nor expensive high-speed servo-valves.

Each shock absorber is actually a complementary pair of shock absorbers mounted in opposing vertical compression/rebound modes. The computer sends signals to valves to release pressure as required. Aimrite considers its shock absorbers more durable and react faster than competing computer-controlled shock absorbers which apply pressure when needed. A built-in safety factor is that if the computer fails, the result is conventional damper operation, and failure of an individual damper is equivalent to failure of a conventional shock absorber.

Aimrite’s air ride suspension system replaces a vehicle's front coil springs and rear leaf springs. The air suspension comprises of a high-quality control subsystem that includes the aforementioned dual redundant air compressors, air dryers and filters, position sensors, computer-controlled solenoid valves, and a dashboard-mounted control to ensure proper operation and a long and reliable life of the air suspension in all weather and driving conditions. While stopped or driving, the control subsystem allows the operator to easily maintain the correct ride height under all loading conditions. For example, the chassis can be raised for a bumpy ride and lowered for stable highway driving. The vehicle body is automatically leveled at all four corners, even when parked on an uneven surface.

Aimrite’s suspension provides a full air suspension ride, with increased comfort and control. Built-in safety capabilities are provided that virtually eliminate traditional problems associated with air ride suspension systems.

Combining Aimrite’s two computer-controlled adaptive suspension systems would offer a luxurious ride with sports-car control and additional features at a reasonable price.

The air conditioner/heater as well as the air-ride suspension both require compressed air. There has been some talk of using compressed air also for other vehicle applications such as stiffening tubular frame members, windshield wiper motors, etc.

US Patent No. 5,056,811 for Actively Controlled Automotive Suspension System with Adjustable Rolling-Stability and/or Pitching-Stability. US Patent No. 5,735,372 for Variable Constant Force Hydraulic Components and Systems. US Patent No. 4,634,142 for Computer Optimized Adaptive Suspension System. US Patent No. 4,722,548 for Computer Optimized Adaptive Suspension System having Combined Shock Absorber/Air Spring Unit. US Patent No. 4,468,739 for Computer Optimized Adaptive Suspension System having Combined Shock Absorber/Air Spring Unit. US Patent No. 4,468,050 for Computer Optimized Adaptive Suspension System. US Patent No. 5,529,152 for Variable Constant Force Hydraulic Components and Systems. All invented by James M. Hamilton, Solana Beach, California and Lonnie K. Woods, Jacumba, California. US Patent No. 4,651,838 for Air Spring Control System and Method. US Patent 4,783,089 for Air Spring Control System and Method. All invented by James M. Hamilton, Solana Beach, California, Lonnie K. Woods, Jacumba, California, and Michael W. Godwin, San Diego, California.

Gary Vesperman researched and wrote most of Aimrite's Small Corporate Offering Registration for $1,000,000 of stock to be publicly sold to investors in 1993(?).

Low-Temperature Diamond or Titanium Nitride Coating of Vehicle Parts

Durability would be enhanced by nondestructively coating numerous parts such as shock absorbers with diamond or titanium nitride using Alvin Snaper's new low-temperature coating process. A multiple gun plasma arc deposition system allows controlled deposition of diamond and other diamond-like materials such as titanium nitride on a substrate. Deposition is controlled by controlling the time duration of pulses to a main gun, an acceptor gun and donor gun in a vacuum chamber that may contain a small amount of hydrogen. The deposition process is also enhanced with microwave temperature control and substrate dithering with a transducer.

The potential market for coating vehicle parts, machinery parts, tools, drill bits, etc seems to be enormous. Alvin Snaper holds US Patent No. 5,254,237 for Plasma Arc Apparatus for Producing Diamond Semiconductor Devices. About ten years ago, the business plan for Snaper's company Stratum Corporation had an estimate of $3,500,000 to build a pair of coating chambers and working capital of $1,000,000. While one chamber is coating objects placed inside it with diamond or titanium nitride, the other chamber would be emptied and reloaded with a fresh batch of objects to be coated.

CATEGORY – DIAMOND SEMICONDUCTOR DEVICES

The diamond deposition system and process can even be used to manufacture semiconductor devices made with diamond instead of silicon – another new industry for Las Vegas with possibly multi-billion-dollar potential.

CATEGORY – EDUCATION

Computerized Fiber Optic School Network

One dozen to four dozen junior and senior high schools in each large metropolitan area were to be linked with fiber-optic cables into a single huge network with an average cost of $100,000,000. The recent advent of the Internet and even torsion field communications possibly offers significant cost reductions.

The network's three-layer computer system would comprise of a network coordinating and scheduling computer as the top layer, an administrative computer in each school as the middle layer, and personal computers as the bottom layer. The network's customized software would include network management and coordinating functions for the system manager, two layers of software for the teachers to support 100 different functions, and 25 different functions for the students, only one of which is computer-assisted instruction. Each personal computer would have a monitor capable of also displaying telecast or recorded classes.

The typically huge scale of a school network would economically justify the simultaneous teaching in parallel of all week-long segments of each course year round with no seasonal constraints. Segmented courses would still include the standard features of conventional courses such as classes, graded examinations, and academic load standards. Short quizzes on each segment with pass/fail grading would provide quality control.

Other nonstandard features of segmented courses include modified versions of the project management tools PERT and CPM, unique statistical techniques for selecting series of two or three local/televised classes for weekly scheduling, nearly unlimited self-pacing, student interest groups, and optimum utilization of the superlearning technique.

The computerized fiber optic school network is Gary Vesperman’s own design.

During the winter of 1992, with the backing of the Clark County School District (Las Vegas, Nevada area), Gary Vesperman submitted to the New American Schools Development Corporation (NASDC) an application for a grant of $11,897,400 to develop a prototype small version of a fiber-optic network of computer-based segmented courses. The NASDC was an off-shoot of President Bush's America 2000 program. Funded mainly by donations from large corporations, the NASDC was a private company chartered to fund the development of radically different schools.

They did not win a contract. There were 685 other competitors for 11 awards. Afterwards they received short descriptions of the winning proposals. None of them appeared to be anywhere as advanced as Gary Vesperman’s design. Sometime afterwards, the Las Vegas Review-Journal newspaper had an article that raised the suspicion that one reason for their not winning was that Nevada was not important to President Bush's re-election!

Yet Vesperman has been authoritatively told more than once, although not recently, that no other design is close to his, and may be the only one that has a genuine chance to break the organizational logjam hampering our schools. All the other designs he has ever come across have flaws that his design doesn't have.

In fact a few years ago Vesperman came across an article claiming that educational computer experts have come to a dead end trying to make computers more useful in the schools. The basic systems engineering obstacle, which he believes he has surmounted, is that the answer lies in a completely different, complicated system which can not be arrived at in piecemeal fashion. His conclusion is that there is much more that could be done than just throwing a bunch of PCs into a school and then expect teachers to do some intelligent systems engineering with them.

The proposal (about 180 pages) included a development schedule which was tailored to the requirements as set forth by the NASDC. But Vesperman felt uncomfortable with their schedule. It was just too fast. It would have skipped first spending a year or so doing a few preliminary research projects which would examine the design from different angles. His intention was that since building a full-scale network for a metropolitan area would cost in the neighborhood of $100,000,000, once the small projects were finished, we would all then have a better understanding of the costs, capabilities, and limitations of the design.

Assuming that equipment costs continued to come down, and that the pilot program worked well, the next step was to expand the pilot network into a prototype full-scale version. The engineering was to be done during the third year of the pilot program. It would then take at least a year to build, and another two years to fully make the conversion from the conventional system in all networked schools.

A cadre of experts would have eventually been built up in the Las Vegas area well-versed in all aspects of engineering and using school networks. A potentially multibillion-dollar business could then be spun off to market, configure, install, and maintain school networks around the world, each network averaging $100 million.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10044.

Comment Date: February 20, 2011 22:42:28PM
Solar Energy Development PEIS
Comment ID: SolarD10044

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Henderson NLV Guideway Power Sources.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

For example, the attached "Power Sources for Regional Fixed Guideway" includes my suggestions on how to structure a sophisticated energy inventions development organization. I had submitted this comment to the record of hearings that were conducted in 2005 for a proposed mass transit train traversing the Las Vegas, Nevada metropolitan area from Henderson to North Las Vegas. For link, see http://www.padrak.com/vesperman/.

I am confident that developing some of these inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Power Sources for Regional Fixed Guideway

Dawn Oaks, Court Reporter
September 14, 2005

Please insert the following comments into the record of the Regional Fixed Guideway Public Meeting that was held September 14, 2005 in Green Valley Ranch, Henderson, Nevada:

High gasoline and jet fuel prices threaten Nevada's tourist industry. Our world uses a BILLION barrels of oil every 12 days. Yet only a puny 30 million barrels of new oil are typically found in the same time period. The global depletion rate runs at least 5% a year – perhaps at a shockingly higher rate as some major sources of oil are in serious decline. Oil production in Britain fell the steepest of any country in 2004, with production in the once fabled North Sea falling by 10% (230,000 barrels per day). Production in Alaska's Prudhoe Bay has fallen 75% since its peak in 1987. Iraq's oil production is still only half of what it was before the war. Mexico's production is declining so quickly it will have to start importing oil within the next 10 years. Even oil giant Saudi Arabia has begun underwater oil drilling.

Gasoline and diesel fuel are still needed for mining, preparing, and transporting coal to a high percentage of electricity generators. Food production, processing, packaging, and distribution are also heavily dependent on gasoline and diesel fuel. Running out of petroleum could likely result in mass starvation as well as leave millions of people literally in the dark and back to horses and buggies. Replacement of petroleum with alternative energy supplies might even be just plain too late.

Abundant new energy supplies are thus desperately needed that do not have the disadvantages of hot fusion, coal, solar, petroleum, uranium, falling water, and wind. Gary Vesperman's list of candidate new sources of energy includes the hydrosonic pump, pulsed abnormal glow discharge reactor, Davis tidal turbine, high-density plasma electron spiral toroids in neutron tube, GeoExchange heat pump, hydrino battery, metallurgical separation of hydrogen from water, high-density charge cluster device, hybrid cold fusion hydrogen reactor, electronically shaded photo-voltaic glass, Joe's energy cell, Clem over-unity vegetable-oil engine, super-steam technology, gas-phase catalytic fusion, wind-solar hemisphere power station, LUMELOID™ light-polarizing photovoltaic thin film, LEPCON™ femto diode photovoltaic glass sheet, solid-state Quantum High-Energy Density Storage or Retrieval (QUENSOR™) device, Tesla turbine combuster, buried contact multijunction thin film solar cell, fiber-based cold fusion power cell, solar hydrogen producer, Hawkings' generator of cold electricity, double-exposure flat-plate solar collector, low-temperature phase-change engine, Muller's magnetic motor/generator, hyper-cap E-converter, aluminum-water fueled hydrogen producer, converter of zero-point electromagnetic radiation energy to electrical energy, water-fueled internal combustion engine with Garrett electrolytic carburetor, noble gas plasma engine, metamatter for revolutionary energy sources and rocket engines, three versions of Casimer-effect self-charging battery, motionless electromagnetic generator, Q-cell, WIN zero point electrical energy converter, vortical energy, conversion of aluminum internal combustion engine to magnetic motor, motor/generator with electro-magnetically separated magnetic poles, Searl effect generator, 2-to-1 cylinder noble gas power plant, fuel-less Richardson generator, cold operating start technology for 100 miles/gallon automobiles, Boyce hydrogen carburetor, continuous charger for batteries – flux shifter, magnetically powered rotary unit, DiMatt Wankel closed-cycle freon/rotary turbine and generator, fluid thrust diode, Russian electrochemical energy source, high-voltage injection of rain water into cold fog, SPARTEC vacuum triode amplifier, portable power supply solar unit for hot water for Sterling engine, advanced Stirling cycle power unit, vapor generator, gas-generating BingoFuel Reactor, remediating nuclear waste with electron-captured protons with significant net energy gain, Brown nuclear battery,

Brinsbury hydrogen steam rotary engine, hydro-magnetic dynamo, gate impulse turbine, flux capacitor, pressurized vapor driven rotary engine, self-restoring mechanical oscillator engine, electric rocket, energy buoyancy source, pulsed capacitor discharge electric engine, zero point energy modules, Swiss M-L converter, "negative" resistance in carbon fibers, neutrino voltaics, and plasma biomass gasification. Doubtless numerous other energy inventions can be added to this list.

Other energy researchers can provide similarly extensive compilations of new energy technologies. Tom Valone's Integrity Research Institute (see http://users.erols.com/iri/), Sterling Allan's http://FreeEnergyNews.com/, http://www.infinite-energy.com/, Jerry Decker's http://escribe.com/science/keelynet/, http://www.newenergytimes.com/, Bruce Meland's http://www.electrifyingtimes.com/, and Russia's http://www.faraday.ru have all accumulated large databases of reports and comments on energy. Robert A. Nelson, P.O. Box 19250, Jean, Nevada 89019 amassed 10,000 pages on energy inventions and other scientific and technological subjects in his www.rexresearch.com – the contents of which are available on a $13 CD.

It seems likely that some of these inventions of new energy sources actually work as claimed and are suitably practical for worldwide deployment. An ideal energy source satisfies all these requirements:

- Is practical, economical, and scaleable from 1 kilowatt through 1000 megawatts.
- No rare elements for construction or fuel are needed.
- Operates standalone or needs minimal fuel or auxiliary energy input.
- Does not pollute.
- Can be stored and operated reliably and safely without burdensome maintenance outside in Death Valley during summer and at the South Pole during winter.
- Is silent.
- Inventor(s) is (are) reasonable to do business with.

Development and commercial manufacturing of a proven new energy source requires competent people, a doable business plan, integrity, and sufficient money to carry the enterprise until it reaches profitability. Each energy invention is burdened with the baggage of its own unique little tale. Some energy inventors may be brilliant, of course, but are otherwise incompetent businesspeople. Development may be hampered by unethical investors or associates, an inventor's illness or death, or suppression by existing energy industries and the tangle-footed US federal government. Shortcomings in the energy invention itself may need further research to be mitigated or eliminated, if possible. New energy sources typically do not qualify for financial support from venture capital, large corporations restricted to operating within their chosen missions, and governments unaware of or even hostile to unconventional energy sources. The International Brotherhood of Electrical Workers even has a long track record of fighting against renewable energy sources, new technology and distributed electricity generation as exemplified by its successful campaign to stop in California's State Assembly legislative bill SB1. See http://www.renewableenergyaccess.com/rea/news/story;jsessionid=aocWhN_NdANb?id=36396. Enactment of SB1 was to advance widespread deployment of solar energy in California.

To overcome such obstacles, perhaps in keeping with Nevada's frontier spirit of independence and eccentricity, Nevada should implement its own Plan for Energy Action Now! which would proactively find, verify and deploy new non-mainstream sources of energy at a World War II-styled pace. Nevada's Plan for Energy Action Now! would embrace an alliance of Nevada elected officials, a for-profit Nevada corporation, limited liability companies, a non-profit energy research institute, agreements with energy inventors and consultants, and grassroots support by millions of people who are angry at increasingly higher energy prices.

The for-profit Nevada corporation will be a new company incorporated in Nevada with a name such as “Nevada Energy Corporation” or whatever. Nevada Energy Corporation will comprise the organization’s executive directorate and provider of managerial, technical, marketing and financial resources to new energy inventions.

Each new energy invention will be individually owned by a new Limited Liability Company (LLC) chartered to develop and commercialize the invention as rapidly as permitted by circumstances and available funds. Ownership of each energy invention developer LLC will initially be split fifty-fifty between the energy invention’s inventor(s) and Nevada Energy Corporation.

Key managerial, technical, and financial consultants may be employed by either Nevada Energy Corporation or another LLC named Nevada Energy Consulting Group LLC. Nevada Energy Consulting Group LLC will be 100% owned and managed by Nevada Energy Corporation. Nevada Energy Consulting Group LLC, in addition to being paid fees by an energy invention developer LLC for consulting services, will have the option of ownership of up to 5% of the invention’s LLC.

Nevada Energy Consulting Group LLC will in turn wholly own and operate, with managerial oversight by Nevada Energy Corporation, Nevada Energy Institute, a 501c[3] non-profit corporation with federal tax-exemption status. Nevada Energy Institute will be chartered to grow the organization’s library of books, articles, and other literature relating to alternative energy sources. Nevada Energy Institute may be commissioned by Nevada Energy Corporation and other companies and governmental agencies to thoroughly study new energy inventions with impeccable accuracy and honesty. Videos of interviews with energy inventors will be recorded and stored for posterity. Besides supporting scholarly research of energy inventions and issues, Nevada Energy Institute will also conduct symposiums, seminars and classes on energy issues and inventions. Nevada Energy Institute may elect to publish an energy journal or newsletter, or more likely buy an existing alternative energy publication. Alliances with the University of Nevada, Nevada State Colleges, and the Desert Research Institute are expected.

A very significant part of Nevada Energy Institute will be its Technical Advisory Board. Nevada Energy Corporation will be primarily responsible for finding, evaluating, verifying, selecting, negotiating, and planning the development of new energy inventions. As indicated above, the actual development, manufacture, and marketing of an energy invention will be carried out by its owner LLC. Nevada Energy Institute’s Technical Advisory Board will employ as part-time or full-time consultants as many as a half-dozen highly qualified experts in new sources of energy, of which there seems to be a total of only a few dozen in the United States.

The main function of Nevada Energy Institute’s Technical Advisory Board will be to screen and research the technical and commercial merits of new energy sources. While both Nevada Energy Corporation and Nevada Energy Consulting Group LLC also will separately find and preliminarily study new energy sources, the Technical Advisory Board would provide supplementary detailed evaluations with a high degree of credibility and defensibility – hopefully independent of the more commercial bias of Nevada Energy Corporation. The success of the alliance’s commitment to find and develop a useful portfolio of massive new sources of energy will depend hugely on thorough, accurate, and fair evaluation, and then careful selection of new energy inventions.

Before incorporating an energy invention developer LLC, Nevada Energy Corporation will draw up and co-sign with the invention’s inventor(s) the LLC’s Operating Agreement, and a contractual Intellectual Property First Right of Refusal.

With each inventor and consultant, Nevada Energy Corporation and Nevada Energy Consulting Group LLC may co-sign one or more of the following agreements:

- Master Energy Invention Purchase Agreement
- Member Confidentiality Non-Compete and Development Agreement
- Energy Invention Developer LLC Amended and Restated Operating Agreement
- Energy Invention Developer LLC Subscription Agreement
- Employee Confidentiality Non-Compete and Development Agreement
- Assignment of Proprietary Rights Agreement

In addition, Nevada Energy Consulting Group LLC signs its own Consulting Agreement with each Consultant. As indicated above, Nevada Energy Consulting Group LLC will provide consulting services to Nevada Energy Corporation and each individual energy invention developer LLC. Nevada Energy Corporation may also give consultants some ownership shares of its stock.

The overriding objective of this possibly unique organizational structure is to provide each inventor and consultant a small share of all the other inventors' successes and failures. Thus the success of the collective expertise of the energy invention development organization's key employees, consultants and inventors can be somewhat fairly shared as well as synergistically utilized.

To meaningfully fulfill Nevada's bold "Plan for Energy Action Now!", Nevada Energy Corporation should raise a ballpark $100,000,000. The urgent need for enormous new energy supplies demands much speedier financing than customary government grants, venture capital, and registering and selling stock.

Harnessing the purchasing power of Nevada's 40,000,000 visitors per year – nearly all of whom are likely to be upset by increasingly higher gasoline prices and galvanized into personally doing something, Nevada Energy Corporation will try to sell 10,000,000 T-shirts at an average profit of $10. Each T-shirt will be priced at $9.95 plus a suggested additional contribution of what the buyer considers to be the price of a quarter tank of gasoline! Another price could be a half-tank of gasoline with a minimum price of $3.95.

The front of the T-shirt would have an eye-catching drawing or photograph. Somewhere would be printed two lines of text. The top line would be Energy Action Now!", and the bottom line would be "Nevada Energy Corporation". Perhaps worthy of consideration is printing on the T-shirt's back side a photo of Planet Earth. Two lines of text would be printed in that photo's black field above the planet. The top line of text would be "Save Our Planet", and the bottom line "Energy Action Now!".

A small brochure would be provided with each T-shirt. The brochure would show a copy of the front of the T-shirt. The energy invention development mission of Nevada Energy Corporation, the recipient of funds from T-shirt sales, and its allied LLC's would be described. A list of candidate energy inventions similar to the above list would be included. If Nevada's current Governor (and the future Governor to be elected in 2006) is agreeable, the brochure would include his photograph and a message of endorsement from him.

The foundation of Nevada's Plan for Energy Action Now! is the vigorous participation by many of Nevada's tourist service companies and airports in selling Nevada Energy Corporation's T-shirts with brochures. When people step off their jetliners into an airport, they should encounter advertising that alerts them to Nevada's energy crusade. Each gift shop selling T-shirts should have signs imploring tourists to support Nevada's Plan for Energy Action Now! by buying Nevada Energy Corporation T-shirts. Even restaurants, stores, radio stations, and gas stations with a little extra effort and missionary zeal may be able to sell millions of T-shirts.

One idea for signs is a small truncated wedge-shaped cardboard cutout to be placed on desks and cashier counters, and a large cardboard cutout to be placed on the floor. Both cutouts would show the aforementioned eye-catching front of the T-shirt. Above the T-shirt drawing or photograph, there would be three lines of text: "Fed Up with High Gas Prices?", "Buy Energy Action Now T-Shirts!", and "$9.95 Plus One-Quarter Tank of Gas". Below the photograph would be four lines of smaller text printed on the lower small truncated end of the wedge-shaped sign: "Nevada's Plan for Energy Action Now!", "All profits to develop new energy inventions", "Nevada Energy Corporation", and "www.Nevadaenergy.com".

Hopefully numerous Nevada conventions will allow or even donate a booth where Nevada Energy Corporation T-shirts can be sold. Many truck drivers are hard hit by rising fuel costs. The Teamsters Union may easily be persuaded to join Nevada's energy crusade by buying and selling T-shirts. Nevada's casino companies, airports, and the Las Vegas Convention and Visitors Authority may also be persuaded to provide free floor space for Nevada Energy Corporation floor signs. Other possible venues include shopping malls, conservation and student organizations, sporting events, and concerts.

To fail to sell 10,000,000 Nevada Energy Corporation T-shirts may well condemn Nevada's booming tourist industry to a bust not very many years from now. Nobody else seems willing and able to develop new unconventional energy inventions except fun-loving free-spirited unconventional Nevada!

Several energy inventions have been identified as candidates for development and support by Nevada Energy Corporation and its allied LLC's. During the next year or so, additional energy inventions are anticipated to be added to the list of apparently viable candidates.

Some years ago Frank Scott was a member of the Board of Directors of Nevada Power. One of his projects was a high-speed train between Las Vegas and Anaheim, California. We worked together on a couple of other high-tech projects. Mr. Scott told me that it would be much easier and cheaper if the high-speed train could somehow generate its own power rather than obtaining its power from overhead electric power lines.

A lower-speed electric train between Henderson and North Las Vegas could be constructed and operated more cheaply and easily if it also does not need cumbersome, expensive overhead electric power lines. The train's locomotive would then need its own internal fuel-less power source. The following is a list of energy inventions that appear to be candidates for the power source:

Pulsed abnormal glow discharge reactor, high-density plasma electron spiral toroids in neutron tube, hydrino battery, metallurgical separation of hydrogen from water, Clem over-unity vegetable-oil engine, solid-state Quantum High-Energy Density Storage or Retrieval (QUENSOR™) device, low-temperature phase-change engine, Muller's magnetic motor/generator, aluminum-water fueled hydrogen producer, nickel-iron battery, converter of zero-point electromagnetic radiation energy to electrical energy, water-fueled internal combustion engine with Garrett electrolytic carburetor, noble gas plasma engine, metamatter for revolutionary energy sources and rocket engines, Q-cell, three

versions of Casimer-effect self-charging battery, motionless electromagnetic generator, WIN zero point electrical energy converter, 2-to-1 cylinder noble gas power plant, fuel-less Richardson generator, continuous charger for batteries – flux shifter, magnetically powered rotary unit, DiMatt Wankel closed-cycle freon/rotary turbine and generator, fluid thrust diode, Russian electrochemical energy source, high-voltage injection of rain water into cold fog, gas-generating BingoFuel Reactor, Brinsbury hydrogen steam rotary engine, hydro-magnetic dynamo, gate impulse turbine, Searl effect generator, Swiss M-L converter, flux capacitor, pulsed capacitor discharge electric engine, zero point energy modules, “negative" resistance in carbon fibers, thin-film electrolytic cells, and plasma biomass gasification.

Several of these energy inventions are described as follows:

Metallurgical Separation of Hydrogen from Water

Alternate Energy Corporation (AEC) is launching a device in 2006 for producing hydrogen from water with positive net energy output. AEC (see www.cleanwatts.com) owns a metallurgic formulation which separates hydrogen from water at low cost, requiring no electrical energy or external input, and without utilizing or producing any hazardous waste materials. AEC's process involves chemical reactions between a proprietary metal alloy mix and the liquid solution. These metals are plentiful, stable in cost and produce effective, highly purified hydrogen utilizing a catalytic process.

AEC’s demonstration units power a hydrogen-fueled internal combustion engine and Astris Energi's model E8 2.4-kilowatt alkaline fuel cell. These demonstrations substantiate AEC’s ability to generate hydrogen and electricity to power a variety of devices such as electric cars and heat pumps at very competitive prices. AEC has already received $1.5 million in funding and is registering stock for sale to provide additional funding.

High-Density Plasma Electron Spiral Toroids In Neutron Tube

Several thousand neutron tubes are in use in the US today that safely collide hydrogen ions to produce neutrons, which in turn are used for medical testing, industrial process control, and homeland security. An ion source produces hydrogen ions (deuterium), which are accelerated to 110 kilovolts, then directed to hit a hydrogen target (also deuterium), which produces neutrons, and also heat as a waste product. Neutron tubes today produce neutrons and a low level of heat energy. The low density of the hydrogen ions limits the amount of energy produced.

In the 1970's, Dr. Wells at the U of Miami collided two plasma toroids to produce low-level fusion energy in the TRISOPS system. The amount of energy produced was limited by the short duration time of the plasma toroids used, as well as their low density and their low level of energy. Electron Power Systems, Inc., (see www.electronpowersystems.com) has discovered a plasma electron spiral toroid that remains stable without magnetic confinement, by using background gas pressure for confinement instead. These new plasma toroids are observed to remain stable for thousands of times longer than classical plasma toroids, which opens the way for new clean energy applications.

The Company’s new stable plasma electron spiral toroids will overcome each of the neutron tube’s limitations, and will potentially result in fusion with no magnetic containment required, thus producing a practical micro-fusion reactor. The Company’s challenge is to adapt the new stable plasma toroid to the TRISOPS method.

The micro-fusion reactor invention, owned by Electron Power Systems, Inc., adapts the Electron Spiral Toroid (EST) Spheromak to the neutron tube design. The EST Spheromak is patented jointly with MIT scientists who also have published papers confirming the EST Spheromak physics and data. The EST Spheromak will overcome the neutron tube limitations by increasing ion density by 2500 times. A metal containment can be used for efficient heat energy collection and conversion.

The EST Spheromak micro-fusion reactor will be less than three feet in length, the same as for present neutron tubes, and small enough to fit in an electric car. Elimination of the need for magnetic containment allows this power supply to be small and compact. A micro-fusion reactor will use hydrogen/boron to produce clean energy without neutrons. One pound of hydrogen/boron replaces 250,000 pounds of gasoline. Hydrogen and boron are plentiful and will not run out, as oil is projected to do in the 21st century.

The EST Spheromak micro-fusion reactor is scaleable from 1 kilowatt to 1000 megawatts, and operates safely, reliably and silently at both extremely high and low outdoor temperatures. Electron Power Systems, Inc., has developed preliminary designs for a 10-kilowatt supply that will heat and power a house, and for a 100-kilowatt supply suitable for powering an electric car. Electron Power Systems, Inc., has a preliminary design for a model and can provide calculations that support the 1000-megawatt application.

The company first plans to make a small EST Spheromak furnace to heat homes and buildings at one-tenth the cost of oil, gas, or today's electric heat. The Company next plans to make a non-polluting car engine since an EST Spheromak-based car would cost 10% less to buy and 90% less for fuel than today's gasoline cars, and will be silent and pollution free.

The cost to produce a 10-kilowatt EST Spheromak electricity generator would be about $1100 in production quantities. The EST Spheromak generator would have fewer parts than a comparable Sears generator.

Electron Power Systems, Inc., does not have a working prototype. The company has identified the instrumentation and needs another $100,000 for laboratory work. With $2,000,000, the company expects to have in two years a demonstrable prototype. In an additional year for $8,000,000 a production prototype is expected to be built. Remember, each piece of the project uses technology others have demonstrated. It is hoped that a funded Nevada energy development alliance can force feed a faster World War II-styled timetable to commercial production – so dire is the need for new, economical large-scaled energy supplies.

Zero Point Energy Modules

http://pesn.com/2005/06/17/9600113_MagneticPowerInc_Pre-Production/ describes progress being made by Magnetic Power, Inc., developing standalone petroleum fuel-less electrical generators which could provide electricity for buildings and self-powered electric vehicles. MPI has a number of designs under development, and has built a few working prototypes including rotating as well as solid-state, no-moving-parts devices.

Pre-production stage zero point energy modules built with off-the-shelf components are expected to generate electricity anywhere, any time, for less than 1 cent per kilowatt-hour. One-kilowatt modules are expected to be ready for market early 2006. A one-kilowatt module would power ten 100-watt light bulbs, for example. Most homes can operate with approximately a dozen one-kilowatt zero point energy modules.

Pulsed Abnormal Glow Discharge Reactor

A typical flashlight's light bulb is a glass vacuum tube where the flashlight's batteries force current through the bulb's filament, resulting in a power loss equal to the square of the current times the positive resistance of the filament. The power is then radiated out of the light bulb as light and heat.

Physicists have known for many years that the pulsed abnormal glow of a discharge tube has a negative resistance characteristic. What physicists have not appreciated, until the development of the PAGD reactor, was the real possibility or the knowledge of precisely how to go about extracting 'free' energy by exciting self-sustaining oscillations in the plasma discharge.

The pulsed abnormal glow discharge (PAGD) reactor is an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode over-heating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of those tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued: US Patent 5,416,391 for Electromechanical Transduction of Plasma Pulses. Paulo N. and Alexandra N. Correa, Concord, Ontario, Canada. US Patent 5,449,989 for Energy Conversion System. Paulo N. and Alexandra N. Correa, Concord, Ontario, Canada. US Patent 5,502,354 for Direct Current Energized Pulse Generator Utilizing Autogenous Cyclical Pulsed Abnormal Glow Discharges. Paulo N. and Alexandra N. Correa, Concord, Ontario, Canada. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing are currently under development. The inventors hope that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits. The inventors are presently engaged in negotiating licensing agreements with a view to development of the applications.

Hydrino Battery

Blacklight Power is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called “hydrinos”. When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. Blacklight has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

Blacklight is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. Blacklight Power, Inc., claimed some years ago that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles.

Quantum High-Energy Density Storage or Retrieval Device

Essentially a very thin battery, the solid-state Quantum High-Energy Density Storage or Retrieval Device (QUENSOR™) has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed. If the upper limit of 15 kilowatt-hours per kilogram is assumed, a 60-pound QUENSOR device can supply an electric car, in round numbers, 20 horsepower of electric power at 50 miles per hour for 30 hours, or a total of 1500 miles on a single charge. A 20-horsepower electric car is as powerful as a 100-horsepower gasoline car.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

Low-Temperature Phase-Change Engine

Has some similarity to refrigerator or heat pump. Working fluid of ammonia or carbon dioxide is expanded by propane heater, a thermal reactor, or environmental heat to move pistons. Applications include vehicle engines, small-scale on-site electrical generators, and large-scale water lifters for dams and canals. (Could double electrical output of Hoover Dam.)

Clem Over-Unity Vegetable-Oil Engine

Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine's durability, the only working model of the Clem engine has been continually running on his son's farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop for manufacturing hollow shafts and cones.

Aluminum-Water Fueled Hydrogen Producer

Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank's pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Water-Fueled Internal Combustion Engine with Garrett Electrolytic Carburetor

Henry "Dad" Garrett and his son, Charles H. Garrett, in 1935 patented and exhibited an automobile that ran on water substituted for gasoline. Actually, the fuel was hydrogen after the water was broken down by electrolysis. The only items needed to convert a gasoline-powered auto to a water burner was an electrolytic carburetor and installation of a generator of double normal capacity for the breaking down of the water. Instant starts in any weather, no fire hazards, cooler operation and plenty of power and speed were claimed.

Rather than store the inflammable hydrogen, the same process makes the gas without a storage chamber in which the flames from the motor's cylinders might react. Water is broken down into its component gases by passage of an electric current through it from electrodes immersed in the water. Hydrogen collects at the negative pole, and oxygen collects at positive. The hydrogen is then mixed with air and introduced directly into the cylinders. For an ordinary automobile, an electrolysis chamber of about a quart in capacity is big enough.

In summary, this simple process can provide:

Heat - through the burning of hydrogen/oxygen.

Power for local energy generation - the explosive energy to drive a piston to drive a shaft to power a generator. The generator then charges a battery network which feeds an inverter (converts DC to AC) to run your house.

Motive power for transport power - explosive energy drives the piston to drive your vehicle.

Light - condoluminescence - hydrogen/oxygen exposed to phosphor-coated surfaces for light generation.

Sound amplification - flame speakers where flame is electrostatically deflected at audio rates to produce sound. The hydrogen/oxygen mix is generated *locally* rather than using bottled gases such as propane, butane, etc.

Noble Gas Plasma Engine

Joseph Papp was granted US Patent #3,670,494 for his "Noble Gas Plasma Engine". A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

Muller's Magnetic Motor/Generator

Electrical generators in common use require external torque from gas, hydroelectric, and steam turbines, for example, to overcome back electromotive force. Bill Muller's magnetic motor/generator eliminates back electromotive force. The coils are removed from the rotor and instead wrapped around powerful magnets equally spaced around the stator. Magnets are also equally spaced around the rotating disk. However, the number of rotor magnets is one more than the number of stator magnets.

A typical commercial motor involves pushing and pulling magnetically where in the Muller motor/generator only the magnetic pulling effect occurs. A perfectly balanced arrangement of the magnets results in a disk-like rotor that can be turned with no effort at all. The completely reversible result is if current is applied to the stator coils, the rotor turns. If the rotor is turned, the stator coils can generate current to be supplied to a load.

The stator coils are wrapped around cores made of inexpensive Muller-patented amorphous material which eliminates heat-producing hysteresis and eddy current losses. Because of instantaneous saturation and permeability, much less wire is needed for the stator coils which greatly reduces both ohmic resistance losses and inductance losses. No brushes are needed like in conventional direct current generators and motors which wear out. Bearing friction losses are greatly reduced by both weight reduction and using Muller's cone-shaped magnetic bearings (patent applied for).

Casimer Effect Self-Charging Energy Cell (Three Versions)

The force of gravity is described by some physicists as the ether weakly pushing two objects such as a book and the earth into each other's shadow. Gravity can also be thought of as the long-range version of the Casimer effect. The Casimer effect predicts that two metal plates close together will attract each other.

Consider the plates set at a certain distance apart. In the space between the plates, only those ether (vacuum) field fluctuations for which a whole number of half-waves just spans the distance can exist, just like waves formed by shaking a rope tied at both ends. Outside the plates, the fluctuations can have many more values because there is space. The number of modes outside the plates, all of which carry energy and momentum, is greater than those inside. This imbalance PUSHES THE PLATES TOGETHER.

The proprietary Casimer effect self-charging energy cell contains many extremely thin layers of carbon, magnesium, chromium oxide, and a couple of other elements and compounds. The result is analogous to a boat that has some rather large leaks. More water pours into the boat as fast as water is bailed out. Likewise, as electromagnetic energy is drawn out of the Casimer effect self-charging energy cell when inserted in an electrical circuit, energy is drawn in from the surrounding ether. Physically and functionally, the Casimer effect energy cell is like a solid-state battery that recharges itself with some valuable features such as simplicity and compactness.

Richardson Fuel-Less Electrical Generator

Two pairs of electromagnets warp permanent bar magnet's magnetic fields across field coils to achieve over-unity electrical energy conversion gain, the magnitude of which is unknown. Completion requires additional resonant circuit components. It appears to be a potentially robust generator of electricity. US Patent No. 4,077,001 for Electromagnetic Convertor with Stationary Variable-Reluctance Members. Frank Richardson.

Frank Richardson also developed a blade-less Tesla-type steam turbine. The turbine has a closed-loop cycle which he claimed is far more efficient than the electric motor in terms of converting electrical energy into rotational energy for application to a vehicle's drive wheels. The water is heated with radio frequencies like a microwave oven into steam which is then forced through two disks in sequence. The two disks are perforated in such a manner as to prevent cavitation (bubbles) even at high rotational velocity. Since steam offers a 1,000-to-1 expansion ratio compared with gasoline's expansion ratio of approximately 300 to 1, the turbine is extremely powerful. An 18-inch diameter prototype's output power was measured at approximately 1,000 horsepower.

Combining a blade-less steam turbine with his electrical generator, Richardson had built a self-powered modified beetle-shaped Volkswagen automobile which he drove around during the early 1970's without bothering with refueling at gas stations, tune-ups, oil changes, etc.

WIN Zero Point Electrical Energy Converter

The WIN Zero Point Electrical Energy Converter extracts AC current with an output power over input power gain as high as 268.6%. It generates electricity by collecting electrons between E-dam cermets in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimer effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input.

Conversion of Aluminum Internal Combustion Engines to Magnetic Motor

Heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle. If the electric motor is replaced with a Muller magnetic motor (see above), the combined energy conversion gain is projected to be about 300.

Joe's Energy Cell

The Joe's energy cell basically comprises of two metal containers, one inside the other. Both containers are filled with specially charged and cleaned water with the inner container perforated to allow water to freely move between the inside and outside of the inner container. The outside container is electrically connected to the anode of a battery, and the inner container connected to the battery's cathode. The outside container is closed except for an orifice to which a thin pipe is attached. The other end of the pipe is attached to the outside housing of the carburetor of a gasoline engine. Gas/energy is transferred to the carburetor through the pipe. The entire cell including the pipe must be electrically insulated from the engine.

Various designs and shapes of both containers have been experimentally built. The original and simplest comprised of both containers as long pipes with the inner pipe, which was perforated, inside the outer pipe.

At least fourteen vehicles in Australia have been fitted with different versions of Joe's energy cells to be driven without fuel nor battery charging. The engine, radiator and exhaust pipe stays cold enough to freeze water – warranting replacing water in the block with transmission fluid. The timing does have to be advanced between 25 and 80 degrees, depending on the type of engine, to allow the engine to run smoothly. The engine's power doubles over that when petrol-fueled.

The Joe energy cell is not explainable using conventional mainstream physics. It is not even known if the process inside the cylinders is implosion, explosion, or both. No gasoline is mixed with air inside the carburetor. It appears that zero-point energy is somehow drawn from the ether and converts the air entering the cylinders into some kind of fuel. The inventor claims the process increases the frequency and energy of the air.

For converting existing gasoline-powered vehicles into self-powered vehicles which don't require fuel nor battery charging from a local electric utility, adding the Joe's energy cell seems to offer by far the easiest modification. Nearly the entire engine is left alone. A separate heater would have to be provided since the engine runs cold. The vehicle will not rust, and paint will not oxidize.

High-Voltage Injection Of Rain Water Into Cold Fog

Many prototype systems exist today which efficiently convert potential energy into useful work. An example of such a system is the "Cold Fog" discovery of Dr. Peter Graneau of Northwestern University. Dr. Graneau's system converts chemical bond energy into kinetic energy by injecting rain water with a high voltage discharge of 39.8 joules. Normal rain water subjected to this treatment becomes a cold fog which loses approximately 31.2 joules of low-grade heat and a comparable amount (29.2 joules) in the form of kinetic fog energy output. As reported in the prestigious ***Journal of Plasma Physics*** the output energy exceeds the input energy by about 100%, creating a 2:1 over-unity condition. The energy output produced by this system can be captured and harnessed to drive a motorized conversion system.

Power Technology's Nickel-Iron Battery

Las Vegas inventor Alvin Snaper (600 patents and innovations) through his company, Power Technology, Inc., is developing a superior new nickel-iron battery with none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally friendly than lead. (For more information, see www.powerpwtc.com/business_of_issuer.htm.)

Searl Effect Generator

The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don't touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a "governor", either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG's primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small "inverse gravity" vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue. The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

Two Russian scientists replicated the Searl effect generator and vindicated all of these somewhat unusual claims. See their paper "Experimental Research of the Magnetic-Gravity Effects",
V. V. Roschin and S. M. Godin, Institute for High Temperatures, Russian Academy of Science, Izhorskaya 13/19, Moscow 127412, Russia.

At one time, a German power company reportedly considered replacing a nuclear power station with eight fuel-less SEGs costing a total of about $4.5 million and generating a total of 240 megawatts with no pollution.

Testatika Free Energy Machine

The Testatika free energy machine was developed over a 20-year research period in Switzerland. It resembles a Wimshurst electrostatic generator commonly seen in high school physics labs. Other documents may refer to it as the "Swiss M-L converter" or "Thesta-Distatica." The inventor of this superb machine, Paul Baumann, claims its running principle was found by studying the effects of lightning.

Testatika not only runs on its own energy but produces also a huge amount of excess power. A video shows a demonstrator unit producing at least 3 kilowatts of power. Yet the machine is only about 70 cm wide, 40 cm deep, and about 60 cm tall. It delivers DC voltage ranging from 270 to 320 volts, only depending on the dryness of the air. At this voltage it can supply at least 10 amperes of DC current.

Testatika is not a perpetuum mobile, but an energy machine that collects its "free" energy from the charged and ionized air particles. Some technological tricks are implemented to overcome the normal drag resistance of a conventional Wimshurst machine, which is still the secret of the Swiss group. However, progress is being made by several researchers in the underground science network in deducing and explaining the basic mechanisms of this remarkable machine.

The initial high voltage, at high frequency, is produced by twin counter-revolving electrostatic disks made from magnetic stainless steel. The magnetic disk segments provide an electromagnetic speed control for the disks, while functioning as electrostatic elements to provide the very high voltage.

The solid-state amplification subsystem consists of polarized sections of barium-iron permanent magnets with multiple coil arrays, as first introduced by Hans Coler in Germany during the 1940's. This subsystem increases the amperage level about 20 times from the 150 watts from the twin electrostatic disks up to about 3000 watts at the output terminals.

An independent feedback subsystem provides the electromagnetic force to power a small DC motor to revolve the twin electrostatic disks continuously. This arrangement consists of two horseshoe magnets with coil sets wound fully around each magnet leg. This feedback method provides that the Testatika free-energy machine is a fully standalone system, with no external power input. Once the two disks are turned by hand, they continue to revolve on their own, producing free energy.

The Testatika machines (some smaller units also exist which only deliver about 200-300 watts) are not yet mass-production type models. They are still laboratory prototype units, although they are built with a very good craftsmanship. No maintenance is required with these units.

Remediating Nuclear Waste with Electron-Captured Protons with Significant Net Energy Gain

This technology constitutes an enormously promising source of "free" energy. Using high-density charge cluster accelerators, it is now technologically feasible to produce 10-20 times as much energy by remediating radioactivity emissions from stockpiles of nuclear waste products as they originally produced. As a result of the patented work of Kenneth Shoulders, S-X Jin, Dr. Hal Puthoff, Prof. Illyanuch, Prof. Mesyats, and others, this new low-velocity method for remediating nuclear waste with electron-captured protons has been demonstrated in laboratory tests to generate substantially more energy [in the form of photons as light and electrons as heat] than is required to power the treatment apparatus itself.

The technique produces electron clusters with energy densities equivalent to 25,000 degrees Celsius upon impact with a target material, while consuming only 20 microjoules to produce the effect. The electron clusters travel at no more than 10% light speed and have been shown to penetrate any substance with a high degree of precision. Using a deuterium-loaded palladium foil, bombardment areas demonstrate transmutation into silicon, calcium, magnesium and lithium. Jin's paper describes how the high-density electron clusters achieve impact results similar to those produced by high-velocity ion accelerators, including penetration of the nucleus, with 1000 times less power. The new physics of like-charges clustering in bundles under low power conditions opens a wide range of possible applications including micro-thrusters for space craft maneuvering. The over-unity conversion efficiency of these systems is currently estimated to be at least nine to one.

Plasma Biomass Gasification

Examples of such systems can be found in the processes developed by Dr. David Wallman [US 5,417,817], Dr. Ruggero Santilli, Dr. Randall Mills [US 6,024,935], and others. What these technologies have in common is that they operate by producing a variety of combustible gases from a wide variety of municipal waste, biomass waste, sewage and other materials containing high concentrations of hydrocarbons. Each of these systems produces substantially more energy content in the collected gases than is required to drive the carbon-arc filaments which operationalize them. The amount of carbon dioxide generated by the combustion of the gases derived from these processes is precisely the same as they absorbed while the materials were originally being formed. Contrast this with burning fossil fuels (diesel, gasoline, oil, natural gas) which resurrect old buried carbon and add it to the atmosphere. The combustion of gases produced by biomass processing is usually characterized as follows: It requires 3300 BTU to produce 250 liters per hour of COH_2 (8.5 cubic feet/hour). With a heating value of over 500 BTU per cubic feet, the COH_2 output energy exceeds 4,000 BTU, often approaching 5,000 BTU in high efficiency designs. Accordingly, the biomass gasification process operates at an over-unity efficiency of between 125%-150%. This process is a largely untapped resource. Millions of gallons of farm-produced liquid biomass is going to waste, as is the energy potential represented by the COH_2 which could be produced from municipal sewage and waste water systems.

Plasma biomass gasification is not a trivial energy source. The Republic of South Africa does not import a single drop of petroleum to support its transportation requirements. Instead, 100% of its diesel fuel and gasoline is produced by two plants which operate on these principles.

Thin-Film Electrolytic Cells

A number of seasoned technology integrators have developed thin-film energy storage technologies which hold considerable promise. Dr. George Miley, Dr. Robert Hockaday and others have developed thin film technologies with energy densities exceeding 250-400 watt hours per kilogram. Dr. Miley's invention is illustrative. Using a flowing pack-bed type electrolytic cell with 1-molar $LiSO_4$ in light water, 1mm plastic beads with a very thin [500-1,000 angstrom] film of metal [nickel, palladium, titanium] are employed. A special sputtering technique is used to spray the metals onto the surface of the beads. With 2-3 volts of electrical power and 1.5 milliamperes of current, the single film experiments have shown the material to produce more than 10 times as much output power as input. The input power is no more than 0.01 watts while .5 watt of heat is produced. It is likely that the physics involved in this reaction involve the release of energy as a by-product of nuclear transmutation. Dr. Miley has written, "The key finding from these studies has been the observation of a large array of "new" elements (i.e., different from the original bead coating), many with significant deviations from natural isotopic compositions, after the run.

Great care has been made to ensure that these elements are distinguished from isotopic impurities by use of a "clean cell" with high purity components and electrolytes, in addition to the pre-and post-run analyses. Even low-energy radiation was detected from the bead days after each experiment. Applications to space power, providing a 1-kilowatt cell with only 500 cubic centimeters of active electrode is predicted." Note that this particular invention, with its large over-unity energy yield, was awarded a NERI grant by the DOE. At the insistent urging of the American Physical Society and representatives from MIT and other universities whose laboratories are currently engaged in high-temperature gas-cooled nuclear reactor research, Secretary Richardson eventually withdrew the grant. The tangle-footed Department of Energy actively discourages the development of new sources of energy, presumably to appease the oil, uranium and coal companies. The U.S. Patent Office has unfairly classified secret nearly 4000 energy patents. Luckless energy inventors then risk 20 years in prison if they work on, sell, or publicize their energy invention – often created at great personal sacrifice.

Hydro-Magnetic Dynamo

The hydro-magnetic dynamo is a large-scaled emission-free electrical generator which does not requires external fueling and operates safely, reliably and silently at moderate temperatures. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One doughnut-shaped 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics who were unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at $500 per kilowatt which is competitive to nuclear power's capital costs of $5,000 per kilowatt, windmill capital costs of $4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, buses, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street $4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ball park of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day of the year to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent IPC H 02 K 44/00 “Method of deriving of electrical energy and organization of Gritskevich’s MHD-generator for its realization”:

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water’s friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavitatal-vacuum structures, and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Best Power Source for Electrified Rail Version of Regional Fixed Guideway

The Regional Fixed Guideway ideally would be noiseless, economical to construct and operate, and generates its own power. A self-powered, quiet electric locomotive would not require expensive and cumbersome overhead electricity transmission wires. Of all of the aforementioned energy inventions, perhaps the candidate power source that may be available the soonest and requires the least amount of research and development is Alternate Energy Corporation’s water-fueled hydrogen producer combined with Astris Energi's alkaline fuel cell. The fuel cell’s electricity would power electric motors. Being fueled by only water, the Regional Fixed Guideway’s operating costs would not be affected by high crude oil prices.

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Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10045.

Comment Date: February 20, 2011 23:01:45PM
Solar Energy Development PEIS
Comment ID: SolarD10045

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Torsion Field Attributes.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

David Yurth has a couple of times written me about torsion field devices other than torsion field communications. Our mutual friend and fellow non-mainstream scientist Tom Bearden has also conceived similarly exotic devices. For more on the remarkable potential of the torsion field, see http://www.ufodigest.com/news/0809/torsion-field-print.php.

The attached "Torsion Field Attributes" includes a claim that "A clear understanding of these mechanics will enable us to commercialize energy storage devices which have energy conversion characteristics well in excess of gasoline [650 watt-hours/kg]."

The attached "Torsion Field Attributes" also includes this:

"At the Institute for Problems of Materials Science located in Kiev, Republic of Ukraine, a scientific team led by Academicians Trefilov, Tovschuk and Kovalyuk created a solid-state energy cell which produces 850-1040 watt-hours/kilogram, in laboratory prototypes.

This is at least 35-50 times the energy density of any known conventional energy storage devices developed in the West. The reliability of their claims regarding this technology has been verified by INEEL, DARPA and the AMTL. A key element of their crystalline lattice deposition method relies on the effects of a torsion field beam.

Scientists working at Sandia Laboratories in Los Alamos, New Mexico, have reported the successful development of a thin-film solid-state energy storage device which reportedly demonstrates energy density in the range of 250-400 watt-hours/kilogram."

I am confident that vigorous development of energy applications of the torsion field would eventually lead to practical replacements of wind turbines and solar power plants.

Torsion Field Attributes

(These were excerpted from David G. Yurth's unpublished book "Seeing Past The Edge".)

A sizable list of attributes has been experimentally identified which demonstrates that the torsion field operates holographically, without regard to time and distance. Its operations are characterized by a variety of behaviors which have been described conceptually, experimentally and mathematically as functions of spin polarity, angular momentum and weighted waveform vector velocities.

In August 1999, Dr. Myron Evans, Dr. Lawrence Crowell and a team of sixteen other physicists, engineers and mathematicians published the first reformulation of Maxwell's field equations in over a hundred years[i]. Contained in their extraordinary work are reformulations of the entire family of formulas which have been developed over the past 100 years to describe the attributes, functions and dynamics which characterize electromagnetic fields. Their seminal work demonstrates that the functions and attributes of the five primary fields, including those of the torsion field, can be expressed in terms of parallel geometricized equations[ii].

A careful analysis of the basic formulas developed by Akimov[iii], Schwartz[iv], Anastasovski[v], Trefilov[vi], Reed[vii], Santilli[viii] and others, is extremely revealing – the most stunning thing about them is the discovery that the characteristics of all four primary fields and the 5th field [which we have called the torsion field] appear to be completely accommodated by the set of functions which comprise spin polarity in linear, longitudinal and transverse wave functions, and angular momentum at both the quantum and macrocosmic level. While there is still much work to be done here, it seems more than coincidental that these attributes are precisely what cause the torsion field to operate as it does. The formulas referred to include Einstein's equations, the Young-Mills equations and Geisenberg's equations.[ix]

It has been shown that information is conveyed via the torsion field at a rate which is at least 10^9 times faster than the speed of light. This revelation, which is largely due to the ground breaking work of Russian scientist V.A. Dubrovsky up to 1985, has now been confirmed by at least six other laboratories in the former Soviet states,[x] by Prof. Dr. Guenter Nimtz and his colleagues at Cologne University[xi], and Lijun Wang, Alexander Kuzmich and Arthur Dogariu of the NEC Institute[xii]. The group velocity of torsion waves has also independently been shown to be at least 10^9 times the speed of light.[xiii]

The litmus test regarding this issue is found in the recent award by NASA of a contract to develop a torsion field communications system. The award was announced on August 19, 1999, under the title, **NASA Glenn Announces Breakthrough Propulsion Physics Selections**.[xiv]

A practical set of experiments which reveal just how important this concept is has been conducted both here and in the former Soviet states. Here in the United States, Bill Ramsay[xv] describes an experiment in which Greg Hodowanec was able to record the occurrence of a solar flare more than eight and a half minutes before it was confirmed by NOAA, when the photons and particles liberated by the event entered the earth's atmosphere. He was also able to measure the magnitude of the event, as it occurred[xvi].

Nick Anthony Fiorenza and Alistair Couper have both reported on the use of gravimetric devices to record the actual transit locations of the planet Pluto, orders of magnitude faster than was possible using measurements based on conventional light wave sensing devices.[xvii] The devices used by Fiorenza and Couper have been employed by Russian astronomers to determine the precise real-time locations of stellar formations and planets[xviii]. The results of their work bears heavily on the assumption that information contained in any single location in the Cosmos can be instantaneously obtained at any other remote location, regardless of the extent to which events are separated by time, space or distance. This assumes the means of observation are engineered to comport with torsion field dynamics rather than relying on the data transfer rates associated with radio frequency emissions [light].

We have reason to believe, based on the ground breaking work of V.A. Ablekov, David Bohm and Karl Pribram[xix], that the torsion field is holographic. The combination of the features identified by their research suggests that the phenomena associated with Bohm's Implicate Order and Pribram's holographic model of human consciousness, which are otherwise inexplicable, can now be accommodated.

Unlike electromagnetism, where analogous charges repel and opposite charges attract, in torsion fields similar charges attract and opposite charges repulse.[xx]

As a torsion field is generated by the classical spin of a magnetic plate, we can observe and measure the precise effects of the alteration of spin state of the object or system which is encompassed by it. At the Institute for Problems of Materials Science in Kiev, scientists have for more than 25 years used torsion field generators as an essential component of the apparatus used to manufacture exceedingly exotic materials, for which we have no comparable products in the West. These include mono-molecular powdered metals, solid state energy accumulators and certain varieties of atomically engineered carbon.[xxi]

Torsion field emissions are non-dissipative and are not attenuated by the interposition of mass or the effects of distance. Torsion fields cannot be screened by any known materials except aluminum, nor any known combination of materials or fields.[xxii] The results of the 1986 Moscow M2 torsion wave communications experiments have been widely distributed. In this demonstration, a directional torsion field was modulated with a simple variation of the Morse code. The signal was instantaneously received at a point more than 22 kilometers distant, using a similar low-power gravimetric signal detection device. The signal was passed through steel reinforced concrete more than 50 meters thick, after having been propagated through a mountain more than 10 kilometers wide. Variations of this experiment have apparently been successfully performed in a number of other locations in the former Soviet states since that time[xxiii].

The absence of loss of signal strength, referred as attenuation, during the spread of a torsion wave group, suggests that long-distance communication may one day be possible with the use of very low transmission power and unlimited bandwidth. The fact that torsion waves are not attenuated [weakened] by any known material substances or fields suggests that we may one day be able to devise systems which are capable of communicating through water or any density of physical material[xxiv]. This concept also suggests that we should be able to devise communications systems capable of supporting real-time communication without regard to the vast distances of space.

Since all known substances possess a non-zero collective spin state [this means, in simple terms, that everything is always in motion at all scales], then all substances must also create and exist within their own localized torsion fields. The expanse and frequency structure of any substance is determined by its chemical composition and the expanse structure of its molecules or crystalline lattice. A clear understanding of these mechanics will enable us to commercialize energy storage devices which have energy conversion characteristics well in excess of gasoline [650 watt hours/kg].[xxv]

At the Institute for Problems of Materials Science located in Kiev, Republic of Ukraine, a scientific team led by Academicians Trefilov, Tovschuk and Kovalyuk created a solid-state energy cell which produces 850-1040 watt-hours/kilogram, in laboratory prototypes. This is at least 35-50 times the energy density of any known conventional energy storage devices developed in the West. The reliability of their claims regarding this technology has been verified by INEEL, DARPA and the AMTL. A key element of their crystalline lattice deposition method relies on the effects of a torsion field beam.[xxvi] Scientists working at Sandia Laboratories in Los Alamos, New Mexico, have reported the successful development of a thin-film solid-state energy storage device which reportedly demonstrates energy density in the range of 250-400 watt-hours/kilogram.

It has been shown that torsion fields demonstrate persistence. This attribute is referred to in the literature as a "residual field effect."[xxvii] A torsion source of a defined expanse and frequency has been consistently shown to polarize the localized region of the physical vacuum. Once the energizing space-spin source has been put in motion and a torsion field created, and then removed to another place, the space which surrounded the torsion field generator will continue to exhibit the effects of the torsion field for as long as several hours.

If we can delineate the dynamics which cause the persistence of residual field effects, we will be able to explain and harness the functional features attributed to dowsing, magnetically effected molecules of water and so on.[xxviii] A clear and present example of the applications made possible by this information is illustrated by the work of a team of physicians from the CIS. Using the work of V. Kronin as the basis for their treatment modality, a team of Russian physicians has been working at the laboratories of the Centers For Disease Control in Atlanta, Georgia, and Baylor University Medical Research Center in Houston, Texas, for more than a year. Their project demonstrates a revolutionary new medical treatment modality which capitalizes on this attribute of torsion field mechanics, to fundamentally cure patients infected with the hepatitis-C virus.[xxix]

Teams of scientists from more than 50 laboratories have shown that it is now feasible to deliberately perform a wide variety of carefully calibrated functions using torsion field devices.[xxx] We can build torsion field generators of both static and radiating types.[xxxi] We can select, adjust and fine-tune frequencies modulated into the field with a high degree of precision.[xxxii] We can modulate into and retrieve data out of a torsion field, including via two dimensional spin matrices.[xxxiii] We can operate efficiently in a variety of different modes of signal radiation.[xxxiv] We can adjust and smooth the intensity of the S-waves and we can operate in both left and right S-wave chiral helicities.[xxxv] (S waves are spinor waves.)

Torsion fields can be detected, generated and switched on and off (such as in communications applications).[xxxvi] We have demonstrated that torsion fields can be designed to interact with laser beams[xxxvii], to modulate light frequencies and perform other functions. Torsion fields have been demonstrated to have a specific effect on biological processes[xxxviii] and have been shown to be generated by certain melting and solidifying materials.[xxxix] Torsion fields affect the oscillation of quartz crystals[xl], affect the functional characteristics of some electronic components[xli], and have been shown to have verifiable, measurable and predictable effects on gravity.[xlii]

In practical fact, we can point to a long list of applications which could benefit from carefully planned applications engineering which recognizes the properties of torsion fields and harnesses them for practical purposes. Among these are revolutionary new propulsion systems, communications devices, long-range sensors, astrophysical monitoring and metering devices, geo-physical devices which can be calibrated to locate mineral deposits, water and subterranean structures; photographic applications which are capable of imaging the interior of virtually any substance or structure without X-rays and so on.

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[i] ***The New Maxwell Electrodynamic Equations:*** **New Tools for New Technologies.** A collection of 60 papers from the Alpha Foundation's Institute for Advanced Study. *Journal of New Energy*, Winter (1999) ISSN: 1086-8259

[ii] L.B. Crowell, "*Quantum Electrodynamics of NonAbellian Electrodynamics in a Cavity,"* Journal of New Energy, Volume 4 No.2, page 70-81, (Summer 1999).

[iii] Akimov, A.E., Finogenov, V."P Experimentainiya Proyavleniya Torsionnykh Polei i Torsionnye Tekhnologii" ("Experimental Manifestations of Torsion Fields and Torsion-Based Techniques"), Moscow: ***NTTs*** "Informatekhnika," 1996, 68 pages, published by Sci-Tech Center "Informatekhnika."(in Russian).

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[vi] Trefilov, A. etal I.N. Frantsevic Institute For Problems of Materials Science, Anthropos Files ref/

[vii] Reed, D. "Torsion Field Research and Implications for New Physics and Energy Technologies," ***Journal of New Energy,*** Vol. 4, No. 2, pp 151-164 (Summer 1999).

[viii] Santilli, R., ***Il Grande Grido***, loc.cit.

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[x] Dubrovsky, V. "Elastic Model of a Physical Vacuum," ***DAN USSR,*** vol 282, no 1, 1985 (in Russian).

[xi] Nimtz, G. **Superluminal Signal Velocity,** Annalen der Physik **7**, 618 (1998); see also G. Nimtz, W. Heitmann, **Superluminal Photonic Tunneling and Quantum Electonics,** Progress in Quantum Electronics, vol. 21, 81 (1997); see also, A. Enders, G. Nimtz, "Photonic Tunneling Experiments," **Physics Review,** B 47, 9605 (1993) regular paper; see also, A. Enders, G. Nimtz, **On Superluminal barrier Transversal, Journal of Physics (France)**,vol. 2, at pp. 1693 (1992); see also, G. Nimtz, A. Enders, H. Spieker, **Photonic Tunneling Experiments: Superluminal Tunneling,** Trani Workshop, 24-30 September 1992, Waves and Particles in Light and Matter. A.v.d. Merwe and A. Garuccio (eds.), Plenum Press, NY (1994).

[xii] Associated Press, Light Can Break Its Own Speed Limit..., July 20, 2000.

[xiii] Bunin, V.A. "Newest Issues of Gravitation in the Light of Classical Physics," ***Proceedings 4th Astro-Geological Meeting Geographical Society of AS USSR***, L. 1962, page 88 (in Russian). See also V.A. Bunin, "Unitary Electra-Gravitation Equations of Mathematical Physics," Auto-repherates of speeches in the section entitled MOIP, 1965, no 1, p 4 (in Russian).

[xiv] Quantum Fields, LLC – Press Releases. Current NASA news is found at http://www.grc.nasa.gov/Doc/news.htm. On August 19, Quantum Fields, LLC, received word

from NASA that their proposal submitted to the breakthrough propulsion physics program was selected for funding. A copy of the press release follows, along with a link to a summary of the proposal.

(2) Jordan Maclay (Quantum Fields, LLC) Richland Center, WI) and MEMS Optical, Inc. (Huntsville, AL) proposed an experimental and theoretical study of quantum vacuum energy. The experiments will use micro-electromechanical devices to test force and energy effects by quantum electrodynamics.

FEASIBILITY OF COMMUNICATION USING QUANTUM CORRELATIONS

For all space missions, it is imperative to have reliable communication links to transmit data, computer codes, or other information. The current electromagnetic communications technologies (including laser, RF, X band, S. band) do not scale well as the mission distance increases. With current methods, the power, weight, cost and complexity increase rapidly with distance, while the transmission reliability decreases. We propose to explore the possibility of a revolutionary approach to communications based on recent theoretical and experimental developments in quantum physics, in particular based on quantum correlations between entangled atoms or ions (EPR pairs). Recent experiments have verified the existence of quantum correlations between entangled photons, in which the polarization measurement of one photon is always correlated with the measured polarization of another, distant photon (*this is a specific reference to the work of Nicolas Gisin and his team at CERN, Geneva).* Theory indicates it is not possible to use standard quantum mechanical measurements on entangled systems, such as polarization correlations of photons, for communications. Current theory restricts but may not deny the possibility of using quantum mechanical correlations in small movements or adiabatic perturbations of entangled atoms as a communication means. Further, if non-linear modifications to quantum mechanics suggested by Nobel Laureate S. Weinberg are present, then EPR communications is clearly allowed. If experiment verified that the use of EPR pairs was viable, it should be possible to develop an almost ideal communications system, a compact, low weight, communication architecture in which no broadcast power or antenna is required, no environmental noise is present, the signal does not fall off as the inverse square of the distance, and high data rates with complete security are possible. The purpose of this effort is to investigate the possibility of using quantum correlations in the adiabatic movements of atoms as a means of communication, to perform an initial theoretical feasibility analysis, identifying the key issues with such an approach, and to propose an experiment to resolve some of the fundamental questions.

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[xvii] Fiorenza, Nick Anthony "Gravitational Wave and Planetary Correspondence," Argo Navis, Inc., 288 Bluff St. Suite 474, Boulder, Colorado, 80301, 1994. See also Alastair, "Measuring Gravity," 181 Star Route, Hana, Hawaii, 96713. See also aquarius@t-link.net .

[xviii] Matveyenko, L.I. "Visible Superlight Speeds of Components Scattering Extra-Galactic Objects,"***UPhN,*** 1989, vol. 140, no. 3, p 469 (in Russian).

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[xx] Akimov, Shipov et al, "Torsion Fields And Their Experimental Manifestations," ***Journal of New Energy***, vol 2, no 2, page 72, 1997.

[xxi] Yurth, David. ***The Anthropos Files*** loc. cit.

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[xxiii] Akimov, A.E."Torsion Communications of the Third Millennium," Papers of the International Conference "Modern Telecommunication Technologies," Moscow, May 1995 (Russian). See also A. E. Akimov, G.I. Shipov, "Torsion Fields and Their Experimental Manifestations, ***Journal of New Energy***, Vol. 2 No 2. 1997 @ page 78.

[xxiv] Akimov, Shipov et al, "Torsion Fields And Their Experimental Manifestations," ***Journal of New Energy***, Vol. 2, No. 2, page 72, 1997.G.

[xxv] Convegno Internazionale: "Quale Fisca per 2000?" Bologna, 1991. See also D. Yurth, ***Anthropos Files***, ibid.

[xxvi] David Yurth, ***The Anthropos Files***, loc. cit. IPMS has also perfected the use of a specially modulated torsion field device to manufacture mono-molecular powders of strategic metals. Using this revolutionary manufacturing method, metals can be stored in conventional glass containers without involuntarily generating static electricity.

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[xxix] The frequency signature of the hepatitis-C virus was mapped using infra-red spectrometry, a specially designed scalar interferometer and MRI technologies. The complex waveform which is mutually exclusive to the hepatitis-C virus was then fed into a desktop computer and converted to a waveform which was its phase conjugated opposite. The resulting waveform information was then fed to a torsion field generator which was used to irradiate a .5% molal solution of NaCl (Ringer's) for a period of 30 minutes. The ionic salt solution emitted a phase conjugated signal when fed into the patient's system. The solution was infiltrated into the vascular system of 15 patients diagnosed with advanced cases of hepatitis-C. After 30 days of three-times-per-week treatment, 14 of the 15 patients were diagnosed as being completely free of any sign of infection. The 15th patient died during treatment from complications arising from an extremely advanced, chronic case of the disease. The technology is now being tested under double blind protocols by Dr. Robert Pennington and virologists at the Baylor University Medical Center.

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[xxxi] Akimov, A.E., Finogenov, V.P. "Experimentainiya Proyavleniya Torsionnykh Polei i Torsionnye Tekhnologii" (Experimental Manifestations of Torsion Fields and Torsion-Based Techniques), Moscow: ***NTTs*** "Informatekhnika," 1996, 68 pages, published by Sci-Tech Center "Informatekhnika."(in Russian).

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[xlii] Obukhov, Yu., Pronin, P. "Physical Effects in Theory of Gravitation With Torsion," Moscow: ***VINITI***, 1991, page 5 (in Russian).

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10046.

Comment Date: February 20, 2011 23:17:53PM
Solar Energy Development PEIS
Comment ID: SolarD10046

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Energy Invention Suppression Cases September 3 2007.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

The attached 123-page fourth version of my compilation of 95 energy invention suppression cases is available at www.padrak.com/vesperman and also at http://peswiki.com/index.php/Directory:Suppression where a small encyclopedia of energy invention suppression cases and activities is maintained by Sterling Allan and his friends. The file is also accessible at www.byronwine.com (do Find for Vesperman) and http://www.theorionproject.org/en/research.html#research papers. Other sites might be found by googling Vesperman suppression. Additional energy invention suppression information is in http://www.commutefaster.com/klooz.html and http://blog.hasslberger.com/2007/03/pogue_hydrogen_stories_of_supp.html.

It would be helpful for the U.S. Government to end its decades-long viciously thorough suppression of new energy inventions. For example, to protect the oil and power companies, the U.S. Patent Office has unfairly classified secret more than 5000 energy patents.

The federal stimulus money for funding 50 state energy offices is mainly used for bland energy projects like weatherizing buildings. I was told by the Nevada Energy Office that the guidelines for these grants specifically ban development of new energy inventions. The U.S. Government's thorough suppression of new energy inventions is still ongoing.

It seems reasonably evident that if each of the 50 states had instead been mandated to creatively allocate 10% of its energy stimulus money to developing new energy inventions, by now a diversified array of new energy inventions may soon be entering the commercial marketplace. Furthermore, numerous engineers and technicians would be gaining practical experience developing new energy inventions and provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of some of these otherwise suppressed new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Energy Invention Suppression Cases

Compiled by Gary Vesperman with the help of numerous contributors

Introduction

In their efforts to improve the well-being of their fellow humans, inventors often suffer poverty, slander, and suppression. Inventors of energy devices in particular have been threatened by large energy corporations who are allied with the United States Government and seek to enslave people in subtle ways. The tactics used against energy inventors include "legal" imprisonment on false charges, harassment by the IRS, and outright criminal death threats, beatings, bribery, burglary, vandalism, and arson. At least a few inventors have been murdered if they were not dissuaded by other means.

Sometimes, however, alleged energy inventions actually have been scams, or were tested incorrectly, and their inventors then claimed to be victims of a conspiracy. Many inventors merely have been ignorant of the laws of nature – the history of "perpetual motion machines" provides ample proof of that fact. Many otherwise brilliant inventors have been poor businessmen who signed defective contracts or whose personalities prevented successful negotiations. Some have failed to persevere: it can take decades to bring an invention to the marketplace, and the vicissitudes of life interfered with their plans. Others unfortunately died of natural causes before they achieved success.

Adding to the practical difficulties of pulling out of thin air new energy inventions that have never before been thought of, testing prototypes of some of these energy inventions can be frustrating due to a weird quick of nature. Thomas E. Bearden, Ph.D., reports that certain types of energy inventions interact with their local vacuums. Thus their coefficient of performance can vary from place to place, due to the local vacuums themselves differing. A machine would produce over-unity energy in one location; then inexplicably quit after being moved to another location!

Dr. Bill Tiller, former head of the Materials Science Department of Stanford University, developed a unique detector which required that he "grow" its proper pattern in the local vacuum interaction environment. Experimental results from the detector helped Bearden understand changes in interaction between a local vacuum and a novel machine.

All too many times, however, the conspiracy to suppress new energy inventions has been very real. For energy invention suppression updates, see http://www.energysuppression.com.

<u>Energy Invention Suppression Case Statistics</u>

Number of Energy Invention Suppression Incidents – **95**
Number of Dead, Missing, or Injured Energy Inventors, Activists, and Associates – **20**
Number of Energy Inventors and Associates Threatened with Death – **32**
Number of Energy Researchers and Associates Imprisoned or Falsely Charged – **5**
Number of Incidents of Energy Invention Suppression by the United States Government, Patent Office, Central Intelligence Agency, Federal Bureau of Investigation, U.S. Marshals, Army, Air Force, Navy, Bureau of Alcohol, Tobacco, and Firearms, Defense Intelligence Agency, S.W.A.T. Teams, National Security Agency, U.S. Postal Service, Department of Energy, Department of State, Securities and Exchange Commission, Food and Drug Administration, Department of Defense, Department of Homeland Security, Internal Revenue Service, Rural Electrification Administration, White House, Consumer Product Safety Commission, Small Business Administration, and Canada's Royal Canadian Mounted Police – **59**
Number of Inventions Classified Secret by U.S. Patent Office – **5000**
Number of Incidents Involving Oil Companies – **9**
Names of Companies, Banks, State Agencies, Private Groups, and Universities Involved with Energy Invention Suppression – **Standard Oil, Zapata Petroleum, Atlantic Richfield, Exxon-Mobile, Shell Oil Company, General Electric Company, Yakuza, California Air Resources Board, Organization of Petroleum Exporting Countries, Wells Fargo Bank, Ford Motor Company, General Motors Corporation, Massachusetts Institute of Technology, Queen of England, Kollmorgan, World Bank, Rockefellers, Carlyle Group, and Bush Family**

TABLE OF CONTENTS

Nikola Tesla: Wireless Power and Free Energy from Ambient

Nikola Tesla invented the alternating current electrical system we use today, and dozens of other technologies. Many of his other inventions are fundamental to the modern electrical world. The US Patent Office has 1,200 patents from Tesla, and it is estimated that he could have patented an additional 1,000 or so inventions from memory! Nikola Tesla was undoubtedly one of the greatest scientists who ever lived.

Tesla's "Magnifying Transmitter", built in 1895 at Wardencliff on New York's Long Island, has been suppressed (largely by ignoring and disdaining it), but in recent years it has received new attention for its potential to power civilization with radio-broadcast electricity, possibly even without fuel. The project was financed by John Pierpont Morgan. But Tesla was not an astute business man, and he affected a disdain for money. It is popularly believed that when J.P. Morgan learned that Tesla's system would provide free energy, he stopped funding the work. As reported by Robert Nelson, (see his comprehensive energy inventions web site www.rexresearch.com) the fact of the matter is that, rather than arranging a comprehensive financial agreement for development of the system, Tesla simply dunned Morgan for relatively small sums of money at regular intervals. The personal nature of their financial relationship is evident to anyone who takes the time to read Tesla's correspondence with Morgan (not an easy task, as Tesla's handwriting is difficult to read). For more history, see Leslie R. Pastor's Introduction in http://peswiki.com/index.php/Site:LRP:Motionless_Electromagnetic_Generator. Tesla also built and drove a Pierce-Arrow car during the 1930's which ran on a free energy device without refueling.

Benjamin Fulford in a stunning early July 2007 interview by Jeff Rense (see interview transcript in http://bellaciao.org/en/article.php3?id_article=15376) claimed that his great-grandfather George Taylor Fulford was one of the richest men in the world. He also was the largest stockholder in General Electric. When he learned J.P. Morgan had abruptly backed out of supporting Tesla, Mr. Fulford pressured General Electric to step in. He was going to finance Nikola Tesla, but he was murdered by the Rockefellers in 1905. It was made to look like a car accident. And the family fortune was stolen by the Rockefellers. Benjamin Fulford's grandfather was only three years old at the time. His grandfather didn't know how to suspend his assets.

After Morgan died, his heirs and managers, who did not have a working relationship with Tesla, stopped supporting construction of the transmitter. The tower was demolished during World War II, allegedly because it could serve as a landmark for German submarines. Some modern conspiracy theorists have claimed that it was destroyed in order to suppress the technology. Perhaps so, but in any case, now we suffer with a monstrous grid system that is controlled at many levels, rather than enjoying the energy freedom Tesla had envisioned.

In a speech presented in 1988 on the subject of "Climate Change Factors, Ozone Layer Crisis, and Zero Point Energy Technologies" (see below for complete text) Adam Trombly reported information from a contact that Tesla was poisoned and died in 1943 the night before he was scheduled to go to Washington, DC to meet with President Franklin Delano Roosevelt. Tesla had intended to propose to Roosevelt that perhaps we should look carefully at the fact that we can get all the energy we need from any space we happen to be in. The U.S. Government's Federal Bureau of Investigation confiscated two truckloads of Tesla's written work after his death, much of which remains classified.

Robert Golka: High-Powered Tesla-Type Energy Tower

In 1981 in Wendover, UT, Robert Golka, a well-known Tesla researcher, was victimized by an attack on his workshop which has, for years, been in a deactivated Air Force hanger. His high-powered energy tower outside the hanger was partially destroyed. A witness said insulators and sections of the tower were laying around the base. In the meantime the rent on the Air Force hanger has been raised 1000 percent! These new difficulties now threaten to bring an end to his research with Tesla devices. (Source: http://peswiki.com/energy/Directory:Suppression)

Bruce DePalma: N-1 Homopolar Generator

Harvard-educated Bruce DePalma, who taught physics at the Massachusetts Institute of Technology for 15 years, invented the homopolar electricity generator, also called the "N-Machine", that could provide cheap, inexhaustible, self-sustaining and non-polluting energy. The N-Machine uses principles that flout conventional physics and are still not fully understood. A 100-kilowatt N-1 homopolar generator prototype sat in his garage. It could power his whole house. But DePalma was afraid to turn it on for fear the U.S. Government may confiscate it.

In early November 1980, the night before Bruce DePalma was scheduled to leave for Germany to be the featured presenter at Hans Nieper's Gravity Field Energy Conference in Hanover Germany, DePalma got a phone call from US astronaut Edgar Mitchell claiming "The CIA has information to the effect that if you go to Germany you will not be coming back. And you better watch out what you do there in Santa Barbara, or you might get your head blown off." Mitchell was "best friends with George H.W. Bush" – at that time directing the US Central Intelligence Agency (CIA). DePalma eventually left the USA to live in New Zealand.

BRUCE DePALMA: Free Energy Update 11/14/90. Audio cassette #A1009-90 $9.00.
Live on Something's Happening. Bruce DePalma, inventor of the "N Machine" (so-called "free energy") presents an update on its development including U.S. Navy development, a letter by U.S. astronaut Edgar Mitchell on the validity of the invention, and the forced imprisonment of DePalma's chief backer.

For more information about George H. W. Bush's involvement with the CIA, read the Truthout article "Bush Senior Early CIA Ties Revealed" in http://www.truthout.org/docs_2006/010907P.shtml (9 January 2007). Newly released internal CIA documents assert that the former US President's original oil company, Zapata Petroleum, was established in 1953 by joint efforts with Thomas J. Devine, a CIA staffer.

Devine and Bush visited Saigon early January 1968 shortly before the North Vietnamese launched their Tet offensive. Marshall Douglass Smith in his book *Black Gold Hot Gold –The Rise of Fascism in the American Energy Business* (see below) exposes how the war in Vietnam was not allowed to end until the very day that Standard Oil had completed using the US Navy to explore Vietnam's off-shore oil fields for ten bloody years at nearly no expense to the company. The war was needlessly prolonged by months of silly wrangling over the shape of the Paris peace negotiation table, and by Henry Kissinger's obfuscations.

??????: Mixed Chemical Stone

A mixed chemical stone was found in England and secretized by the Queen. It generated its own electrical sparks. This material appears to be a version of rocks which self-generate voltages such as those researched by John Hutchison, Thomas Henry Moray (see below), and Thomas Townsend Brown. The Queen's holdings are so extensive that it may be that she was not personally involved or even aware of the stone. The Queen may not have very much scientific understanding anyway.

April 7, 2006 Wells Fargo Bank announced they finally invested $5 million of the $1 billion intended for renewable energy. Where did they invest? In a mutual fund: Carlyle/Riverstone Renewable Energy Infrastructure Fund I, Limited Partnership. Funny thing, who are the 3 largest stockholders of Carlyle Group? The answer in order of largest percentage owned: (Source: Al Martin)

1. The Queen of England
2. Bush Family
3. Bin Laden Family

President George W. Bush's brothers Neil and Marvin Bush might be among the secret leaders of ongoing viciously thorough energy invention suppression. See http://www.nogw.com/shadow.html.

Andrija Puharich: Method and Apparatus for Splitting Water Molecules

One of the more interesting research projects in which energy researcher Leslie R. Pastor personally got involved with has been research involving 'water as fuel' dynamics. From the time of Jules Verne to the present 'water as fuel' has been man's quest, if not speculative goal, to discern, decipher and to design. It is well-known that water can be disassociated, and separated into its two components of hydrogen and oxygen. With the use of electrolysis, water is easily disassociated, giving off its properties, in the form of useful gases, but, in very limited quantities, depending upon the amount of current directly used to accomplish its disassociation. From Brown's (Rhodes) gas to 4-space, water is indeed mysterious, ultimately remaining the focus of countless experimenters and practitioners. And still it remains elusive just out of the reach of useful usage. Or has it?

Several recent experiments involving a variety of 'water as fuel' derivatives have ultimately surfaced, strongly indicating that 'hydrogen' based 'energy' structuring is fundamentally possible and will ultimately provide a means at accomplishing a very serious alternative to so-called 'fossil fuel' technologies. What remains to be seen, is whether the existing superstructure involving the monopolistic cartels of "global big oil" and "international nuclear-based companies" will allow any advancement towards 'market' restructuring, without their approval and cooperation.

Oil is just as easily 'cracked' and 'restructured' into 'hydrogen' formats. In fact, it is the goal of both of these factions to ultimately build a network of 'novel' nuclear reactors capable of providing 'electricity' and 'hydrogen' production derived from this combination, precluding any attempt to escape from their monopolistic designs of enforcing their 'control' paradigm.

The suppression of 'water as fuel' technologies invented by small independent inventors, therefore, takes on significance, since this would prevent further monopolistic dominance by the existing cartels, already dominating the existing 'energy' field.

Andrija Puharich (see http://www.andrijapuharich.org/) was granted U.S. Patent No. 4,394,230 for a "Method and Apparatus for Splitting Water Molecules." This method would reportedly split water molecules into hydrogen and oxygen with a net energy gain, and is essentially a perpetual energy device that many believe violates the first law of thermodynamics. Puharich was a very interesting gentleman, with friends in very high places, and led a very dynamic life, incorporating both, style and access, to some of the most powerful components of the political spectrum internationally. Puharich, being a friend of R. J. Reynolds (3rd), found support and protective acceptance, until he fell into disfavor with David Rockefeller, ultimately necessitating him to seek protection from another friend, the [then] Mexican President. Puharich capitulated, acquiescing to Mr. Rockefeller's demands, promising not to engage in further 'water as fuel' research, thereby, stopping all attempts at his sanctioned assassination by the U. S. Government's CIA.

http://www.rexresearch.com/puharich/1puhar.htm
http://waterpoweredcar.com/puharich.html
http://www.zpenergy.com/modules.php?name=News&file=article&sid=1191
http://www.angelfire.com/ak5/energy21/puharich.htm
http://www.keelynet.com/keely/puha1.txt
http://www.wasserauto.de/html/more_cars_.html
http://www.freie-energie.net/index/freie_energie/wasserautos/wasserautos.htm

Pastor mentions Puharich, in his initial introductory statement, because of Puharich's direct relationship within the most significant references of power politics. Puharich was well connected, and respected within the most elite of global society. He was known academically, and internationally among the power elite. He therefore was a significant threat to those special interests involving a direct influence regarding energy sources as fuel derivitives. And his use of 'water as fuel' was a direct threat to one of the most powerful families on planet Earth. Puharich had to personally assure the Rockefeller family that he would no longer engage in further research or usage of 'water as fuel' to power combustion engines. (Source: http://peswiki.com/index.php/Site:LRP:Actual_Case_Histories_of_Suppression_Occurrences)

Neil Schmidt: Hydraulic Wind Turbine

Neil Schmidt stopped in Gary Vesperman's office 12 May 1995 to discuss his invention of a hydraulic wind turbine. Schmidt had lived in Las Vegas for seven years. Nine years previous when he was living in the Seattle area, he went into a federal Small Business Administration office to apply for financial aid. The following day, he received a telephone call and was told it wouldn't work and not to bother with it. He had provided the SBA office hardly more than a sketch so a hot argument erupted which lasted a half hour. The man ended up hinting death to Schmidt if he didn't stop working on his invention. A couple of days later, Schmidt went back to the SBA office and walked around unsuccessfully trying to identify the voice he had heard on the telephone.

Neil Schmidt also has heard that another energy inventor living near his Washington residence had been shot in the head and blinded.

United Nuclear: Hydrogen Fuel System Kit

The United Nuclear Hydrogen Fuel System Kit converts late-model fuel-injected gasoline-powered vehicles to run on hydrogen. In addition to specific complete kits that are planned to soon be available for specific late-model cars and trucks, individual system components will be available for those who choose to assemble their own kits.

Included in the kits (and also available separately) is the company's either solar or wind turbine-powered hydrogen generator that remains in the vehicle owner's garage. The hydrogen generator manufactures the hydrogen fuel for the vehicle at virtually zero cost. Simply put, the vehicle's owner never would have to buy gasoline again. Since there are no major changes made to the engine, a converted vehicle can still run on gasoline at any time.

Powering a vehicle by hydrogen is by no means a new idea, and in fact, almost all automobile manufacturers are currently developing a new generation of vehicles that run on hydrogen as opposed to gasoline. This new generation of vehicles essentially comprises of electric cars that use fuel cell instead of batteries to run the electric motor. Using a chemical process, fuel cells in these new vehicles convert the stored hydrogen on board, and the oxygen in the air, directly into electricity to power their electric motors. These new hydrogen powered electric vehicles are very efficient, and in fact are more efficient than any internal combustion engine. The problem is that these new vehicles are years away from production, are very expensive, and converting to using hydrogen fuel in this manner requires the purchase of a new (and expensive) vehicle. All hydrogen/fuel cell systems currently under development by large manufacturers require the purchase of hydrogen as would be for gasoline.

The United Nuclear Hydrogen Fuel System Kit is an intermediate approach that simply converts existing vehicles to burn hydrogen or gasoline. The stock gasoline fuel injection system remains intact and is not modified in any way. It is shut down while the hydrogen fuel system is activated. The company reportedly operates two test vehicles for which gasoline haven't been bought for two years.

The hydrogen gas is precisely metered into the air intake of the engine while the exhaust gasses are continuously analyzed for correct burn ratio. This allows the driver to switch between running on gasoline or hydrogen at any time. The engine itself is only slightly modified. The conversion makes substantial changes to the computer & electrical system, ignition and cooling systems. Since they never have to be removed, hydrogen fuel storage (hydride tanks) can be installed in virtually any available space within the vehicle.

Due to the fact that hydrogen gas burns so much faster than gasoline, engines with compression ratios greater than 9.5 to 1 are very susceptible to damaging pre-detonation (engine knock). For this reason, hydrogen conversions are not recommended for vehicles with turbochargers, superchargers, or compression ratios greater than 9.5 to 1. Also, because of the higher compression, different ignition system, and host of other factors, the Hydrogen Fuel System will not work on diesel engines.

The company's hydrogen generator produces hydrogen from electricity. The electricity can be common "household current". If the electricity is produced directly from solar power or wind power, the energy cost is zero. Electricity can be produced by Neil Schmidt's hydraulic wind turbine (see above), or by a number of other wind generators such as Number 47 of http://iiic.de/4643.html which is a combined solar/wind electricity generator.

The most productive solar photo-voltaic cell seems to be the Soviet-developed high-efficiency crystal lattice solar photo-voltaic cells described below.

Las Vegas inventor Jeff Prescott invented a method of generating hydrogen by concentrating solar rays to heat pure iron in the presence of water. The iron oxide byproduct can be sold for paint and other uses. Questions remain as to the overall energy efficiency of his process, particularly in regard to refining and transporting the pure iron.

It does, however, take a substantial amount of time to produce sufficient hydrogen to fill even a small tank. As an example, it takes over 2 days of the company's hydrogen generator running at full power, 24 hours a day, to fill its smallest "short range" tank.

The tanks are filled with granulated hydrides which absorb hydrogen like a sponge absorbs water. Hydrogen is pressurized into the material. Hydrides have many advantages over ultra-cold liquid or pressurized gaseous hydrogen. One is that the density of the hydrogen stored in the hydride can be GREATER than that of ultra-cold liquid hydrogen. This translates directly into smaller and fewer storage tanks.

Once the hydride is "charged" with hydrogen, the hydrogen becomes chemically bonded to the chemical. Even opening the tank, or cutting it in half will not release the hydrogen gas. In addition, if incendiary bullets are fired through the tank, the hydride would only smolder like a cigarette. It is in fact, a safer storage system than a gasoline tank.

Then how do you get the hydrogen back out? To release the hydrogen gas from the hydride, it simply needs to be heated. This is either done electrically, using the waste exhaust heat, or using the waste radiator coolant heat.

The company's Hydrogen Fuel System kits heat the hydride tanks electrically. As soon at the hydride is sufficiently warm, hydrogen is released from the tanks, and the on-board computer detects the presence of hydrogen pressure. The fuel system remains in "Hydrogen" mode until the tank pressure begins to drop. If the tanks run out of hydrogen, the engine will seamlessly switch over to gasoline, which enables the car to run conventionally until the hydrogen tanks are refilled at zero cost.

Using hydrogen, the only exhaust products produced are water vapor and a tiny amount of nitrogen oxides. It's about as clean burning as you can get.

United Nuclear's first prototype was a 1994 Chevrolet Corvette that was converted to run on hydrogen. Using the Extended Range kit (2 sets of tanks), the driving range is over 650 miles per fill. As the hydrogen gas is produced using the company-furnished solar-powered hydrogen generator, the resulting fuel cost is near zero.

United Nuclear now has accumulated over 50,000 trouble-free miles on their prototype vehicles. They are currently fleet-testing their systems and are in final preparation for sales to the general public. They will fully guarantee and stand behind all their products and workmanship. Their conversion kits will initially sell for $7,000 to $10,000 each.

United Nuclear has developed every aspect of its Hydrogen Fuel System on their own, using their own funds and not a dime of federal tax money. They do not sell stock, and do not need investors.

Not unexpectedly, the corrupt U.S. Government has swooped in by utilizing its Consumer Product Safety Commission (CPSC) as a means of suppressing the pending commercial sale of United Nuclear's Hydrogen Fuel System Kit by confiscating the necessary chemicals used in this system from public use – possibly basing its action on false premises.

Currently, the CPSC is focusing on common chemical oxidizers such as perchlorate compounds, nitrate compounds, permanganate compounds, chlorate compounds, etc., along with a wide variety of other common chemicals and metals such as sulfur, aluminum, magnesium, titanium, zirconium, zinc, magnailim, benzoate compounds, salicylate compounds, antimony and antimony compounds, etc.

The CPSC now claims that this action is to stop the manufacture by United Nuclear of illegal explosive fireworks. If their true intention is to attempt to curtail the construction of these devices, there are only two chemicals which should be of concern: potassium perchlorate and German aluminum.

For those unfamiliar with exploding fireworks, they are all made from one material: flash powder. Flash powder is a mixture of potassium perchlorate, and a special ultra-fine aluminum powder known as German aluminum. These have been the only 2 chemicals used in the manufacture of every single exploding firework from firecrackers to M-80s from the 1960s to present times.

United Nuclear's Hydrogen Fuel System Kit is not yet available for sale. There are legal problems with several components of the unit which is preventing its sale. Until the legal proceedings are complete, the company won't be moving forward with the system. (Sources: http://www.switch2hydrogen.com/, http://www.switch2hydrogen.com/, http://www.unitednuclear.com/legalactionletters.htm, http://www.wired.com/wired/archive/14.06/chemistry.html, http://nextconservatism.com/2006/11/14/, http://roguestatesmen.blogspot.com/2006/05/who-wants-free-energy-anyway.html, and http://peswiki.com/index.php/Directory:Suppression.)

Daniel Dingel: Converts More than 100 Cars to Run on Water

Inventor Daniel Dingel, who lives in the Philippines, since 1969 has converted more than 100 gasoline cars to be powered by hydrogen derived ON DEMAND from plain water. Aluminum is used in the tank to suppress a possible explosion. The Philippines President is not interested because of an agreement with the World Bank. For a link to a movie abut his water-powered cars, see Section 12-G of http://www.byronwine.com/. For more on the Philippines experience with the international bankers, see http://www.indybay.org/newsitems/2006/04/10/18144521.php.

Maker of water-powered car still fighting after 30 years

By Joey G. Alarilla (see http://www.wasserauto.de/html/inquirer_article.html.)

1969 was a landmark year for a number of reasons, including the conquest of space and cyberspace. Even as that year saw Neil Armstrong and Buzz Aldrin walking on the moon, so was the Internet born when its earliest incarnation, the United States Defense Department's Arpanet (Advanced Research Project Agency network), went online.

In the Philippines, 1969 was also the year that a Filipino inventor claims to have started tinkering with a revolutionary concept for the automotive industry. His idea: To power cars using hydrogen derived from ordinary water.

Today, 30 years later, inventor Daniel Dingel is driving around in the only water-powered car in the world, still complaining that Filipino government officials and scientists refuse to support his invention.

"They keep saying that the government is pro-poor, but what they do is sell off the resources and wealth of the Philippines. The government should really support the development of technology that would help the country pay its huge foreign debt," he said.

At the Inquirer parking lot last Tuesday, Dingel showed off his "concept car"- a red 16-valve Toyota Corolla with the small hydrogen reactor that he invented hooked up to its internal combustion engine (ICE). Dingel's hydrogen car has actually received media coverage since the late '80s or so, but to date his invention has not yet been patented and commercialized. Dingel attributed this to the influence of multinational companies, such as the oil companies. A conspiracy theory worthy of the X-Files, perhaps, but if Dingel's idea is real, then the truth is way out there.

How it works:

According to him, his reactor uses electricity from a 12-volt car battery to transform saltwater or ordinary tap water with salt into deuterium oxide or heavy water, which is chiefly used as a coolant for nuclear reactors. Deuterium is actually a hydrogen isotope with twice the mass of ordinary hydrogen, and heavy water is produced when the hydrogen atoms in H_2O are replaced with deuterium.

"The electricity from the battery splits the water into its hydrogen and oxygen components, and this hydrogen can then be used to power the car engine. Normally it takes temperatures of about 5,400 degrees Fahrenheit to generate hydrogen from water, but here I am just using an ordinary 12-volt battery," he claimed.

Just how this kind of chemical reaction is possible using an ordinary car battery is, of course, the secret behind Dingel's invention – and the kind of claim that leads people to dismiss him as a crackpot and charlatan. In fact, while hydrogen is being touted as a viable alternative fuel in the US and other countries, these prototypes do not make use of internal combustion engines but fuel cell engines, nor do they run on ordinary water but on liquid hydrogen.

For example, DaimlerChrysler unveiled in the US in March the hydrogen-powered NECAR 4 (New Electric Car), which is based on a Mercedes-Benz A-class compact car.

In these fuel cell cars, water is just a by-product of the reaction between hydrogen and oxygen ions, which produces the electricity to run the car's engine. In this sense, the fuel cell process is the reverse of Dingel's discovery. Also, Dingel claims that his reactor can work with any existing ICE-based car.

Dingel said some investors from Taiwan now plan to commercialize his car and help him get an international patent.

(End of excerpt)

Update (*Electrifying Times* (www.electrifyingtimes.com), Vol. 10, No. 2, 2007, page 22):

Dingel did get some of his international patents and was given a sizeable sum of money from yet unknown sources to keep his invention quiet. The secret formula for Dingel's technology as well as the late Stanley Meyer's water cell car is a certain resonant frequency and voltage that allows much lower energy to produce hydrogen and oxygen from water than the standard electrolysis method requires. Stay tuned.

This writer, Gary Vesperman, included a possibly similar invention in his somewhat obsolete compilation of "Advanced Technologies for Foreign Resort Project" which is in http://www.icestuff.com/~energy21/advantech.htm. It is copied as follows:

Water Engine. Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank's pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Ken Rasmussen: Water-to-Energy Electrolysis Process

Ken Rasmussen and his team have been working on a water-to-energy electrolysis process that turns out to have similarities to that of Professor Kanarev. Both use a pulsed signal, and both were seeing similar performance rates. Kanarev holds multiple patents, and is widely published.

Their work ceased after a member of the research team was threatened at gunpoint on 16 May 2006. Unknown to Rasmussen, his associate had faced a violent confrontation with 4 young to middle-aged white males in black suits driving a late model black Lincoln Town Car.

Shoving Glocks and Mac-10s in his face at a rural intersection, they told him extensive details about his family and threatened lives of him, family and all associates if he didn't stop work on the process immediately and NEVER go to the authorities. His associate, now scared for his own life and that of his family, complied. But similarly to Bill Williams' case (see below), when happy people start acting silent and paranoid, friends get suspicious.

In the good old days, big business bullies offered lots of money to buy somebody out and eliminate the competition. Stanley Meyer claimed before his suspicious death that he refused an offer of a billion dollars from Arab oil interests if he would stop work on his electrolysis process. (Meyer received at least eight patents in addition to US Patent 4,389,981 relating to hydrogen and oxygen gasses extracted from water for fuel.)

But to date, NOBODY has offered Ken's company a dime for their "yet bench top" technology. BUT somebody HAS threatened to KILL THEM. Would any skeptic out there care to explain that to Ken? Ken had been in discussion with several pre-screened, suitable investors, who were waiting on Ken's company to fix a final detail before showing them a live demonstration.

Enormous amounts of personal information thrown in their face behind the guns proved to Ken NONE of the prospective investors had anything to do with the violence we experienced. These thugs knew things Ken DIDN'T EVEN KNOW. Their boss has digital cell phone tapping technology at the very least. Other details were probably obtained by wire tapping neighbors and friend's phones too.

For any of Ken's previous business contacts reading this, please excuse the delay. The lives of Ken and his associates have been directly threatened if they were to complete the item they were intending to demonstrate. All progress is stopped.

Given the nature of oil or banking history, who do you think paid these hired gunmen to do the dirty work? Ken would appreciate some solid leads. Ken has to admit, oil has become intertwined with both banking and government over the years; so unofficial policies may have changed.

For more energy invention suppression details, see Ken's web site http://www.commutefaster.com/klooz.html.

Bob Boyce: Brown's Gas Carburetor

Bob Boyce built a carburetor using hydrogen and oxygen previously split using proper frequencies. See http://www.greaterthings.com/News/Tilley/testimonials/related/Bob_Boyce.htm.

From: "Bob Boyce" <theghost@realmcity.com>
To: <sterlingda@greaterthings.com>
Sent: Monday, October 07, 2002 8:38 PM
Subject: GTcontact

Hello there

I just read your response to the message from someone asking why you're promoting a fraud (Tilley), and I must commend you on your response. There are a lot of closed-minded and narrow-minded people out there, most of whom were highly educated in traditional schooling methodology taught at most of the universities and colleges throughout the world. They get this doctrine shoved down their throats that if it's not documented in books and/or upheld by popular theory, then it's just not possible. Any attempt to demonstrate such technology usually falls on deaf ears and blind eyes because they refuse to adjust their thinking to accept that maybe something may be possible after all.

I learned the hard way about how society treats those that dare to do something different. I'm not seeking publicity or recognition for any research I did, just wanted to privately relate my experiences with you and ask that you please not publish or share this with anyone. (See link above. Sterling Allan must have subsequently obtained Boyce's permission to publish his story. Gary Vesperman)

I had an electronics business down in south Florida where I owned and sponsored a small boat race team through my business starting in 1988. We had a machine shop out back of my business for doing engine work, and I worked on engines for other racers and a local mini-sub research outfit that was building surface running drone type boats for the U.S. Government's Drug Enforcement Administration (DEA).

I delved into hydrogen research where I was building small electrolyzer type units that used distilled water mixed with an electrolyte. I would then resonate the plates for optimal conversion efficiency.

I discovered that with the right frequencies, I was able to generate monatomic hydrogen and oxygen, which when recombined, produces about 4 times the energy output of normal diatomic hydrogen and oxygen molecules since the process of combustion does not have to break apart the molecules first before recombining into water vapor. Diatomic hydrogen requires about 4% to air to produce the same power as gasoline, while monatomic requires slightly less than 1% to air for the same power.

The only drawback was storage at pressure causes the mono-atoms to start joining into diatomic pairs, and the mixture weakens, so it must be produced on-demand and consumed right away. I used modified LP carburetors on the boat engines to deal with using vapor fuel. I even converted an old Chrysler with a slant six engine to run on the hydrogen setup and we tested it in the shop.

I never published anything of what I was working on, and we always stated that our boats were running on hydrogen fuel, which was allowed, to avoid any controversy at the races. It wasn't until many years later that I found out what I had stumbled upon was already discovered and known as "Brown's Gas", and there were companies out there selling the equipment and plans to make it.

I had never tried to market anything, but I was plagued with trouble ever since I did the conversion to the old Chrysler and did a few test runs on it in the shop. My shop, which had never had any major crime problems before, suddenly was getting broken into, and pieces of equipment related to the hydrogen project were getting vandalized or stolen. I thought it might be that one of the guys that worked for me might have leaked something to someone and they were trying to either steal the technology or stop me from working on it. I ended up shutting down the research, getting out of it all, converting the boat engines back to racing fuel and selling off the race boats. The break-ins stopped, and I had no further trouble up until I totally closed the business and retired in 1991.

I was struck by lightning in 1995 and in 1997 I moved out of Florida, the lightning capital. I am now crippled with arthritis (which is common amongst lightning strike survivors), and recently I developed congestive heart failure/pulmonary edema. I may be weak in body, but I am determined to try to stay as active as I can. I am currently stripping down an old 1984 Dodge Aries with only 29K original miles so I can convert it over to electric operation.

I have been seeking all information I can find to be able to apply this unique charging arrangement that Tilley is using and to find out what type of electric motor would be best to use with it. I'm in the eastern TN area in the mountains so it must have enough power to climb the uphill grades and hopefully be able to regenerate on the downhill grades. So far I have found very little information on this. Any help you could provide to steer me in the right direction would be appreciated.

Thank you,
Bob Boyce

Stanley A. Meyer: Water Fuel Cell-Powered Car

Stanley A. Meyer invented a water fuel cell, which is not to be confused with the well-known fuel cells using membranes, etc. Meyer's device is supposed to break water into hydrogen and oxygen gases using less energy than that present in the bond itself. Furthermore, ordinary tap water requires the addition of an electrolyte such as sulphuric acid to aid current conduction; Meyer's cell functions at greatest efficiency with pure water.

More precisely, Meyer claimed his super-efficient electrolysis process produces 700% more energy than it consumes (for instance, by connecting it to an engine that would burn the hydrogen back into water) without raising the temperature of the water. Meyer assembled a car prototype powered by a water fuel cell.

Meyer's water fuel cell consists of stainless steel plates arranged as a capacitor – with pure water acting as the dielectric. A rising staircase of direct current pulses is sent through the plates at roughly 42 kilohertz, which is claimed to play a role in the water molecules breaking apart with less directly applied energy than is required by standard electrolysis. The mechanism of this reaction is undocumented.

Using his super-efficient hydrogen separator, Stanley Meyer claimed he could drive a water fuel cell- powered car from California to New York averaging 100 miles per gallon of water.

Meyer has demonstrated his fuel cell device before Professor Michael Laughton, Dean of Engineering at Mary College, London, Admiral Sir Anthony Griffin, a former controller of the British Navy, and Dr Keith Hindley, a UK research chemist. According to these witnesses, the most startling aspect of the Meyer cell was that it remained cold, even after hours of gas production as his system appeared to operate on mere milli-amperes, rather than the amperes that conventional electrolysis would require. The witnesses also stated:

"After hours of discussion between ourselves, we concluded that Stan Meyer did appear to have discovered an entirely new method for splitting water which showed few of the characteristics of classical electrolysis. Confirmation that his devices actually do work come from his collection of granted US patents on various parts of the WFC system. Since they were granted under Section 101 by the US Patent Office, the hardware involved in the patents has been examined experimentally by US Patent Office experts and their seconded experts and all the claims have been established."

Meyer received at least eight patents in addition to US Patent 4,389,981 relating to hydrogen and oxygen gasses extracted from water for fuel. The granting of a US patent under Section 101 is dependent on a successful demonstration of the invention to a Patent Review Board.

U.S. Patent 5,149,407: Process and apparatus for the production of fuel gas and the enhanced release of thermal energy from such gas
U.S. Patent 4,936,961: Method for the production of a fuel gas
U.S. Patent 4,826,581: Controlled process for the production of thermal energy from gases and apparatus useful therefore
U.S. Patent 4,798,661: Gas generator voltage control circuit
U.S. Patent 4,613,779: Electrical pulse generator
U.S. Patent 4,613,304: Gas electrical hydrogen generator
U.S. Patent 4,465,455: Start-up/shut-down for a hydrogen gas burner
U.S. Patent 4,421,474: Hydrogen gas burner
U.S. Patent 4,389,981: Hydrogen gas injector system for internal combustion engine

"It Runs on Water" is a video with Stanley Meyer demonstrating the water fuel cell in a car. Meyer claimed that he could run a 1.6-liter Volkswagen Dune Buggy on water instead of gasoline.

The basic problem with Meyer's invention, as reliably reported by Eugene Mallove in an Infinity Magazine article (see http://www.rexresearch.com/meyerhy/meyerhy.htm), is that he had never consented to conclusive tests. Skeptics point out that electrolysis of water, as explained by chemistry textbooks, requires more energy to break the hydrogen-oxygen bond than is regained by burning the two gases. Nonetheless Meyer's supporters suggest it is worthwhile to try to successfully replicate his process.

Stanley Meyer died after eating at a restaurant on March 21, 1998. Coroner William R. Adrion's autopsy report states that "Decedent supposedly at lunch with N.A.T.O. officials at a Cracker Barrel diner. The group made an opening toast with cranberry juice, immediately after which, decedent ran outside followed by his brother, then vomited violently and told his brother that he had been poisoned."

At the time of Meyer's death this writer, Gary Vesperman, sent out an email explaining that there is a type of stroke in the base of the brain that matches his brother's description of how Meyer died. The victim immediately becomes highly aggravated for a fraction of a minute or so. After the brain soaks up too much blood, its oxygen flow is shut down and the victim then dies.

Meyer's unusual death and its suspicious timing and circumstances understandably cause offerings of conspiracy theories regarding the possible poisoning of his cranberry juice by the oil companies and the U.S. Government. It apparently has not been verified who were with Meyer in the restaurant and exactly what they were celebrating.

The discussion below of Stanley's legal hassles is from http://www.waterfuelcell.org/moreinfo.html. If true, it cites more than one instance of intentional tampering with judicial due process – doubtless to discredit his water-fueled car invention. Either Stanley Meyer's water fuel cell did not in fact achieve his performance claims, or the United States federal government and Ohio state government should instead have been supporting Stanley's research.

Fraud charges:

It failed to work during a required demonstration of the water-fueled car in a 1990 court case. An Ohio court found Stanley Meyer guilty of "gross and egregious fraud" in a case brought against him by disgruntled investors. The court decided that the centerpiece of the car, his water fuel cell, was a conventional electrolysis device, and he was ordered to repay the investors $25,000.

However, in their 1 December 1996 issue, the London Sunday Times published an article entitled "End of Road for Car that Ran on Water" by Tony Edwards. It upheld the court case, stating that three "Expert Witnesses" were not impressed and decided that the WFC was simply using conventional electrolysis. It stated Stan Meyer was found guilty of "gross and egregious fraud" and was ordered to repay the investors their $25,000. It implied that Michael Laughton, professor of electrical engineering at Queen Mary and Westfield University, London was due to examine the car, but was not allowed to see it.

However, not mentioned was that this occurred in 1990 and that the WFC Water Fuel injector tech-base was still under U.S. National Security Review as in accordance to U.S. Patent Law and not available for public viewing. Also not mentioned were the many WFC patents, verified laboratory and university testing that supports the basis of WFC technology nor was the WFC appeal filing to dismiss Judge Corzine's ruling due to judicial default and other relevant information.

On 18 October 1995, a pretrial deposition hearing to inspect the WFC Dealership demonstration units (Variable-plate Electrical Polarization Process (VIC) Fuel Cell and Rotary Pulse Voltage Frequecy Generator Tubular-Array Fuel Cell) was held in the office of the plaintiff's attorney, Robert Judkins. Present were the plaintiff's, their attorneys, plaintiffs expert witness, Michael Leverich (Electronics Engineer), Stan Meyer, Dr. Russel Fowler, WFC witness and defense attorneys Judge Roger Hurley and James Detling, as well as a deposition recorder.

During the deposition, Attorney Judkins attempted to have the WFC dismantled prior to implementing proper test procedures, which Stan Meyer refused. Michael Leverich confirmed that his initial measurements of the WFC Fuel Cells showed that it operated exactly as the WFC documentation stated it should, as so recorded on WFC Deposition Video Tape.

However, he then added an unknown white substance (powder) for additional testing. Stan objected to this, since the WFC Fuel Cell uses plain tap water and does not require a chemical additive. The plaintiffs also admitted that, during their observances at WFC Dealership Seminars, tap water was always used without any chemicals added to the water. Despite Stan's objection, plaintiff measurements were taken of this chemicalized water-bath and recorded. This illegal act of tampering with WFC Evidence of Records was witnessed by WFC Cameraman, Dr. Russ Fowler, and all others who attended Plaintiffs Deposition To-Test.

In 1996, Stan Meyer gave oral testimony before the court demonstrating the WFC Fuel Cell "Mode of Operability" by using the Voltage Intensifier Circuit (VIC) to produce voltage of opposite polarity to separate and disassociate the water molecule into its component gases, hydrogen and oxygen. However, the court audio sound recording equipment seemed to malfunction and was switched off. Judge Corzine said proceedings should continue without it. This was a violation of judicial protocol, since the recording system is used to verify testimony given during the trial and as such becomes "Evidence of Records."

After his oral testimony, Stan expected Attorney/Judge Hurley to start bringing forth WFC witnesses and counter arguments. Instead, Attorney/Judge Hurley spoke up, stated he had to leave for a pre-planned vacation and said that there was no more testimony to be given and waived the right of the defendant to give a case summary of the WFC facts brought before the court. Stan Meyer immediately stated he would protest, and Judge Corzine ended the hearing.

Stan wrote a "Request to Retract" fax-letter to the Sunday Times on 2 December 1996. He attached WFC documentation on the filing with the Disciplinary Counsel. He further stated that Judge Corzine had no right to turn off the court audio sound recording equipment, nor to rule against U.S. Patents, or overrule Government and University lab reports in the public domain concerning the mode of operability of the WFC Technology. Furthermore, Stan pointed out that no US Federal "Cease and Desist" order has ever been issued against WFC since the WFC Technology has been fully legalized under US Patent Security Law 35 USC 101 and other US Federal regulatory Acts. His final statement was that "WFC is here to stay" in contradiction to the Sunday Times statement.

Stanley Meyer's twin brother Stephen Meyer has warned per his email below that the above is not wholly true. Attempts by Gary Vesperman to obtain Stephen's corrections have been unsuccessful. Stephen's web site www.hydrotechgroup.com still does not include any information which could clarify Stanley's apparent suppression troubles and suspicious death.

From: Stephen Meyer [mailto:appli-tech@msn.com]
Sent: Wednesday, March 14, 2007 12:18 AM
To: altenergy2007@gmail.com
Subject: RE: Fwd: Terry Sisson on Stanley Meyer; Xogen

HI Guys, go to my web site www.hydrotechgroup.com

Oh! Gary Vesperman's write up is really bad and does not reflect true events about Stan and is completely out of context in many areas. It is my hope that this is article is corrected before publishing. Stephen Meyer his twin…

Stephen Meyer
Appli-Tech@msn.com
Office Phone: 1.612.374.1609

Frank Roberts: Water Car

Frank Roberts is active on the Yahoo water car chat board. He was gone for a while. Then he showed up with this story that was emailed to the Yahoo water car chat board on October 4, 2005. His location is unknown. He is trying to rebuild what he had from memory, but is having a difficult time at it.

Subject: I'm Back

Hello to everyone in the water car group from Frank Roberts

To the older members of the group I say hello; to the newer ones I'm a member who had a working water car and was preparing to go cross country and see some of the members, etc. My last message was about a year and a half to two years ago, I'm not sure. At that time I reported to the group that my office was invaded by authorities and all my paper work was photographed and some taken. My van that I was working on for a carbureted vehicle was burned in the middle of the night, and my fuel injected Taurus was taken. I suffered a chemically induced stroke and am now in a nursing home. I have lost part of my long term and short term memory. My paralysis is pretty much gone, and I now have internet access in my room. I have a lot of catching up to do on the progress of the group. I no longer have my lab and all its resources but will try to contribute from experience and expertise. I look forward to hearing from the group. It's good to be back on line.

Best Wishes,
Frank Roberts

Andrew Leech (Reporter): Suspicious Deaths of Inventors in Australia

From: Andrew Leech
To: sterlingda@pureener gysystems. com
Sent: November 02, 2006
Subject: BJ Proton Cell

Hello, I'm Andrew Leech from Floppy Sponge Automation in Melbourne, Australia. I've been a keen experimenter in a number of energy areas for some time now, both privately and through FSA. I'm especially interested in the Joe Cell and could help in a setting up a reliable demonstration model of the Proton Cell variant as well as helping to spread and promote the technology… [Deleted]…

I personally believe if we can have development undertaken relatively quietly through supportive channels such as PES Network, and produce a number of engines running this way privately, then distribute them quietly aver a large area (Colin at FSA has numerous contacts right across Australia, Malaysia and Taiwan), when it is announced publicly it will already be out there too widely to be hushed up. I've heard reliable confirmations of suspicious deaths on inventors in Australia, so don't want to take the threat lightly. If we can have a large group of replications all announced simultaneously we have a chance of getting around that threat… [Deleted]…

Regards,
Andrew Leech
Floppy Sponge Automation
12 Birch Ave Dandenong Nth,
Vic, Australia 3148
http://www.floppyspongeonline.com

Gerald Schaflander: Solar-Produced Hydrogen Turned into Liquid Hy-Fuel

During the 1970s Gerald Schaflander, with the Solar Electric Power Corporation of Culver City, California, and with financial help from some friends, built a pilot production facility in Menlo Park, California. Schaflander had developed gallium aluminum arsenide/gallium arsenide solar cells and was producing hydrogen with the cells' output, which was then chemically turned into a liquid fuel called Hy-Fuel. The fuel could be utilized in cars or trucks. It was not used as a liquid but as hydrogen gas, by cracking it and feeding the recovered hydrogen gas through a special carburetor.

Schaflander and his scientists had found from their own experiments that silicon will not work. It deteriorates in the desert heat and becomes only about 2 percent efficient. Having found silicon cells unsatisfactory, Schaflander's scientific team perfected gallium aluminum arsenide/gallium arsenide solar cells. They also found a way to produce such cells on a semi-automated basis, slashing costs. Some of the photovoltaic cells used to power NASA spacecraft cost as much as $5 a watt to produce; Schaflander's automated process reduces the cost to 27 cents a watt.

The prototype of a commercial Hy-Fuel production facility on 1000 acres of leased land near Yuma, Arizona comprised of two lines of slanted solar panels that gather the sun's rays. Behind them were rounded, cylindrical "parabolic concentrators" that intensify the energy collected by the panels and focus it on photovoltaic cells. The cells produce electrical energy, and electrolysis then splits the hydrogen atoms from water. The hydrogen gas so produced is turned into a stabilized liquid similar to ammonia. The liquid Hy-Fuel is fully substitutable for fuel oil or for gasoline in automobiles, tractors and other vehicles. These are connected by wires and tubing to a small pumping station and rounded storage tanks.

This Yuma solar energy farm was the creation of Consumers Solar Electric Power Corporation of Culver City, California. On July 1, 1980 the firm had its first commercial tank load of 250 gallons of Hy-Fuel ready for delivery at only 50 cents a gallon, and was producing more Hy-Fuel. With an option on leasing another 10,000 acres and given financial support, the facility could be cranked up to full production on the entire 11,000-acre tract in six months. According to Stephen Wright, president of Consumers Solar and its scientific expert, with eight hours of continuous Arizona sunlight a day, such an energy farm would produce 3.8 million gallons of Hy-Fuel a day.

Hy-Fuel production could be increased considerably by substituting Soviet-developed high-efficiency crystal lattice solar photo-voltaic cells (see below).

A unique co-generation system would turn the waste heat produced by the process into low-pressure steam that could be used to drive turbines producing electric power for the utilities. Schaflander estimates that his company's energy farm could produce electricity at a capital cost of $690 per kilowatt. The capital-cost figures for fossil-fueled and nuclear-powered plants are $1,200 and $1,400 per kilowatt, respectively. Note that these are 1980 figures.

Conversion of present engines to hydrogen fuel can be accomplished in a few hours. The process involves removing the gasoline tank and installing a new tank capable of holding the slightly heavier hydrogen hydride mixture. A "cracker" would be positioned in the front of the car next to the motor to convert the ammonia-like Hy-Fuel into a gas mainly composed of hydrogen. This gas would flow into a new carburetor to which a fuel regulator is attached. Certain other solenoid valves and vacuum and pressure switches would be wired into the car. The hydrogen-powered vehicle would then be ready to roll.

There is no question that Hy-Fuel works. Schaflander had converted eighteen Chevrolet engines to his revolutionary fuel and had driven them across the continent, getting about twenty miles to the gallon. Tests show that Hy-Fuel's emissions are far cleaner than gasoline, obviating the need for costly emission devices such as catalytic converters which poison roadsides with toxic platinum dust particles. Hy-Fuel is also more stable than gasoline – far less likely to explode in case of an accident.

All this was developed without a dime of federal tax money. In 1978 Schaflander challenged a U.S. House of Representatives Energy Committee to let him test his device on a selected fleet of U.S. Government cars. Although he asked for no up-front money and had promised, "If we can't deliver, we don't get paid," the U.S. Government turned him down.

Schaflander was harassed by oil company-inspired opposition, including telephoned death threats to his 79-year-old mother and quite "official" opposition from the U.S. Postal Service. His company was essentially driven out of business. The whole story is described by a long article that was published in the October 4, 1980 issue of *The Nation*. There is much detail on the suppression, but little data on the actual process used. (Source: "The Hydrogen Alternative: Somebody Doesn't Like Hy-Fuel" Fred J. Cook, *The Nation*, October 4, 1980, pp. 305-311)

John Andrews: Water-to-Gasoline Additive

In May 1974 John Andrews, a Portuguese chemist, demonstrated a water-to-gas additive before Navy officials which allowed ordinary water to be added to gasoline without decreasing the combustibility of the gas and would drive the cost of gasoline down to 2 cents per gallon. When Navy officials finally went to his lab to negotiate for the formula, they found Andrews missing and his lab ransacked.

Phil Stone: Engine Runs on Water

During the 1950's, Phil Stone, a retired Florida college physics professor, had a patent for a device to run an engine on water. The U.S. Government then unfairly classified his patent, and this prevented him from developing his device. The United States Patent Office has classified 5000 patents, an unknown number of which relate to energy. Their helplessly shackled inventors will be jailed for 20 years if they work on, develop, make, sell, write about, or even simply talk about their inventions.

Bill Williams: Joe Cell-Powered Truck

(Excerpted from http://pesn.com/2006/04/13/9600257_Bill_Williams_threatened/, written by Sterling Allen, Pure Energy System News)

Joe Cell Truck Builder Threatened, Destroys Plans --- After announcing that he had successfully built a truck that runs on Joe cell technology, drawing energy from water and orgone energy, Bill Williams said he was approached by two men who demanded that he stop his research, threatening him with dire consequences if he didn't. Others are keeping it alive.

USA -- A couple of weeks ago, Bill Williams told a discussion list that he successfully ran his truck on a device known as the Joe cell. The power was far greater than the regular combustion engine -- and the energy was free.

The Joe cell is said to draw on orgone energy. The fairly simple device uses electrically charged water as the "gate" or medium through which the aetheric energy is drawn from the surroundings and transferred to the automobile engine.

Bill had posted images and rough descriptions, and was in the process of disclosing in greater detail how he had accomplished this, when he was confronted last week by two unidentified individuals who told him to cease all of his alternative energy work or there would be dire consequences.

On April 11, 2006, Bill gave the following account of what happened just a few days after announcing his success.

"I was on my way home Thursday last week [April 6, 2006] and was about 3 miles from the ferry project. I stopped to check the post connection point on the Cell. I was standing in front of my truck, and this late model 2005 or 2006 Ford Explorer pulled up and parked diagonally in front of my truck.

"The driver got out of the rig and walked around in front of their rig and approached me. At about the same time, the passenger opened his door.

"The driver stated that they wanted me to stop working on all forms of alternative energy. He also stated that we know everything about me, my family, and all my projects past and present.

"At about that time the passenger reached and held up a file that was about 2 or so inches thick. He opened it up and showed me telephone transcripts, emails, messages from the groups that I had belonged to.

"They knew where my kids worked, the times they are at work; also my wife's working hours, my grandkids' school, etc. They knew everything.

"The driver said that if I did not stop working on this (he then opened up the left side of his jacket and showed his weapon that was holstered) that there would be other consequences.

"He also stated that he wanted me to post that I was no longer working in this field and to destroy all my work, i.e. cells, drawings, lab journals, everything!

"At that point he walked around and got into the rig. I shut the hood and got the hell out of there. They followed me for about 2 miles and then must have turned off somewhere."

After a few days of contemplation, Bill decided to abide by the demands of those who threatened him. He destroyed the cell and all data and documentation and disabled the website on which he had posted plans. Four days after that incident, Bill wrote the following message to the group:

"I thought I was strong but when illness to the family comes into play, I have failed. I am truly sorry. I will not be working in any form of alternative energy field anymore. [...]

"I destroyed my device tonight along with my written data and lab notes as per specked out."

Thomas E. Bearden, Ph.D.: Motionless Electromagnetic Generator

In March 2002, Stephen L. Patrick, Thomas E. Bearden, James C. Hayes, Kenneth D. Moore, and James L. Kenny received U.S. Patent No. 6,362,718 for the Motionless Electromagnetic Generator (MEG), a scalar energy device that produces over-unity (AKA "Free Energy"). In conventional terms, the device has a Coefficient of Performance (COP) of 5.0.

Tom Bearden offers this brief description of how the Motionless Electromagnetic Generator works:

First the MEG uses a proven technique (the Aharonov-Bohm effect) which the nanocrystalline core furnishes freely. Recall again that memory characteristics of materials is one thing (from Prigogine) that allows direct and intentional violation of the second law of thermodynamics.

This free initiation of the Aharonov-Bohm effect in turn engineers the surrounding vacuum outside the core, by adding extra energy density to it in the form of a curl-free A-potential. Sharp perturbation (the rise time and decay time) of the input pulses that perturb the core-confined B-field, also perturb that section of the A-potential still in the core, so that a disturbance of dA/dt passes outside the core and on outward into the external altered vacuum with its extra energy.

There the equation $dA/dt = - E$ applies, and so in the external activated space real E-field energy pulses are formed which radiate back into the MEG core area due to the minus sign. This means they travel in opposite direction to the outward-traveling perturbation dA/dt.

Hence this shows the receipt by the MEG of excess electromagnetic energy freely transmitted back into it from the external altered space, which means that the MEG gets considerable excess E-field energy input from the surrounding vacuum. By adjusting perturbation rise times, etc., one can adjust the magnitude of the E-field energy pulses returned to the MEG from the external vacuum environment. Thus the MEG is an asymmetric Maxwellian system of the kind arbitrarily discarded by Lorentz in 1892, and still arbitrarily discarded by present EE departments, professors, and textbooks.

Comprised of strong magnets, coils, nanocrystalline cores, and a controller unit with the electronics, the MEG would be able to power an electric vehicle without battery recharging by the power grid.

For a detailed explanation (including clear drawings) of how the MEG works, see Dr. Bearden's paper "Engineering the Active Vacuum: On the Asymmetrical Aharonov-Bohm Effect and Magnetic Vector Potential A vs. Magnetic Field B,". This paper is available at the link http://www.cheniere.org/techpapers/On%20the%20Aharonov-Bohm%20Effect1.doc.

In that paper, Dr. Bearden points out that electrical engineers – and even the usual physicist – are unaware of how an electrical circuit is actually "powered". For an explanation and a diagram showing (1) where the energy pouring from the generator terminals actually comes from and how, and (2) why the normal electromagnetic systems self-enforce COP<1.0 by killing their own source of this free energy flow faster than they power their loads, see Figure 2, Operation of a Symmetrical Electrical Power System, in the foregoing paper.

Note that there are more than 20,000 papers in the hard literature on the Aharonov-Bohm effect used by the MEG, and that Aharonov-Bohm effect is quite well proven in physics, both theoretically and experimentally. But the effect does not even exist in the electrical engineering model! Since the MEG is deliberately designed to use that effect, the operation of the MEG can only be understood by one who understands the Aharonov-Bohm effect, its generalization to the Berry phase, and the further generalization to the geometric phase. Specifically, any electrical engineer – using only mainstream electrical engineering theory – can not and will not be able to understand the MEG's operation.

There are several sources of the special nanocrystalline cores which contain the "B" field needed to effectively operate the MEG. Dr. Bearden reports in http://www.cheniere.org/correspondence/020504.htm that the nanocrystalline cores originally were purchased as Metglas amorphous alloys from the former Division of Honeywell that made them. He believes that Honeywell actually got them from India. That Division of Honeywell was just about demolished by General Electric (GE) in its sudden attempted buyout of Honeywell (vetoed by the European community). GE suddenly moved it across country, wiping out half its staff and scientists, etc. Then GE withdrew. With the Division in shambles, Honeywell then sold it off to Hitachi. He doesn't know what's happened since then

(Sources: http://jnaudin.free.fr/meg/megv21.htm, http://peswiki.com/index.php/Site:LRP:Motionless_Electromagnetic_Generator, and http://peswiki.com/index.php/Site:LRP:The_Suppression_of_the_M.E.G._by_General_Electric. For additional information, order Dr. Bearden's books and videos from www.cheneire.org.)

Thomas E. Bearden, Ph.D. (Reporter): J.P. Morgan Emasculated Electrical Engineering Theory

Thomas E. Bearden, Ph.D., in an August 5, 2007 email to Gary Vesperman and three other energy researchers, offers an insight into what really happened more than a century ago when the foundations were laid for eventually providing electricity to billions of people. In the 1880s and 1890s Nikola Tesla (backed by Westinghouse, a decent man) destroyed the great dreams and preparations of John Pierpont Morgan and Thomas Edison for moving the world into DC electrical power, requiring a DC power plant about every two miles, for example. Instead, with the support of Westinghouse, Tesla gave the world the much more practical AC power systems, where the electric power is much more easily transmitted over transmission lines to distant destinations, without the serious losses as DC transmission entails.

This and Tesla's clearly enunciated intention to give the world clean free electromagnetic energy from the "active medium" itself, brought J. P. Morgan to regard Tesla as his mortal enemy, to be destroyed or curtailed at any cost. Then with the near-bankruptcy of Westinghouse, the only person Tesla could turn to for financing was J. P. Morgan himself. The university attended by Morgan in Germany was the heart of the Hegelian method, which uses the technique of funding and backing one's own enemies as well as one's supporters, to gain influence over – and eventually control of – both. So when Tesla approached Morgan for financing, Morgan readily agreed – but only after Tesla signed over a 51% controlling interest in his (Tesla's) patents.

Tesla did so, and that put control of Tesla, his patents, and his great new project directly under Morgan's control. Morgan then simply advanced Tesla only part of the money needed for his tower project, and when Tesla predictably ran out of funds, Morgan simply refused to give him any more. Very shortly this completely crushed Tesla, reducing him to effective bankruptcy, living in a hotel room, and existing on the patience and literally the charity of others. Tesla never recovered from this blow, but eventually died in that hotel room. Many of Tesla's inventions – such as radio – were stolen from him. After Tesla expired in 1943, Marconi's inventions – e.g. – were officially declared as take-offs of Tesla's inventions by the U.S. Supreme Court.

Isn't it significant that essentially none of our scientific history books credit Tesla for being the actual inventor of the radio, but instead give credit to the theft of Tesla's radio discoveries by Marconi? What does that say about the "official" ethics of the scientific community?

But Morgan was not only ruthless, but thorough. In the latter 1880's, etc., when Tesla was gung ho to give us free energy from the active medium, Morgan also anticipated the future of this "energy freely extracted from the active medium" problem that had suddenly risen in Tesla's work. At the time, there were less than three dozen "electrodynamicists" in the entire world. Maxwell had died in 1879, and those who despised quaternions (Heaviside, Hertz, Gibbs, etc.) immediately chopped Maxwell's 20 quaternion-like equations in 20 unknowns into a very much smaller vector subset containing only four equations. Maxwell's theory was never accepted during his own lifetime, but only begrudgingly and very slowly after (eight or nine years after Maxwell's death) Hertz performed speed-of-light measurements showing Maxwell was correct.

The real Maxwell theory has never been routinely taught in electrical engineering, which contains only a pale shadow of it. For the full Maxwellian theory, see James Clerk Maxwell, "A Dynamical Theory of the Electromagnetic Field," Royal Society Transactions, Vol. CLV, 1865, p 459. Read Dec. 8, 1864. Also in The Scientific Papers of James Clerk Maxwell, 2 vols. bound as one, edited by W. D. Niven, Dover, New York , 1952, Vol. 1, p. 526-597. Two errata are given on the unnumbered page prior to page 1 of Vol. 1. In this paper Maxwell presents his seminal theory of electromagnetism, containing 20 equations in 20 unknowns. His general equations of the electromagnetic field are given in Part III, General Equations of the Electromagnetic Field, p. 554-564. On p. 561, he lists his 20 variables. On p. 562, he summarizes the different subjects of the 20 equations, being three equations each for magnetic force, electric currents, electromotive force, electric elasticity, electric resistance, total currents; and one equation each for free electricity and continuity. Most electrical engineers have never even read Maxwell's theory, even though they were falsely informed that they had studied (and mastered) "Maxwell's theory."

Free download of that original Maxwell theory can be made directly from the ZPE website, at links

http://www.zpenergy.com/downloads/Maxwell_1864_1.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_2.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_3.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_4.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_5.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_6.pdf
http://www.zpenergy.com/downloads/Diagram.pdf

Barrett (one of the co-founders of ultrawideband radar) comments on the curtailing of Maxwell's theory as follows:

"[T]he A field [for the potentials] was banished from playing the central role in Maxwell's theory and relegated to being a mathematical (but not physical) auxiliary. This banishment took place during the interpretation of Maxwell's theory... by Heaviside... and Hertz. The 'Maxwell theory' and 'Maxwell's equations' we know today are really the interpretation of Heaviside... Heaviside took the 20 equations of Maxwell and reduced them to the four now known as "Maxwell's equations". [Terence W. Barrett, "Electromagnetic Phenomena Not Explained by Maxwell's Equations," A. Lakhtakia, ed., Essays on the Formal Aspects of Electromagnetics Theory, World Scientific Publishing, River Edge, NJ, 1993, p. 11.]

Actually it was worse than that! Heaviside hated potentials (which today we know are primary), thought they were mathematical conveniences only, and that they should be "murdered from the theory". Quoting from B. J. Hunt:

"In a letter to Oliver Lodge in 1893, Heaviside referred to his own work and stated that it represented '….the real and true 'Maxwell' as Maxwell would have done it had he not been humbugged by his vector and scalar potentials.' [B. J. Hunt, The Maxwellians, Ph.D. dissertation, The Johns Hopkins University, Baltimore, MD, 1984, p 317].

Heaviside also thought (as did all others at the time) that a thin material fluid ether filled all space, so that nowhere in all the universe was there a point where mass was absent. For that reason, the electrodynamicists – including Heaviside – thought there were force fields E and H in space, when today we know such electromagnetic force fields exist only in charged matter (matter is a component of force, by the equation F = d/dt(mv). Quoting Feynman:

"…in dealing with force the tacit assumption is always made that the force is equal to zero unless some physical body is present… One of the most important characteristics of force is that it has a material origin…" [Richard P. Feynman, Robert B. Leighton, and Matthew Sands, The Feynman Lectures on Physics, Addison-Wesley, Reading, MA, Vol. 1, 1964, p. 12-2].

For a commentary on even the unsatisfactory condition of the original Maxwell's theory, Cornille states it this way:

"Even today, Maxwell's equations are given as granted, their validity being justified by experiments. In fact, there is no demonstration of Maxwell's equations from first principles since the mechanical approach used by Maxwell has been abandoned in favor of a new non-mechanical entity: the electromagnetic field. Of course, Maxwell's equation[s] can be obtained from a variational principle but they are derived from an action appropriately chosen in order to recover them. …Maxwell's equations raise a certain number of fundamental questions which have not been answered in a satisfactory manner to date." [Patrick Cornille, "Inhomogeneous waves and Maxwell's equations," Chapter 4 in Essays on the formal Aspects of Electromagnetic Theory, Ed. A. Lakhtakia, World Scientific, 1993, p. 138-139.].

But it made no big splash, and the Heaviside severely truncated equations were "chosen" as the basis equations for the new "electrical engineering" that was beginning to be set up in a few universities here and there. Morgan apparently had the "new" equations (for the new electrical engineering being born) checked via group symmetry (adopted in 1870, so therefore well known by the very few leading electromagnetic scientists of the world at the time) to see if the "new" science/equations contained any of those "systems taking excess free energy from the active medium" – in short, containing any of Maxwell's asymmetrical systems present in the full Maxwellian theory. In short, Morgan was determined not only to suppress Tesla, but also to suppress any future "young Tesla" who might be stimulated to see and develop "free energy from the active medium" Tesla systems. The review of Morgan's scientific advisors was not good; the "new" and truncated Heaviside equations were still not totally symmetrical, which meant some of those dirty old asymmetric Maxwellian systems were still there.

Morgan, of course, just directed that it be "fixed". And Lorentz was the fellow chosen or arranged to do the job; in 1892, Lorentz arbitrarily symmetrized the Heaviside equations – just to "make them easier to solve algebraically", so the story went. He thereby firmly excluded all asymmetrical Maxwellian systems from the standard electrical engineering model, from its very birthing.

Lorentz was a great scientist in his own right, but also was fond of appropriating and using other people's work and taking credit for it himself. For example, the whistle was finally blown on this aspect of Lorentz, by the great electrodynamicist J. D. Jackson. See J. D. Jackson and L. B. Okun, "Historical roots of gauge invariance," Reviews of Modern Physics, Vol. 73, July 2001, p. 663-680. Even the symmetrical regauging used by Lorentz (and credited to him generally) was first done by Lorenz (without the "t"), as Jackson and Okun show.

To see the original Lorentz "suppression" paper applying symmetrical regauging, see H. A. Lorentz, "La Théorie électromagnétique de Maxwell et son application aux corps mouvants," [The Electromagnetic Theory of Maxwell and its application to moving bodies], Arch. Néerl. Sci., Vol. 25, 1892, p. 363-552. [Also in H. A. Lorentz, Collected Papers, The Hague : Martinus Nijhoff, vol. 2, pp. 168-238, esp. p. 168.] This is the work that Lorentz cites later (in 1895) for his proof of the symmetrical regauging theorems (the two equations of symmetrical regauging).

This is what arbitrarily eliminated (from standard electrical engineering) the use of "Tesla" asymmetrical Maxwellian systems that do receive excess electromagnetic energy freely from the active medium – and thus can function at a coefficient of performance (COP)>1.0 precisely similar to a windmill-driven electrical power system or a solar panel powered electrical power system. A real system with real losses will always have efficiency (total useful energy or work output divided by the total energy input from all sources) of less than 100%. But if it asymmetrically receives (freely or nearly freely) excess energy from its active environment, then its coefficient of performance (total useful energy or work output divided by the total energy input by the operator only) can permissibly exceed 1.0. No laws of nonequilibrum thermodynamics are violated, as are no laws of physics.

Two persons – Oliver Heaviside and John Poynting – independently and simultaneously discovered the flow of electromagnetic energy through space in the 1880s and early 1890s; before then, the concept does not appear in physics. Poynting only considered a very tiny part of the "total electromagnetic energy flow pouring from the generator terminals and flowing through space outside and along the external conductors (of the external circuit)". That tiny part is the small fraction of the energy flow – the linear part – that gets diverged into the conductors to "potentialize and power up the electrons" and the external circuit. Heaviside also discovered a giant curled electromagnetic energy flow component in addition to the diverged little component. The nondiverged curled electromagnetic energy flow component is more than a trillion times greater in energy magnitude than the feeble Poynting component.

Well, again it would simply not do (in Morgan's relentless view) for our young future electrical engineers to know and be taught that the generator actually outputs more than a trillion times as much electromagnetic energy output as the mechanical energy input one furnishes to crank the shaft of the generator. That would mean it would just be a matter of time before some young budding genius would discover how to trick some of that giant curled Heaviside component into diverging into the conductors after all, thus producing Tesla "energy from the external active medium" systems after all.

So again, Morgan would have issued orders to "fix it!"

And so Lorentz was arranged once again to do the dirty work. In 1900 he stated that this giant curled Heaviside component "does nothing", since it does not interact, and so it "has no physical significance". And he arbitrarily just integrated the entire energy flow vector (containing both the diverged Poynting energy flow component and the usually nondiverged Heaviside giant curled energy flow component) around a closed surface assumed around any volume element of interest. Thereby Lorentz misinformed us that this nondiverged giant energy flow had "no physical significance" and taught us to just deliberately cancel it as a matter of course.

In his August 16, 2007 email to Gary Vesperman and Leslie Pastor, Thomas Bearden adds:

For additional rigorous mathematical demonstrations, see the following:

M. W. Evans et al., "Explanation of the Motionless Electromagnetic Generator with O(3) Electrodynamics," Foundations of Physics Letters, 14(1), Feb. 2001, p. 87-94. Quoting: "…the fundamental operational principle of the MEG is explained using a version of higher symmetry electrodynamics known as O(3) electrodynamics, which … has been developed extensively in the literature. The theoretical explanation of the MEG with O(3) electrodynamics is straightforward: Magnetic energy is taken directly ex vacua and used to replenish the permanent magnets of the MEG device, which therefore produces a source of energy that, in theory, can be replenished indefinitely from the vacuum. Such a result is incomprehensible in U(1) Maxwell-Heaviside electrodynamics."

M. W. Evans et al., "Explanation of the Motionless Electromagnetic Generator by Sachs's Theory of Electrodynamics," Foundations of Physics Letters, 14(4), 2001, p. 387-393.

M. W. Evans et al., "The Aharonov-Bohm Effect as the Basis of Electromagnetic Energy Inherent in the Vacuum," Foundations of Physics Letters, 15(6), Dec. 2002, p. 561-568.

T. E. Bearden, "Extracting and Using Electromagnetic Energy from the Active Vacuum," in M. W. Evans (ed.), Modern Nonlinear Optics, Second Edition, 3 vols., Wiley, 2001; Vol. 2, p. 639-698.

A quote of interest is: “This has led to one of the greatest ironies in history: All the hydrocarbons ever burned, all the steam turbines that ever turned the shaft of a generator, all the rivers ever dammed, all the nuclear fuel rods ever consumed, all the windmills and waterwheels, all the solar cells, and all the chemistry in all the batteries ever produced, have not directly delivered a single watt into the external circuit’s load. All that incredible fuel consumption and energy extracted from the environment has only been used to continually restore the source dipole that our own closed current loop circuits are deliberately designed to destroy faster than the load is powered.”

T. E. Bearden, "Energy from the Active Vacuum: The Motionless Electromagnetic Generator," in M. W. Evans (Ed.), Modern Nonlinear Optics, Second Edition, 3-vols., Wiley, 2001; Vol. 2, p. 699-776.

M. W. Evans, T. E. Bearden, and A. Labounsky, "The Most General Form of the Vector Potential in Electrodynamics," Foundations of Physics Letters, 15(3), June 2002, p. 245-261.

For a rigorous proof that removing Lorentz's 1892 arbitrary symmetrization of the Heaviside-Maxwell equations does indeed provide usable energy currents from the vacuum, see M. W. Evans et al., “Classical Electrodynamics without the Lorentz Condition: Extracting Energy from the Vacuum,” Physica Scripta, Vol. 61, 2000, p. 513-517.

To see the horrible falsities (as pointed out by eminent scientists such as Nobelist Feynman) being taught in electrical engineering in all our universities, see my paper “Errors and Omissions in the CEM/EE Model,” available at http://www.cheniere.org/techpapers/CEM%20Errors%20-%20final%20paper%20complete%20w%20longer%20abstract4.doc . This paper was favorably reviewed by the National Science Foundation; for the NSF letter see http://www.cheniere.org/references/NSF%20letter%20Bearden.jpg .

Here is a little exercise that is revealing to think about:

Take a common permanent magnet and sit it on the bench. Lay an electret across it so the E-field of the electret is at right angles to the H-field of the magnet. Then by the ordinary Poynting theory already accepted and contained in every basic electrical engineering textbook, that silly thing sits there and continuously pours out a steady Poynting stream of real electromagnetic energy flow S, given by $S = E \times H$.

The CEM/EE folks just shrug and walk away from that embarrassing problem. A typical comment is one by Buchwald:

"[Poynting's result] implies that a charged capacitor in a constant magnetic field which is not parallel to the electric field is the seat of energy flows even though all macroscopic phenomena are static." [Jed Z. Buchwald, From Maxwell to Microphysics, University of Chicago Press, Chicago and London, 1985, p. 44].

He states it, but does not pursue its implications at all.

Scientists such as Van Flandern do point out that a so-called “static” electromagnetic field is actually a nonequilibrum steady state system, comprised of internal parts in continuous and steady motion. Quoting Van Flandern:

“To retain causality, we must distinguish two distinct meanings of the term ‘static’. One meaning is unchanging in the sense of no moving parts. The other meaning is sameness from moment to moment by continual replacement of all moving parts. We can visualize this difference by thinking of a waterfall. A frozen waterfall is static in the first sense, and a flowing waterfall is static in the second sense. Both are essentially the same at every moment, yet the latter has moving parts capable of transferring momentum, and is made of entities that propagate. …So are … fields for a rigid, stationary source frozen, or are they continually regenerated? Causality seems to require the latter.” [Tom Van Flandern, “The speed of gravity – What the experiments say,” Physics Letters A, Vol. 250, Dec. 21, 1998, p. 8-9].

So there is no problem at all in establishing as large a continual free electromagnetic energy flow as one wishes. Anywhere, anytime. Simply make a dipole, or crossed E and H dipoles, then leave it alone. As Nobelist Lee pointed out, when you have a broken symmetry then something virtual has become observable. In other words, any electromagnetic broken symmetry can and does absorb virtual energy from the vacuum, integrate it coherently into quantum sized particles (photons), and emit those real, observable photons at light speed in all directions. This process – the solution to the long-neglected "source charge problem" – is what produces the steady-state or "static" electromagnetic fields. Such fields are actually continuous, free flows of real, usable electromagnetic energy.

The entire "free energy from the vacuum" problem is simply this: Given incredible "free electromagnetic energy wind" available and automatically provided from every electromagnetic broken symmetry (dipolarity) in the universe, how does one build a proper asymmetric "windmill" to intercept and collect some of that real, free, continuous "electromagnetic energy wind energy" and then separately dissipate it in its loads to power them? All our electrical engineers think, design, and build only symmetrical windmills, which use half their freely collected electromagnetic energy to do nothing but destroy their own source dipolarity furnishing the free wind! The other half is used (in the forward emf region) to power the losses and loads of the external circuit.

So half the "freely collected" energy is normally used (in the EE's symmetrical circuits and systems) to destroy the wind source itself, and the other half is used to power the external loads and losses. Well, to keep the wind flowing, we have to keep "restoring" the internal dipolarity (broken symmetry) of the generator as fast as it is being destroyed. That is what "cranking the shaft of the generator" actually accomplishes; it doesn't send a single joule of energy directly out onto the external circuit or power line! Note that the rigorous definition of work is the change of form of energy. When we crank the generator shaft, we input mechanical energy, which once the generator rotates is changed (courtesy of Nikola Tesla!) into rotating magnetic field energy inside the generator itself. In turn, this rotating magnetic field energy is dissipated totally inside the generator, to force opposite charges apart and thus to produce that magic source dipolarity with its broken symmetry. The broken symmetry of this internal dipolarity then absorbs virtual state energy from the seething virtual state vacuum, and transforms it to real, observable photons (real, usable electromagnetic energy) which it continually pours out. It is this stream of real electromagnetic energy flow that pours from the terminals of the generator and along through space outside the external conductors.

A tiny portion of this giant energy flow (the Poynting component) is diverged into the conductors to "power up the electrons" and thus power the circuit. A huge curled giant Heaviside component remains, but (in any special relativistic situation) is not diverged, does not interact, and does nothing.

But the generator actually outputs more than a trillion times as much total electromagnetic energy flow (in both the feeble Poynting electromagnetic energy flow component and the accompanying giant Heaviside curled electromagnetic energy flow component) as the mechanical energy that we physically input to the shaft of the generator.

The knowledge of Heaviside's giant usually-nondiverged energy flow component is what Morgan also had "scourged" from the theory by Lorentz in 1900, so that all the future electrical engineers would think that they only produce the diverged Poynting component of energy flow and nothing else.

Very good modern classical electrodynamicists continue to ignore any and all curled energy flow components accompanying the Poynting linear flow component. Quoting Jackson :

"...the Poynting vector is arbitrary to the extent that the curl of any vector field can be added to it. Such an added term can, however, have no physical consequences. Hence it is customary to make the specific choice …" [J. D. Jackson, Classical Electrodynamics, Second Edition, Wiley, 1975, p. 237].

Let us comment: Jackson is quite correct so long as the situation remains special relativistic. In that case, vector analysis holds and the divergence of the curl is zero. The curled giant energy flow component thus does not diverge or interact with anything.

But if the situation is deliberately made general relativistic or deliberately involves a properly synchronized general relativistic operation, then Jackson's statement is false. In that case, a bit of that giant curled energy flow component does diverge after all, and comes into the circuit to help power it. In optical physics, the negative resonance absorption of the medium (NRAM) phenomenon (released by the Russians in 1967) is just such a process, though that is completely unknown to our optical physicists. But in the optimized narrow frequency experiments using laser input energy, the COP is actually COP = 18 as experimentally measured every year in all leading optical physics groups worldwide.

But none of them are allowed to say "excess emission", but are force to use the deliberately mind-numbing phrase "negative absorption". Anyway, we proposed using that NRAM process to build heat amplifiers in steam boilers, so that with closed positive feedback the steam boiler can be made self-powering. This would immediately and dramatically lower the consumption of coal, nuclear fuel rods, natural gas, etc. in most of our electrical power plants already built and deployed. For a crude little paper on it, see Thomas E. Bearden and Kenneth D. Moore, "Increasing the Coefficient of Performance of Electromagnetic Power Systems by Extracting and Using Excess EM Energy from the Heaviside Energy Flow Component". PPA, filed and obtained in Oct. 2005. Now released into public domain and freely given away to the public domain. It is available at http://www.cheniere.org/techpapers/PPA%20Increasing%20COP%20by%20addnl%20extractn%20from%20flow1a.DOC .

As you can see, our electrical engineers are deliberately (and unknowingly) trained to only build symmetrical systems that destroy their free energy wind input faster than they use some of it to power the loads, and that do not do anything "general relativistic" so that a part of that now-unaccounted giant curled Heaviside electromagnetic energy component also gets diverged (and thereby converted into an extra Poynting energy component). In short, our own electrical engineers, professors, and departments self-enforce COP<1.0 performance and are thereby directly responsible for the world energy crisis, giant pollution of the biosphere, and the deaths of hundreds of millions of impoverished peoples world wide!

The thing is this: Our scientific community should fund and permit the bright young theoreticians and bright young professors to tangle with the technical problem of how to go about building asymmetrical interception and powering systems, once they easily assemble a free electromagnetic energy wind source for furnishing the input energy freely from the vacuum. Let them first remove the diabolical Lorentz symmetrization from their present Heaviside equations, and then ponder how to then build a nice "asymmetric windmill" that will intercept and collect some of that freely flowing electromagnetic energy, and will separately use (dissipate) it to power the external loads without disturbing the "crossed dipoles and their broken symmetry".

Comment by Gary Vesperman: Was John Pierpont Morgan really that sharp a bean-counter?!! In spite of his demonstrated ruthlessness and his exploitation of the genius Nikola Tesla, we would have to give him credit for his conjunction of acute business acumen with his not inconsequential understanding of physics. Morgan left a legacy of energy invention suppression that endures to this day.

Frank Richardson: Magnetic Electrical Generator and Bladeless Steam Turbine

As told to Gary Vesperman by Frank Richardson, during the 1970's four Nevada Test Site (NTS) technicians helped Frank Richardson, an NTS electrician, invent a magnet-based electrical generator that required no input power and also a bladeless Tesla-type steam turbine.

Richardson's "Electromagnetic Convertor with Stationary Variable-Reluctance Members" (US Patent No. 4,077,001) uses two pairs of electromagnets to warp a permanent magnet's magnetic fields back and forth across output field coils to induce a DC output voltage. Dr. Thomas Bearden's motionless electromagnetic generator (see above) is based on the same principle.

The bladeless steam turbine has a closed-loop cycle that Richardson claimed is far more efficient than the electric motor in terms of converting electrical energy into rotational energy for application to a vehicle's drive wheels. The water is heated with radio frequencies like a microwave oven into steam that is then forced through two disks in sequence. The electricity for the water heater came from the generator.

The two disks are perforated in such a manner as to prevent cavitation (bubbles) even at high rotational velocity. Since steam offers a 1,000-to-1 expansion ratio compared with gasoline's expansion ratio of approximately 300 to 1, the turbine is extremely powerful. An 18-inch diameter prototype's output power was measured at approximately 1,000 horsepower.

A Volkswagen Beetle was outfitted with these inventions and driven around without energy input.

Some people tried to steal these two inventions. Two of the technicians died under suspicious circumstances, and Richardson had to go into hiding until his recent death. It is Gary Vesperman's understanding that the black helicopter people might have had nothing to do with this situation; just greed.

Gary Vesperman (Reporter): Energy Inventors are Buzzed by Black Helicopters

A few years ago one summer, an energy inventor's house was buzzed twice by a black helicopter. He said they appeared to be an older Hughes model painted black and with no markings. He asked a friend who is an air traffic controller at the local airport. His friend reported no radar sightings. One of the buzzings was witnessed by dozens of people although the inventor himself wasn't home. (Gary Vesperman has since then come across an article in his zero point energy literature which claims that the radar-absorbing coating on black helicopters and also black Stealth fighters and B-2 Stealth bombers is depleted uranium.)

Also about that time the energy inventor and some other people narrowly escaped a flip and crash in a private plane which had a cut on a tire. The cut was then hidden by rolling the plane.

Las Vegas UFO buff Tym Schofield was driving around the desert one year when some black helicopters swooped low over his car and gave him a really good scare. He was on his way home after appearing on a radio talk show.

A female Las Vegas resident met a former black helicopter pilot at a 1995 Christmas party. The pilot had become so disgusted he quit. Subsequently, the driver of a car attempted to run over the ex-pilot and killed his wife instead. Gary Vesperman tried to locate the pilot so he could interview him but was unsuccessful.

Bob Dratch, inventor of the thorium powerpack (see below), reports back in the late 90's during one of the winters he had picked up his son from the bus-stop. He went past his old machine shop which he had in an old farm house and continued up the hill to his house. As Dratch crested the hill top he noticed hovering below the ridgeline out of sight of "radar" from the flatlands a black helicopter with something that looked like a high-powered "shotgun-like" antenna on the nose. The copter was totally silent, black, numberless and pointing this "thing" at his shop. After having dropped off his child at home he went back down to his shop and found all his computers were OFF line, and not booting any more. Had his equipment just gotten zapped with an electromagnetic pulse? Was he being snooped on long range? Who knows?

The town was about 10 miles due west of Golden Colorado, and the mountain they were nearest is called Mount Tom. They were between Mount Tom and Dratch's shop, very close to the hilltop closest to him (within about 500 feet), but about 8 miles SE of the large mountain (Mount Tom), just clearing the hill's ridge and below tree line. He would not have seen them at his shop as at that altitude they were below tree line, but hovering silently. When he crested the hill that was when he was above tree line for a moment, and saw them there. He no longer has his shop at the old location as a few years after that all the water dried up in the wells. He supposes that is just a coincidence.

The black choppers now and then make a point of buzzing him, and/or hovering. But Dratch hasn't had any ground attacks – just this aerial stuff. Generally they tend to appear when he runs tests...

(The two black helicopter stories below were excerpted with permission from Erik Masen's article SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-energy Devices, *Electrifying Times*, Vol. 8 No. 3 and also in http://www.electrifyingtimes.com/erik_masen_suppression.html.)

At the International Tesla Society conference in 1993, a videotape of an advanced generator utilizing tachyon waves was presented without the inventor's permission. This generator not only produces excess energy, but also exhibits time-warping characteristics. The tape was shown on a Friday afternoon, 3,000 miles from the inventor's home.

The very next day, U.S. Government's Federal Bureau of Investigation (FBI) and Bureau of Alcohol, Tobacco and Firearms (ATE) agents knocked on the inventor's door wanting to see the device. He politely told them no.

The following day, a black helicopter hovered above his house taking pictures of the inside. (These black helicopters and even some satellites apparently now have the capability of photographing every item inside a building.)

On a recent morning talk show featuring the U-2 spy plane, it was revealed that the plane's audio receivers are so sensitive they can pick up ground-level conversations from an altitude of 70,000 feet.

(The black helicopter stories below were told to Gary Vesperman at the 1997 International Tesla Society Symposium in Colorado Springs, Colorado by health physicist John W. Moreland, Ph.D.,1251 Smith Thompson Road, Bethpage, TN 37022 (near Nashville); voice 615-888-3428. Moreland publishes and sells 34 engineering and physics textbooks – mostly old books that he thought ought to be republished and made available. He has accumulated several yards of files on unconventional energy devices.)

It is reportedly possible to approach within a half-mile of a base east of Nashville, Tennessee which houses at least 100 black unmarked helicopters, some black unmarked C-130 transport airplanes, and black unmarked jeeps.

A county commissioner, whose jurisdiction includes Nashville and who owns a farm, became upset with black helicopters flying over his farm at night scaring and scattering his animals. He complained to Congress, the Department of Transportation, Federal Aviation Agency, etc. without satisfaction.

Some years ago, an inventor in another city had his house buzzed a few times by black helicopters. One night during a particularly aggravating buzzing, the inventor shot down the black helicopter which killed both pilots and demolished his house. He was arrested and charged with murder. At a hearing, his lawyer held up a Washington Post newspaper headline "Federal Government Claims Black Helicopters Don't Exist". The charges were dropped because black helicopters don't exist.

So afterwards when another inventor in early June one year at 2 a.m. had his one-story house buzzed by a black helicopter 3 feet above his roof, he went outside with a flashlight and a pistol. He aimed the light at the pilot, ran the light along the fuselage and after finding no identifying numbers, told the pilot he doesn't exist. He then disabled the tail rotor with his pistol. (He didn't want to injure the two pilots.) The helicopter took off fishtailing from side to side. Since then he hasn't been visited by black helicopters.

Black humor? It could be supposed that these two shooting incidents prove that it must conveniently now be legal open season on black unmarked helicopters. Keep in mind though that their pilots are only employees of the U.S. Government (see http://www.nogw.com/shadow.html) who are being paid to spy on, harass and buzz targeted American citizens, particularly energy inventors who potentially are able to put large energy industries out of business. Some of these black helicopter pilots may even be wondering about why they are participating in suppression of new energy inventions.

Erik Masen, in his article "Suppression of Quantum Leap Inventors", *Electrifying Times*, 2007, Vol. 10, No. 2, wrote that some say that black helicopters are part of the Bureau of Alcohol, Firearms, and Tobacco which operates under the U.S. Treasury Department, which in turn operates with the U.S. Federal Reserve, which is a private corporation, which operates with the World Bank, over which the U.S. Government apparently has no jurisdiction. Thus, the black helicopters can do as they please.

Gary Vesperman (Reporter): Shielding Over-Unity Power Converters

A typical radio wave that is radiated out of an antenna comprises of transverse waves of electromagnetic energy. These transverse radio waves oscillate perpendicularly to the axis along which they are traveling.

The zero point energy field is an immensely energetic medium, omnipresent throughout the universe, of random electromagnetic waves with frequencies ranging from near zero to frequencies so extremely high as to be undetectable.

An over-unity power converter generates more output power than the input power it needs to operate. Hence its ratio of output power to input power is greater than one. That is, it is operating at "over-unity". Its leftover output power is thus available to do useful work for "free"; hence the popular term "free energy" machine.

Some types of over-unity power converters are designed to extract energy from the zero point energy field. What's interesting is that longitudinal waves of electromagnetic energy are emitted during the energy extraction process. That is, these longitudinal electromagnetic waves oscillate along the axis of their travel, not perpendicular to the axis like transverse radio waves.

Detecting these longitudinal electromagnetic waves requires special sophisticated instruments. The U.S. Government maintains a network of such instruments in orbiting satellites to monitor the entire earth for these signals. (This same network is also employed to usefully detect, locate by triangulation, and report lightning bolts in real-time which helps to justify the network's enormous expense.)

If a longitudinal electromagnetic signal is picked up, it is assumed that an inventor is experimenting with a working over-unity power converter or generator. The location of the device is triangulated, and the inventor is then "visited", liquidated or whatever by energy invention suppression hit squads in order to safeguard markets for gasoline and metered centrally generated electricity.

Copper-lined Faraday cages, normally used for shielding radio waves, are not adequate for blocking these signals from over-unity converters of zero point energy. One experimenter has suggested using bismuth.

The all-seeing Big Brother effectiveness of the U.S. Government's zero point energy extraction detecting and tracking network has been demonstrated by one zero point energy experimenter's complaint:

"I have not been able to locate any type of material that will shield this type of energy. The best advice is to work underground and operate only for brief periods of time 10 to 15 minutes at random times. Also heavy cloud cover, wind, rain and other thunderstorms are good for masking your experiments.

I had black choppers and power company trucks crawling all over me within 15 minutes when I discovered an over-unity effect in my shop. I think they would have been at my door if I had not shut the unit off when I did. They changed every ground and insulator on all the power poles for miles around my location looking for the source of the energy they had detected."

This writer, Gary Vesperman, pieced together the above from various sources. David G. Yurth questions its accuracy per his July 7, 2006 email below.

Gary: You may want to consider the following with respect to your descriptions of both radio waves and the ZPE field phenomena.

Radio waves are indeed waves of electromagnetic energy. In some cases they are transverse, and in some cases they oscillate perpendicular to the axis along which they are propagated. But in the case of the CTHA antenna, for example, which is really a magnetic resonance oscillating antenna device, the wave form can be either spherical or hemispherical. In some cases, as in the case of the devices we demonstrated several years ago, the wave form can be narrowed to as little as .1 degree second in a semi-hemispherical form.

In most cases, RF waves radiate in a straight line from the propagation point – that is why, for example, RF devices used during the day have a range that is limited to less than 22 miles [on flat topology], unless repeater towers are provided at key points along the horizon. However, with the CTHA device, particularly when it is used on the surface of large bodies of water, and more particularly when used on the surface of salt water, the hemispherical wave form coheres to the surface of the water and is attenuated at only about 10% the normal rate of RF signals propagated through the air. In addition, because of the nature of water itself, extra low frequency radio waves are the only RF waves that can be relied on to propagate a signal through any appreciable distance of water. However, with the CTHA, this is not true. These devices have been shown to send RF signals through the water at much higher [VHF and UHF] frequencies than any other known devices, with minimal attenuation and virtually no distortion. Why they operate in this way is not known to science in general and to the US Navy in particular.

My notion about this is that the CTHA configuration propagates non-local field effects as well as linear ones. Because the non-local effects are neither understood nor optimized in the current technologies, what we observe is the effect of a non-linear wave propagation device used in applications which are typically linear. The Y-Bias manuscript explains how this works and why it is important.

Finally, the zero point is probably not *an immensely energetic medium, omnipresent throughout the universe, of random electromagnetic waves with frequencies ranging from near zero to frequencies so extremely high as to be undetectable.*

Rather, as the Y-Bias research suggests, the zero point is the interface between the physical vacuum and the 4-D physical universe we live in. It is not something extrinsic to the physical world we observe but is utterly intrinsic at the finest scales of organization. This insight is the reason the Y-Bias information is so important. What it means, for example, is that neither Tom Bearden's MEG nor Correa's orgone generator is really operating at the zero point or anywhere near it. Rather, what they are doing is tapping the quantum pump that operates within the organizational structure of all matter and energy at the fourth scale of development to liberate an infinite supply of electrons via one biased voltage schema or another.

What the Heavyside equations and Whittaker's formulation make clear [quaternions] is that every variety of physical material exhibits a quantum oscillating frequency. Modern science has only just begun to understand the importance of this concept so the literature is not yet replete with references to the quantum frequencies of all the elements and their isotopes. Nevertheless, when the quantum frequency of any material can be excited by an outside force which causes it to operate in a narrowly defined local in terms of a harmonic resonance, the dynamic properties of self-organizing criticality kick in to produce exponentially more powerful internal oscillations than would normally occur within the sub-atomic structure of the material.

We know this because when carefully prepared isotopes of certain rare earth materials are intercalated within the crystalline lattice structure of conductive thin films, and then exposed to permanent magnetic fields, the atoms of the isotope produce prodigious amounts of electrical voltage and current continuously, without consuming either the atoms themselves nor the materials within which the atoms are held in stasis in the lattice itself.

We have a prototype engine which is in its third generation now that has been operating continuously for 76 days. The data recorder shows that the power output has remained steady day and night throughout the test period. The mass of the material has not changed one iota in that time and neither has the composition of the substrate, the crystalline material or the original atomic isotopes themselves.

Bearden solved the source charge problem partially when he demonstrated that mass is organized and deconstructed at the zero point with a quantum frequency that absorbs a virtual photon from the physical vacuum and then liberates a real photon when two virtual charge ensembles combine to form the organized datum which is characterized at the second scale of organization. This operation goes on continuously within the heart of every iota of material found everywhere in the universe – it is this fact, born out by the Y-Bias analysis, that gives the lie to the Big Bang Theory. All primary particles were not created at the instant of the Big Bang – instead, everything about the cosmos is being recreated at a quantum rate all the time, at every address in the cosmos, continuously, as part of the autopoietic nature of this physical dimension.

So when any inventor tells you he is generating transverse waves of non-local propagation when tapping the zero point, you can write that research off as fundamentally flawed because the phenomena you are referring to has nothing at all to do with the zero point. --- Dave

(This writer, Gary Vesperman, recently edited David G. Yurth's ground-breaking 153-page physics monograph "Y-Bias and Angularity©: The Dynamics of Self-Organizing Criticality from the Zero Point to Infinity". I also edited Yurth's 380-page "Seeing Past the Edge" which explores and ties together such advanced scientific topics as nuclear physics, mind-matter connection, holographic universe, and the torsion field.)

Ph.D. Electrical Engineer: Advanced Form of Plasma-Discharge Energy

An inventor and a Ph.D. electrical engineer from one of our prestigious universities had made a breakthrough on an advanced form of plasma-discharge energy. They hired a hall in a mid-sized town in the U.S. to show off their new discovery. It was an impressive demonstration.

One day, his neighbors told one of them they had seen a black helicopter hovering over his house for several hours while he was away at work. Evidently, it was photographing his technology in the basement. A black van, with windows that you couldn't see into, also staked out their lab.

After three weeks of surveillance, a S.W.A.T. team of six kicked down the lab door, and with axes, destroyed half a million dollar's worth of equipment in one-half hour. The thugs forced the inventors' faces down onto the concrete floor, and, demanding to see the nuclear source, beat the inventors' heads against the concrete until they nearly choked on their own blood. They had no search warrants, just "S.W.A.T. TEAM" printed on the backs of their brownish uniforms.

The inventors were told to cease all further development, and the apartments owned by one of the inventors were condemned. The tenants were ordered to leave, and the Ph.D. electrical engineer is still being harassed by the IRS to this day.

Gary Vesperman (Reporter): Six CIA Agents at 1996 Tesla Society Symposium

When this writer attended an International Tesla Society Symposium in Colorado Springs, Colorado in 1996, I was told that the inventor of a new type of carburetor that can triple the mileage of a car has had his social security number taken away. Also attending the convention were at least one U.S. Government's Central Intelligence Agency (CIA) agent, identified by someone standing in the registration line behind him who happened to see his identification card, and another five CIA agents.

One of the CIA agents threatened a co-inventor of an electrical generator utilizing two types of radioactive waste as he was walking up to the podium to give his speech. However, this story needs further verification.

Gary Vesperman (Reporter): US versus Japanese Support of Cold Fusion

The leading cold fusion community website is http://www.lenr-canr.org/. The site features a library of papers on Low-Energy Nuclear Reactions (LENR) – also known as cold fusion. Chemically Assisted Nuclear Reactions (CANR) is another term for this phenomenon. The site features a library of more than 500 original scientific papers in Acrobat format, reprinted with permission from the authors and publishers. The papers are linked to a bibliography of over 3,000 journal papers, news articles and books about LENR.

In Japan, inventors are treated as national heroes and are lavishly supported. The Japanese government's annual R & D budget in cold fusion had been $100 million per year (since greatly reduced). Japan has issued over 100 low-energy nuclear reaction patents. In contrast the U.S. Patent Office has so far approved only one cold fusion patent application out of 300. (This statistic is possibly out-of-date.)

Stanley Pons and Martin Fleischman: Cold Fusion

Much misrepresentation and falsification of evidence happened after Stanley Pons and Martin Fleischman announced in March 1989 that they had achieved fusion by electrochemical means. Several influential US laboratories (California Institute of Technology, Massachusetts Institute of Technology (MIT), Yale/Brookhaven) reported negative results on cold fusion that were based on shoddy experimental work and a misunderstanding of the Pons-Fleischmann claims. They gave a hostile hot fusion establishment the excuse it needed to conclude that the claims made by Pons and Fleischmann were bogus. In November 1989, a U.S. Department of Energy panel concluded the same after a shallow mock investigation of only seven months. Eugene F. Mallove, Sc.D., was the Chief Science Writer at the MIT News Office at the time. He played a part in exposing the MIT report as mistaken, possibly fraudulent, and resigned in protest over it in 1991. … It is ironic that each of these negative results were themselves the product of the kind of low-quality work of which Fleischmann and Pons were accused. The difference was that the reports said what the hot fusion community wanted to hear. This was the legacy of the 1989 ERAB report, but that legacy must now be reversed – and it will be, however long that takes.

Dr. Mallove later founded and edited/published Infinite Energy magazine until in May 16, 2005 he was robbed and bludgeoned to death by a pair of pathetic drug addicts. The 1999 Issue 24 of Infinite Energy, in its 57-page special report titled "MIT and Cold Fusion: A Special Report", extensively documented that MIT violated the trust of its donors, employees and the public in the integrity of its scientific research into cold fusion.

In addition to suppressing cold fusion, MIT has also suppressed its solid-state lithium-ion roll-to-roll battery patents which would increase the efficiency and performance and lower the cost of electric and hybrid vehicles. See Remy Chevalier's report below on NiMH and solid-state lithium-ion batteries.

Chevalier does ask "Is it because MIT is cashing checks from the Rockefeller Bros. and the Ford Foundation?" So he may be hinting that, possibly based on inside information, MIT's suppression of cold fusion and its battery patents is due to its secret protection of the oil/auto monopoly.

Most people, including physicists, continue to be unaware that low-energy nuclear reactions are real, and have been verified in hundreds of experiments throughout the 1990s. In February 2002, the Space and Naval Warfare Systems Center of the United State Navy in San Diego released a 310-page report titled "Thermal and Nuclear Aspects of the Pd/D_2O System" that discusses the overwhelming experimental evidence that the cold fusion effect indeed exists. Dr. Frank E. Gordon, the head of the center's Navigation and Applied Sciences Department, writes in the foreword:

That "cold fusion" continues to be ignored by the scientific establishment, and, to add insult to injury, is being used synonymously with "bad science", usually in such expressions as "the cold fusion debacle", constitutes one of the greatest scientific scandals in human history, and a human tragedy. While wars over oil are being fought, a potential source of energy that could solve humanity's energy problems for all eternity is being ignored by all but a small community of researchers. At the same time, the dead-end "hot fusion" program continues to receive billions of dollars in public funds. If there is a scandal associated with cold fusion, this is it. (Source: "The Suppression of Inconvenient Facts in Physics – The Cold Fusion Scandal - Rochus Börner, Ph.D., *Cold Fusion Times*, Vol 12 No 2, August 2005. See also http://www.std.com/~mica/cft.html. Excerpted from "The Suppression of Inconvenient Facts in Physics" http://www.suppressedscience.net/physics.html. This paper compiles instances of suppression of honest examination of flaws in some of the major theories held inviolable by Western science bureaucracies. In addition to the supposed impossibility of cold fusion and low-energy transmutation, mainstream Western physicists hotly defend, in spite of "inconvenient facts in physics", relativity theory, the constancy of the speed of light, absence of signals traveling faster than the speed of light, quantum theory, big bang cosmology, impossibility of anti-gravity, commercial hot fusion, and the second law of thermodynamics.)

Mitchell Swartz: U.S. Patent Office Blocks Cold Fusion Patents

Mitchell R. Swartz, MD, Sc.D, has four electrical engineering degrees from Massachusetts Institute of Technology. He is an engineer and physician who has been inventing for decades, and has received many patents. Two of his previous patent applications went to the Board of Patent Appeals and were subsequently issued.

Yet, even with that extensive experience, never before had Swartz seen such misbehavior, systematic prejudice, conspiracy and disingenuous statements as has been demonstrated by the U.S. Patent Office regarding several of his patent applications involving lattice-assisted nuclear reactions, and devices which measure conditions leading to such reactions (often referred to as "cold fusion").

Regarding cold fusion, it is a real science, and Swartz and his fellow researchers have conducted solid, meticulous research for almost two decades. He recently gave lectures to the Defense Threat Reduction Agency and the Naval Research Laboratory, both of which recognized the utility of his work in cold fusion. No one from either erudite group (more than a hundred scientists and engineers) gave even one iota of the disparagement which, in stark contrast, has been doled out from the Patent Office without foundation on a weekly or monthly basis continually for more than two decades. Along with the disparagement, the Patent Office has been disingenuous to the federal courts and the Board of Patent Appeals, and has demonstrated not only a conflict of interest but also salient improper behavior.

The egregious behavior of the Patent Office with respect to cold fusion patent applications has ignored the U.S. Constitution and Congress' directive to "encourage progress and to encourage ingenuity with patentable statutory subject matter to include anything under the sun that is made by man". Supporting said Congressional directive, attention is directed to the fact that issuing a patent would normally be mandated because these processes involve the loading of heavy hydrogen into palladium and its generation to form helium and heat. Such transformation has been declared patentable by the federal courts.

The Patent Office's use of a two-tiered system to chronically discriminate against cold fusion violates many federal laws. Out of more than 300 cold fusion patent applications, the Patent Office has issued only ONE patent – and that single patent is believed to be the Patent Office's accident/mistake.

To illustrate exactly how the Patent Office methodically destroys cold fusion patent applications (and probably many other energy patent applications), Swartz describes two patent applications of his which had nothing to do with the cold fusion process directly, but were in fact methods of improving technologies of measuring loading of hydrogen into metals and of measuring heat production (calorimetry). They both just happen to be useful to cold fusion. The mere hint of application to cold fusion at the Patent Office was enough to warrant (as they see it) harassment, discrimination, and obvious deviation from normal procedure.

The Patent Office concocted several false reasons to scuttle his applications. For example, the Patent Office falsely claimed that Swartz had purported that there was "excess heat" in the invention of a method for improving the measurement of loading of hydrogen into metal. However, those two words were never even mentioned in the patent application. Swartz pointed out to the Patent Office their error, who then studiously ignored his Affidavit – timely filed and supported with many other Declarations supporting him.

The Patent Office's Decision to deny the calorimetry patent application refers to "cold fusion" eighty-six (86) times by inaccurately substituting the words "cold fusion" for the words and phrases "heat production", "activity", "electric power drive", "thermally monitoring", "thermal output", "optimum drive condition", and even for "multiring calorimeter".

Showing systematically hostile, abusive behavior to Swartz and his patent applications, the Patent Office would frequently ignore and not even officially log exhibits and declarations. For example, the Patent Office denied the validity and workability of his two inventions in spite of substantial peer-reviewed documentation of careful measured, professionally witnessed experimental results of actually working prototypes. The Patent Office was able to back up such denials simply by not bothering to log pertinent documents.

To avoid responding to what was filed which is actually required by law and custom, the Patent Office brazenly relied upon reference to art irrelevant to the actual specifications and claims. Responding to the initial denial of his patent application for a vibrating electrode for measuring the loading of hydrogen into metals, Swartz appealed to the Board of Patent Appeal. In their decision to again deny his patent application, the Board's Decision incredibly included only two (2) sentences pertaining to the actual invention. The remainder of the Decision's 28 pages comprised of a stale, totally irrelevant carbon copy attack on cold fusion and Drs. Pons and Fleischmann. This has been one of the Patent Office's typical distraction processes.

The Patent Office has routinely made many false statements in federal documents. For example, they falsely stated once "there is no disclosure..." involving temperature, and again for voltage. Yet the applications do discuss temperature or voltage, and Swartz in his July 30, 2007 letter to Gary Vesperman cited the actual pages where these parameters were discussed more than once.

These two inventions are only two of more than a dozen patent applications Swartz submitted to the Patent Office where the response has been disingenuousness, obstruction, and failure by the Patent Office to abide by a uniform standard consistent with their own rules.

In summary, it is important to remember that this is not an issue of a difference of opinion; it is about a two-tiered system to enable chronic discrimination (suppression) against cold fusion and probably many other energy inventions. It is about an agency of the U.S. Government thumbing their noses at the U.S. Constitution, at the U.S. Congress, at American security, and at American citizens. It is about an agency "losing" checks, "losing" pleadings, "losing" Exhibits, and failing to answer Declarations and pleadings over seventeen years.

The Patent Office remains quite comfortable and shameless as it viciously ignores Article I, Section 8 of the U.S. Constitution, the explicit directives of the U.S. Congress which funds it, and even its own rules. It is egregious and odious that some in the Patent Office use systematic disingenuity to rob inventors, and more importantly America itself of these American-crafted energy-related inventions. The cover-up of cold fusion is complete, as the applications are now transferred overseas to hurt the United States of America.

(Source: In his July 30, 2007 letter to Gary Vesperman, Mitchell Swartz backs up his allegations with specific citations of law, reference to ~140 pounds of over 300 indisputable papers submitted as evidence, legal briefs, etc. Swartz also mailed to Vesperman the August 2005 issue of *Cold Fusion Times* and a copy of a 39-page Petition to the U.S. Supreme Court for a Writ of Certiorari appealing a negative decision by the Board of Patent Appeals and Interferences. Having never before seen a U.S. Supreme Court legal document, I found the Petition fascinating to skim through. For instance, I counted 62 references to previous cases. I used to work as a technical writer preparing computer manuals for 18 Silicon Valley companies. The materials Swartz mailed to me confirm the suspicion I have had for a long time that patents demand the ultimate in technical writing.)

Robert Bass: Low-Energy Nuclear Transmutation

From: Don Quixote II <donquixote@radix.net>
To: Sir Arthur C. Clarke <blenheim@sri.lanka.net>
Date: Saturday, November 25, 2000 8:07 AM
Subject: A WARNING? My micropellet proposal to Japanese government

Have 3 people been assassinated because of the Cincinnati Group's discovery of a low-energy nuclear transmutation process that can be used, e.g., for radioactive waste remediation?

The original 14 addressees are all editors or investigative reporters

From: Bass, Robert W (IDS)
To: Adil Shamoo ; Barbara DelloRusso ; Eugene F. Mallove ; George Miley ; Hal Fox ; Jean-Francois Cazorla ; Jed Rothwell ; Jim Wilson ; Mitchell Swartz ; Pat Bailey ; Patrick Bailey ; Charles B. Stevens ; Elijah C. Boyd ; Marjorie Hecht
Cc: 'Xing-Zhong Li'
Sent: Friday, November 24, 2000 6:50 PM
Subject: My micropellet proposal to Japanese government

PREFACE: It is readily documented that the CIA and the KGB and the Mossad, etc. all have "sprays" which can be sprayed upon someone and cause him to die of apparently natural causes. One famous case occurred (not long after Chris Tinsley's death) in which Mossad agents were caught red-handed spraying a Hamas activist in Jordan, and King Hussein told the Israeli Prime Minister that if they didn't send the antidote quick there would be hell to pay; but it wasn't the Mossad which sent the antidote to Jordan, it was the CIA! (They sent a doctor from the Mayo clinic [who had been previously accused of being a collaborator with the CIA] to revive the victim.) (The "Hamas activist" was apparently Hamas' Syria-based political chief, Khaled Mashaal. As Mashaal lay dying in a Jordanian hospital, King Hussein pressured Israel to provide the antidote in return for releasing the Mossad agents. Gary Vesperman)

So much for people who say that political assassinations by democratic governments are paranoid fantasies.

Hal Fox,

Dr. Li approached me semi-publicly after the American Nuclear Society (ANS) meeting, where he heard me talk about the CG's LENT process. He said that he hadn't wanted to spoil my presentation by saying anything negative, but he wanted ME to know that he himself did NOT believe the CG claims and that he could NOT confirm the claims based on his own experience and that yet he liked me and wanted me to know "the truth." (By the way, did you know that Dr. Li has 35 Ph.D.'s working for him full-time on cold fusion in China with Chinese government support?!!)

Dr. Li said that he had gone to your lab in Utah and watched you and Dr. Jin run the experiment with a "good" gamma ray detector. However, he claims that when the thorium begins to precipitate out, the solid angle of the detector remains unchanged, but the thorium is moving out of that fixed solid angle, so that the radioactivity SEEMS to be decreasing but it is a false alarm.

He said that he took the "before & after" fluids that you gave him back to China and had them tested but with negative results. (But Li did admit that the straight-line graph I showed could not be explained by his negative assumptions and was "affirmative evidence on the side of the CG.")

Don Holloman of CG says that the 7-man team of Francesco Celani et al in Italy tested the CG LENT-1 device so thoroughly that "data reduction" took 37 volunteer undergraduates "months" to complete. In their publication they claim that they achieved both complete "radiometric balance" AND complete "chemical balance" of the before-process and after-process results.

However, Celani's boss died in midlife of alleged "natural causes". And you know that Stan Gleeson of the Cincinnati Group seemed to be perfectly well when he suddenly died at age 48 of "a stroke." George Miley told me that when at ICCF-8 he asked Celani why he didn't follow through on this type of LENT work (which Chris Tinsley was starting in England [having emailed me about Stan's open-beaker LENT test] just before he dropped dead at age ~50 of "natural causes"), the reply of Celani was: "THREE PEOPLE have died, and I don't want to be the fourth!" George Miley thought that Celani was talking about radiation-sickness danger, but that is not what Celani has in mind! The proof that Celani is open to conspiracy theories is that he is on the masthead of the LaRouche magazine and *they* don't merely *suspect* conspiracy, they have been *jailed* by a U.S. Government conspiracy!

Lawrence Hecht shook my hand at the American Nuclear Society meeting after having just got out on parole after 5 years of a multi-decades sentence for "selling securities without a license" which was not [even] a crime in VA when he sold "political loans" to LaRouche supporters but [despite that] the Secretary of State of VA (who 2 days later was made a Judge as payoff for her cooperation) after studying the matter for 2 weeks decided that Political Loans are indeed 'securities.' (One of Hecht's colleagues is still in jail [illegally] with a 77-year sentence.)

The barbaric nature of a 77-year sentence for a technical infraction is self-evidently PROOF of evil at work: Pres. George Bush's stockbroker brother [Neil Bush of Silverado Bank in Colorado] was REALLY guilty of the same infraction, but he was merely *fined* $1,000 and told to "be more careful" and "don't do it again"!

I feel that my own life has been threatened in writing, indirectly by the British government. Here's why: Nobel Laureate Brian Josephson agreed to show at the historic Cavendish Lab the Mallove cold fusion video which I had hand-carried to him. Dr. Josephson even published in Gene's Infinite Energy magazine a *letter* saying he was going to show the video publicly!

But when there was a conference there and many important scientists present, suddenly Josephson reneged! He told me in writing that he had first showed the video privately to a Very Important Person (I suspect Sir Brian Pippard, J's own teacher, after whom TWO buildings at Cambridge are named!); then he, Josephson, was "convinced" by said VIP that it is "for the best" that the public be "allowed to continue to believe" that the whole CF/LENR thing was a delusion!! I tried to get J to say why *he* had agreed. He replied (with copies of his email to me both to Gene and to Yeong Kim at Purdue) that it was for reasons of military security; "they" are afraid that terrorists or rogue nations will learn how to make vest-pocket H-bombs (This is why physicist Fred Zimmerman of the US State Dept. is helping Park with his campaign to outlaw cold fusion meetings.).

When I replied to J that my own theory of deuterium crystals could be used to make "fusion micro-pellets" or "micro-bombs" and that I had sent a copy of my proposal to the Japanese government before they terminated their NHE program, J replied to me that I had better "keep your bright ideas to yourself".

In case I pass away prematurely of "natural causes" I am going to copy the preceding paragraph and send a copy to Gene Mallove and include below a copy of my "microbomb" proposal to the Japanese government. My MSD "bright idea" which J says I should keep to myself has been spread all over the world by Internet since late 1997. So it's too late to suppress the idea by suppressing me.

Best personal regards,
Bob

Dr. Bass is an unusually innovative physicist. Hot fusion requires millions of volts or the equivalent. Hal Fox's cold fusion apparatus requires almost 5,000 volts. Bass's process only takes 17.5 volts to ignite!

Bob Dratch: Thorium Powerpack

Bob Dratch's thorium powerpack would generate electricity at approximately one-tenth of the cost of current methods of producing electricity. Thorium is sufficiently abundant that the entire planet can be powered for millennia. After ten years of continuous operation, a trace amount of U-233 is produced. U-233 recovery to re-purify the thorium is easily accomplished. Thorium thus lasts a long time when recycled and consequently is a very efficient energy source. After extraction from ore, thorium does not require energy-intensive enrichment as is the case with uranium.

A thorium-powered reactor is inherently safe. It doesn't run the risk of "meltdown" or explosion nor can even a dirty bomb be created. Its nuclear reaction simply stops when its neutron exciter is turned off.

The simplest and smallest "table top-sized " neutron exciter design is something close to the size of a 4-D cell flashlight, and starts at about 500-kilovolt neutron output. In fact this smallest most cost-effective system can run off 4 D cells for its power.

A thorium powerpack's neutron excitor does not use radioactive flux components as conventionally done for portable systems. Instead it relies on Dratch's invention of a novel method of resonant phonon pair cleavage using specifically designed nuclear lattice holo-forms (holographic waveforms) to induce neutron imbalance in a host atom where the host atom then attempts to establish "balance" through the liberation of neutrons. Dratch demonstrated the first model of this novel design back in 1966.

Commercial thorium powerpacks can be developed with 50 or 100 kilowatts of output for home use, and up to 1 megawatt for industrial use. They actually are "power amplifiers" with power outputs of 60 times over input power. Maintenance would be minimal.

Predictably, Dratch complains of harassment and even death threats for nearly three decades. He and his family do not enjoy any peace or security, and the police and district attorneys are allowing the threats to continue. That is what really stinks. It seems like there is more than meets the eye behind the scenes going on.

The same death threats and suppression are applying to every piece of technology Dratch has been working on, not just the thorium system. The thorium system has the most impact he believes to the cartels. Dratch had one small section on cold-fusion, which he had published before Pons et al did theirs, and again it used properly shaped sonic fields to do the separation. The scanning system was the basis again for obtaining the proper waveform patterns.

Dratch supposes his problems appeared after he demonstrated his inventions at the Global Sciences Conference and during his workshops since the late 1980's. He has some ideas about who the perpetrators are on the international scene, but nothing really firm. It does tie into Russia and the Middle East. At one point during an early workshop there was a Chinese scientist attending, who worked for the Chinese government and identified himself as such.

To develop his driving patterns for the neutron generation function Dratch uses his scanning system which seemed to have been the initial crux of where the recent bout of suppression started (that was pioneered in 1985, developed by 1988, and in full use by 1990).

Dratch unfortunately has a few more stories about being harassed and death threatened to him and his family by stalkers trying to get proprietary technologies. One stalker has been arrested and taken off his property. The stalkers got away without being brought to justice. The courts instead wanted to cite Dratch in contempt for dare showing that the stalkers were harassing and threatening him. Since that time back in 1992 the same stalking has gone on; there has been email and phone harassment; and the DA's office and police don't do a thing.

Dratch writes about his technologies on his website http://www.bob-dratch.org. Among the topics Dratch covers are energy stuff, anti-gravity stuff and consciousness altering stuff.

The earliest suppression was when Dratch’s patent application was stolen out of the patent examiners’ room and handed off to cronies to develop and exploit. Dratch was the one who designed the equations and concept of the Global Positioning System (GPS) – that was back in the very early 1970's. As best as Dratch can determine the Department of Defense was who the information he submitted at the Patent Office was directed to. That loss and damages is insurmountable to him. He has proof that his equations which were submitted at that time during filing are the same equations used to this day for the GPS equation. Tracing the evolution of GPS will reveal all the parties involved if one can get past the suppression and cover-ups. It then went to a private professional working for the U.S. Government for their own version of the "patent" and assigned it back to the government. In the early 1970's Dratch was offered $150K by them to sell out to them. He refused saying this is worth billions. Little did he know it was worth trillions.

In the mid-1980's Dratch designed a bio-sensory system that seemed quite capable of sampling fields and generating data signatures making up that object scanned. He continued to evolve the technology. It took on many forms. In about early 2001, he was contacted by the U.S. Air Force to modify that system to locate underground unexploded ordinance. The USAF got at his expense about $180K worth of consulting and demonstrations doing a bench test showing that his technology would work. They promised a series of further steps leading to contracts. They then disappeared after they apparently felt they had enough "proof" that the concept works. Dratch subsequently was told that they had handed over the research he did to a professor in Denver who to this day still hasn't solved the missing pieces that they weren't able to figure out.

After having given a demonstration of the sensory technology in the early 1990's Dratch was stalked, harassed, and death threats were made to him and his family to the tune of "Give them the technology or else". At one point two of the stalkers came on his property armed with knives and were trying to either kill him or his family, to carry out their threat. The sheriff came and hauled them off. When the trial came up, the judge let them WALK out free with no penalty; just a slap saying don't bother Mr. Dratch again. The judge threatened Dratch with contempt of court for having even brought this to his attention. That was in 1992. Since then Dratch has been regularly harassed and continually threatened. The police still refuse to go after the stalker and threatener. They are using extortion now as the current level of threat. Dratch has been to the DA's office of two states, and been in contact with numbers of police officers to no avail. The threats and harassment continues to this day including making complaints to the phone company who do nothing to stop such when they use the telephones.

Over the last two years Dratch has been working to develop a very unique and powerful handheld and truck-mounted sensor capable of discovering "Saddam's weapons of mass destruction" as well as many other chemical and biological weapons systems. Providing assistance, a former military officer has tried to retrieve documents which were available to any contractor. But Dratch and the officer were prohibited as they aren't part of their crony system of preferred contractors. They needed specific signatures which the U.S. Government has on hand to calibrate their system to what it had to look for (the chemical agents). Having the signature isn't the formula, it is a roadmap that says contamination or a toxic situation is present. So troops and civilians are prevented from having Dratch's technology in a low-cost form.

After having spoken enough about the innovation, one of the crony groups has published that they have a working sensor based on the technology that Dratch had divulged to the former military officer, and that they are going to charge big bucks for that innovation. So that is suppression again of getting technologies out in a way where Dratch can carry out more work.

IPMS: Thorium-227 Electricity Generator

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, from 1951 through 1991 secretly employed 6600 of the most brilliant theoretical physicists in the entire Soviet Union to work for nearly 50 years with complete freedom. They were able to develop whole new sciences, technologies and materials unknown in the West.

Their models of non-linear quantum mechanics, plasma physics, atomic engineering, nuclear physics and related mathematical and theoretical constructs, which made their development possible, are so unique that they challenge the validity of the most fundamental assumptions embodied in the Copenhagen Interpretation model currently held in general acceptance in the West.

For example, Western-developed particle/wave quantum mechanics is described by Einstein's $E = MC^2$. The Soviet nonlinear model of quantum mechanics is described by the formula $E = M_KV$ [Energy = Mass @ rest as a function of a mathematical constant].

Einstein's theory of relativity assumes that the speed of light is constant. However, measurements have shown that the speed of light has slowed down 7 per cent over the past two centuries. (See http://worldnetdaily.com/news/article.asp?ARTICLE_ID=39733.) Einstein's famous equation is therefore not based on the real world of peer-reviewed experimental results. Consequently the more correct Soviet model has enabled numerous technical advances not even dreamed of by Western science.

Among several energy inventions developed by the IPMS are free-standing thorium-227 isotope electric power generating plants. They can be small enough to power a single home and large enough to power whole communities. They also can operate for up to 18 years without ever requiring refueling or maintenance.

Arrangements to commercialize these useful energy inventions by joint ventures of the IPMS and more than a dozen private sector companies were repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Howard Rory Johnson: Magnatron – Light-Activated Cold Fusion Magnetic Motor

During the late 1970's Howard Rory Johnson, a brilliant inventor in Elgin, Illinois, combined light-activated cold fusion with a new type of magnetic motor into a "Magnatron". His prototype Magnatron produced 525 horsepower but only weighed 475 pounds. It could propel a large truck or bus 100,000 miles on about 17 ounces of deuterium and 1.5 ounces of gallium before being recharged. This was years before either Pons and Fleischman or Dr. James Patterson entered the scene with their cold-fusion technology.

Johnson discovered the light-activated cold fusion portion of the Magnatron by accident when as he was developing a new type of electronic circuit using deuterium oxide and gallium, he noticed the two materials were producing energy on their own. He could not figure out what was triggering the energy production for some time until he finally discovered it was light.

The Magnatron's flow of deuterium (an isotope of hydrogen) is controlled by magnetic tunnels. At the point where the deuterium strikes the gallium (a heavy metal electron donor), a beam of light from a diffraction prism forces their fusion. That controlled reaction results in the fusion of two atoms forming a new atom. In the process, electricity is released, and that is what powers the magnetic motor. The Magnatron is sealed, however, so 'light' is provided from photon energy produced from coils tied directly to the motor. It is more or less a pulse-generated system.

A photon is a football-shaped particle of electromagnetic wave energy. Its energy content is a product of its frequency f and Planck's constant h. When an electron in orbit around the nucleus of an atom drops to a lower, less energetic orbit, a photon containing the energy equivalent to the electron's energy drop is emitted. This explains why light and other forms of electromagnetic energy such as gamma rays and radar are sometimes observed as particles and other times as waves. The heated filament of a light bulb is an example of photon production.

There is no way to explain, using contemporary electrical theory, how his relatively small motor could produce such tremendous horsepower. Utilizing his own new electrical-magnetic energy theory, involving a process he called "attract-attract", Johnson exploited the magnetic field. He used the top and bottom rotors in his motor. First, the top rotor attracted, released; then the bottom rotor attracted, released. The action of attraction, alternating between upper and lower magnets, used the windings to complete the attract field.

Robert Nelson's compilation of articles about the Magnatron provides much more technical detail on the Magnatron than the foregoing. (See http://www.rexresearch.com/magntron/magntron.htm.)

Johnson constructed his prototype Magnatron's 525-horsepower magnetic motor without any of the hardware that is presently used in present state-of-the-art electric motors. Conventional motors use the accepted principle of attract-repel, an energy form that doesn't utilize the magnetic field to its greatest advantage. For comparison, a typical 500-horsepower electric motor has wires exiting it that are the size of a garden hose.

The sealed self-contained Magnatron has no wires. Thus, other than the Magnatron's infrequent refueling with small amounts of deuterium and gallium, the stand-alone Magnatron uses no input power. The Magnatron's entire output power is conveyed by its magnetic motor's rotating shaft.

Fuel for the Magnatron is plentiful: deuterium is derived from water, and gallium is extracted from abundant aluminum bauxite. Commercially available pure gallium is still scarce and expensive. It may well be possible, however, to cheaply transmute another less expensive element into gallium. See Gary Vesperman's list of over two dozen methods of neutralizing radioactive waste in http://iiic.de/docs/GVComparison.htm which includes possible transmutation methods.

The Magnatron uses no fossil fuel in its operation, and it emits no pollution. The magnetic motor's RPM is 8,000 with a gear ratio of 2:1. Lubrication for the sealed motor is synthetic motor oil which does not need changing and does not need a filter, because foreign materials such as carbon and varnish are not introduced into the system, as they are in the internal combustion piston engine.

This writer, Gary Vesperman, attended the 3rd International Symposium on New Energy in Denver, CO (April 25-28, 1996). I remember being impressed by Gerald Orlowski"s lecture "Magnatron, Fusion Magnetic Motor", during which he provided substantial technical information on the Magnatron.

Orlowski reported that, "Some inside information revealed that OPEC had been keeping track of all competitive technology", and Johnson was #1 on their hit list! Johnson was about to manufacture the motors through a nationwide dealership. Some motors still exist, but the owner wants several million dollars for them."

This writer Gary Vesperman knows of very few inventions of new energy sources which are reasonably large stand-alone energy producers. Besides the Magnatron, they include Oleg Gritskevitch's hydromagnetic dynamo, and Electron Power Systems' micro-fusion reactor, which employs stable high-density plasma electron spiral toroids. Almost all inventions of new energy sources are, or claimed to be, relatively small over-unity power converters that convert input power to greater amounts of output power. Bob Dratch's thorium powerpack is an exception (see above).

At the September 14, 2005 public meeting in Green Valley Ranch casino regarding the proposed Regional Fixed Guideway traversing Las Vegas, Nevada, this writer Gary Vesperman submitted comments suggesting possible power sources for the train, including descriptions of the hydromagnetic dynamo and the micro-fusion reactor (http://www.rtcsouthernnevada.com/rfg/documents/September2005PublicMeetingMinutes.pdf, pp. 19-77).

No wonder the Magnatron's inventor, Rory Johnson, was rumored to have been "Number One" on Organization of Petroleum Exporting Countries (OPEC)'s hit list.

The following is an excerpt, slightly edited, from Orlowski's lecture transcript where he tells about his unwitting personal involvement with the U.S. Government's suppression of the Magnatron:

"After I saw the Magnatron motor, my life changed. I was no longer a happy camper working by myself in a wonderful, fully equipped research machine shop for the Greyhound/Armour Corporation in Arizona. While on a business trip, I saw this motor running in the Magnetron, Inc.'s showroom located in Eglin, Illinois.

"During my 15 years of electric motor repair, among the hundreds of motors I repaired, I rewound a 500 HP electric motor. That motor had wires exiting it that were the size of a garden hose. The Johnson motor being shown had NO wires. Surely this motor was unreal, a con-job to get money for dealerships. Yes, there he was, Rory Johnson standing next to his sealed self-contained electric motor.

"Upon returning to the Greyhound Towers and telling them what I had seen, they instructed me to call Mr. Johnson. Greyhound wanted Johnson to put forth a plan to install a motor in one of their buses for testing purposes.

"I called Johnson. He was delighted that a Greyhound employee had seen the motor running, and replied that the testing idea was acceptable. He would set a time frame for just when a bus should be delivered to him.

"Two years went by, with no business proposal from Johnson. Then, his former business partner, Mike Marzicola, called to say Johnson had passed away. He wanted me to work with him to get one of the motors running. I flew to Orange County, CA, saw the motor, took pictures, and put forth a plan to Greyhound. Subject to a contract with Marzicola, one of the old worn motors would be brought to the research shop. I would then very carefully reconnect the generator wires that Johnson had cut off prior to moving from Elgin, IL to California.

"Discussions with Marzicola brought out that the U.S. Government (given the authority by the Congress of 1952) had issued a GRAB order to take Johnson's motors. Rumor has it, the DOE is run by US oil companies and OPEC, and they want no competition, period. Because of this grab order, Johnson had cut the generator wires. He had then put his `total shop', with motors and all, on several U-Haul trucks and left Illinois in the middle of the night. He went to California to re-establish his business. But before he could get a motor running, he passed away.

"Surely, Greyhound would agree to let me re-start one of Johnson's motors. The wonderful proposal put forth to Greyhound was rejected by mail. Very agitated, I went to the top office at Greyhound demanding an explanation. I was met at the door with the comment, "We know why you are here." Knowing the potential savings to the bus company, surely they could have only one reason for rejecting the proposal. They must have believed I was not qualified to start up the motor.

"Greyhound's top legal advisor stated he was present when the Greyhound board met and discussed my written proposal. He stated the following, "At NO time was the thought put forth that you would not succeed. In fact, we discussed all of the hardware designed and constructed by you, and started the conversation from what happens when Greyhound has a running motor. We contacted a State representative who felt this motor should not be allowed to be used in 4,000+ buses. The loss in tax dollars for fuel alone would be a very huge sum." He then asked me to leave, stating he was sorry that he had to tell me the reason the plan was rejected.

"Telling Marzicola of the rejection, I offered to personally put in a few thousand dollars toward the parts to get one motor running. In return, I would be assigned the dealership for the Phoenix metropolitan area. We signed legal papers in exchange for the money agreed on, and went to work. (I still have the signed dealership.)

"The first thing I noticed was that someone had been working on repairing the motors. Three motors already had new commutator assemblies installed. Each assembly consisted of 3 commutator assemblies on one insulated tube with a metal case to secure it to the shaft.

"One motor still had the old worn commutator assembly, as it had not yet been repaired."

Orlowski goes on to describe his reconstruction efforts and includes interesting technical details about the Magnatron's structure and theory.

Johnson did not know that OPEC tracks all potential competition to its oil business and that he was reportedly number one on OPEC's hit list. His first mistake was publicizing, in many magazines, his plans to manufacture and distribute his revolutionary motor.

Erik Masen has spoken with a few people who even signed up for distributorships. Erik Masen had included Johnson and his Magnatron in his energy invention suppression anthology (see http://www.electrifyingtimes.com/erik_masen_suppression.html).

In 1979, Johnson placed his engine in a Buick Electra and was preparing to drive it around the country to sign up more distributorships when the US Department of Energy and the State of Illinois teamed up to prohibit his company Magnatron, Inc., from producing and selling Magnatrons. They first placed a gag order on all the people in the company by using the Secrecy Act of 1952. Secondly, the State of Illinois immediately requested the company to provide information about all of their employees, distributors, stockholders, investors, suppliers, etc. They asked questions that blatantly deny anyone's constitutional rights to privacy. The pressure from the State of Illinois became so overwhelming that Johnson decided to move his entire business to California in the middle of the night.

After a year of hearing nothing but silence from Johnson, Greyhound agents tried to contact him – only to be notified that he had passed away unexpectedly. This is a particularly troubling part of the story, since he had been in his early fifties and in robust health. Later, Greyhound learned that shortly before he died, Johnson had inexplicably moved out of his laboratory in the middle of the night and taken all of his motors and technology to California.

Bob Bass, in his report copied above on low-energy nuclear transmutation, claims that the CIA, the KGB and the Mossad, etc. all have "sprays" which can be sprayed upon someone and cause him or her to die of apparently natural causes. One speculation is that Johnson's death – apparently due to heart failure – had been artificially induced by such a spray.

In a January 20, 2007 email to Gary Vesperman, Terry Sisson reports:

"Hi Gary,

"I visited Magnatron, Inc., in July 1979. I wish I would have taken a photo. Placards were placed over every inch of the large windows in the front of the building listing all of the questions the State of Illinois requested his company to provide. He wrote, "When has the government ever had the right to ask this of any company." I peeked in the front window and saw one of his motors mounted on an engine stand. Nobody appeared to be there so I walked around to the rear of the building. I found the rear garage door open and could see the Buick Electra inside. I was about to approach nearer when a man emerged. We talked, but he quickly informed me that due to a US gag order he was unable to talk about anything. I managed to get his phone number and called him from time to time for years following. He was an assistant of Rory's and he kept the information very close to the vest. He did tell me that it was real and it worked, yet not how it worked.

"About 1984, I began to call all the Johnsons in the phone book in Elgin. I finally got a hold of Rory's son. He too said that it was real, but I got nowhere. Around 1992, I met Jerry Orlowski, and he told me his experience as the employee of Greyhound who was sent to investigate the technology, since he wound electric motors for several years. Jerry was very upset about the whole incident, particularly Greyhound's Board of Directors refusal to utilize the technology after he found the technology to be authentic. Jerry even witnessed the government's seizure of the motors in California. --- Terry Sisson."

Energy invention suppression-pertinent quotable comments from Johnson:

"There have been very few startling things that have come from a large organization. You don't get anything practical out of a government-sponsored laboratory such as Fermi and Argonne."

Johnson believes watching a budget as required by government-funded programs stifles creativity and the ability to take a chance.

The US Department of Energy (DOE) is termed a rip-off by Johnson. “Right now our government is not looking for energy in any form. A tremendous amount of money is spent (on DOE) every year and so far I haven’t seen anything out on the road or helping heat your home or helping reduce the cost of your utilities or anything else.” (For example, the DOE’s glamorous multi-billion-dollar hot fusion research program seems to be fundamentally a public relations ploy which allows the DOE’s numerous highly paid bureaucrats to have lots of fun making themselves look useful without posing any serious competition to the oil and power industries for at least decades, and may always be for decades. Gary Vesperman)

Howard R. Johnson: Permanent Magnet Motor

Howard R. Johnson has developed a device resembling an electric motor which produces work without electrical input, using only permanent magnets for motive force. The basic principle of his magnetic motor is that its magnets are arranged in such a manner that its magnetic flux is always unbalanced, thus producing a continuous rotational drive. For patent descriptions, detailed theories and diagrams, see http://rexresearch.com/johnson/1johnson.htm. Two links to additional information can be found in http://www.web-space.tv/free-energy/. More information apparently is available from the "Permanent Magnet Research Institute", P.O. Box 199, Blacksburg, Virginia 24063.

Johnson spent six years fighting the patent office to accept the reality of his magnetic motor. In April 24, 1979 Johnson finally got a US patent – 4,151,431 – for a Permanent Magnet Motor that starts itself and would deliver 5 kilowatts from permanent magnets. Jet Propulsion Labs built a prototype 5-kilowatt generator.

In his January 20, 2007 email to the New Energy Congress, Ken Rauen reported:

Howard Johnson got his patent because he DEMONSTRATED one in the courtroom. The judge ordered the USPTO to give him a patent. I saw a copy of the court document while in Gene Mallove's employment. Unfortunately, the whereabouts of that document is unknown, as Gene was not a good file keeper, and he is not around any more.

What was demonstrated was a roller skate on a linear track, fitted with magnets, and a line of magnets over the tracks. The track was slightly sloped up, so gravity could not be attributed for the motion. Since it flew off the track end and was not jerked back, it had to have net energy imparted to it.

Ken Rauen

That demonstration looks similar to the prototype of Stewart Harris’ theory of magnetic instability (see below).

Johnson’s other two patents are No. 4,877,983 for Magnetic Force Generating Method and Apparatus, and No. 5,402,021 for a Magnetic Propulsion System. In all Johnson is connected with more than 30 patents in the fields of chemistry and physics.

The following suppression account is an edited consolidation of information from an exchange of emails between Gary Vesperman and Al Witherspoon, a long-time associate of Howard Johnson. June 2006 Al had read on the Internet Vesperman’s third version of this compilation (now in its fourth version) of energy invention suppression cases and had then emailed Vesperman. Al is a businessman and the inventor, in one week, of a crucial part of the Hubble Space Telescope that had stymied other engineers for months.

To refresh memories for Al’s story, Al and Howard had some pleasant visits August through October 2006. Howard is now 92 years old but still healthy with a keen memory.

Al’s involvement with Howard’s project was not from a technical standpoint but rather from the standpoint of technology suppression. Al had never taken the time to write this up. He thinks that it's about time. Al has been holding back his suppression story for nearly thirty years.

Howard Johnson actually began his work on this motor in the 1930's. When he first started the project and conceived the idea on paper, the materials needed for the construction of the motor had not yet come into existence. However, he told Al that he knew that someday they would become available, and then he would be able to construct it.

The suppression of the motor is occurring by the general methods in addition to Howard's own suppression due to his warranted mistrust of fellow scientists. Things have come up missing and promises not kept.

When Howard first introduced the development of his permanent magnet motor there was a nearly immediate world symposium organized and held at Virginia Polytechnic Institute and State University. A number of scientists came from all over the world to attend this event. There was quite a buzz in the air about this new technology prior and existing through some finite time during the event. Al met and conversed with a number of them. A couple of them were actually quite friendly. The rest were seething with egomania and the disinterest of speaking to whom they assumed was a local hillbilly.

It was not a conference. It was merely a one-sided presentation of the technology and there was no entertainment of questions. The rules of the event were such that questions were to be saved for the end of the presentation. At the end of this presentation, the speakers quickly vanished at the moment of the last word. A couple of questions were addressed, but the respective replies were only "I don't know" or "I cannot say at the present time".

The primary focus seemed to be entirely that of debunking the notion of such a device. There was absolutely no positive attitude in the air with the exception of a few attendees who expressed the hope for the further investigation and development of the technology. Most attendees were nearly laughing with skepticism. One who Al spoke with was emphatic with his opinion that the device was viable.

Al recorded the event on audio, but there seems to be no record of it now. Al does not know what Howard did with it. When Al visited him summer of 2006 he could not remember the specifics of the tape or where it might be located at the present time.

Also at the symposium there were a couple of people making an apparently 'approved' video tape of the presentation. There were no other apparent attempts to videotape the event.

Al was the last of the attendees to exit the event. He watched what was done with the video tape.

A man took the video tape downstairs and then discretely gave it to another man. This 'other' man then went to his car and drove away. Al followed him until he arrived at Inland Motors Division of Kollmorgan Corporation in Radford, VA where precision drive motors and systems are manufactured. He got out of his car and went into the building.

Al asked the guard if he knew this man and he said that he was not an employee but was a U.S. Government inspector from Washington, DC. From this point on there is no more information about the identity or the purpose of his actions.

Some months later Al confronted the directors of the symposium. Their words to him were such that they had apparently reconsidered their position of belief concerning the technology. A little later Al found that these directors were under the direct employ of Kollmorgan and also by virtue of the fact that they stood to receive sizeable renewal grants for their respective departments.

Do you suppose that it was Kollmorgan who wanted the technology to be suppressed? After all, they stood to gain by creating disinterest such that they could quietly and anonymously pursue it for their own use without the threat of competition.

A couple of weeks later the house across the street from Howard's house which had housed a few of the working class became occupied by two agents from the National Security Agency. Al acquired the nature of their identity by unusual means. Besides this, they stuck out like a sore thumb, dressed similarly to Mormon missionaries but older in stature. They stayed there for about one year. Periodically Al went by there to see what they were up to but only saw them outside once.

They likely saw Al at Howard's place on numerous occasions but never spoke to Al and reportedly spoke to Howard only once. The nature of the conversation that Howard had with them supposedly had nothing to do with technology but was apparently just everyday common chit chat.

Al wondered what they did all day. He got to thinking that they probably sat around doing what all government officials do, smoking dope without exhaling while watching cartoons without exhaling. Please overlook Al's slight humor.

Then one day they were simply GONE. Al asked the owner of the property who they were. He said that they were Electrolux vacuum cleaner salesmen. Al almost busted out laughing. Al's great uncle was one, and Al has seen several at his front door, but never those that dressed like these guys.

During their stay Al received a rather strange phone call one day in April 1979. A man simply asked for Al, and Al simply said hello, thinking that it was likely one of his customers or a telemarketer.

He quickly identified himself in such a way that Al could not understand his name. When Al asked who was calling he simply replied by asking Al if Al was acquainted with Howard and how long. He was very nice and thus Al answered him due to Al's probable youthful naivety. He then simply said "Thank you" and hung up. Caller ID or the *69 features were not available yet at that time.

On three occasions after this between 1980 and 1983 Al's house was broken into in a nondestructive and undetectable manner, meaning that the method of entry was not discernable as being unauthorized. However it was very apparent that someone had been rummaging through the house in ALL the rooms including the garage and basement. No valuables were ever taken. At the time there was some jewelry, other precious stones, silver, gold and a letter from Robert E. Lee in relatively plain view which at that time were valued well over $100,000. These were likewise never touched. Since then these items have been removed to a safety deposit box.

Whoever broke in never found any devices or related documentation. However, Howard's house, as far as Al knows, was never invaded until early 2006. Al and Howard have no idea who did this, but there were no prints to be found. They only took documentation which had nothing to do with the technical aspects of the motor or its design. The documents were related to contractual agreements concerning the disclosure of the technology.

In 1985 Howard reported to Al that he had struck a deal with General Electric. For fifteen million dollars the company had purchased an exclusive (but not 'sole') license to make, manufacture, market and utilize the motor. By 1986 General Electric had built a very, very large working model the size of a house. It is not being used and is kept hidden in a building under armed guard somewhere in the United States. (However, it doesn't quite make sense that the company would build such a very expensive large motor when a much smaller, cheaper motor should be adequate for experimental studies. Gary Vesperman)

Al never asked Howard what he did with the proceeds. A reliable source did tell Al that the agreement with General Electric was such that they give the $15 million to a certain charity.

Since that time there has been no other publicly known activity with the motor by General Electric. Al suspects that the company is using it to get paid by the oil industry to keep it under wraps – industrial/technological extortion or protecting the world, or possibly both. However, this notion is merely a notion and surely speculative.

Al's guess is that General Electric could simply and easily make a substantial amount of money by keeping things quiet while at the same time using it as a card to play when the time is right. Al knows exactly how they could do such.

Howard and Al have found that American and Japanese magnet manufacturers are mysteriously very reluctant to provide the needed magnets. In the report below on "Yasunori Takahashi: Magnetic Wankel Motor" John Moreland explained that the secret to the enormous strength of the Takahashi magnets, at 25,000 gauss the most powerful magnets ever developed, is that they contain uranium. The U.S. Government forbids importing radioactive materials.

Throughout the past twenty-eight years approximately, there have been some reported attempts to construct the motor. Al has NEVER seen one in the possession of any individual outside of the Permanent Magnet Research Institute.

Finally: Howard, by claim and Al's personal opinion, has sufficiently disseminated the technology to the point such that the motor can be replicated. Replication of the motor has apparently achieved little known success. There are reasons for this lack of success.

There seems to be little doubt that this device or similar devices have been built. They are relatively easy to build and do not require any sort of special magnet type in order to be functional. Actually, ordinary magnets are better from the standpoint of the homebrew versions. Very powerful magnets are difficult to keep seated in place. Also, experimenting with super-strong rare-earth magnets without special equipment and training can easily cause injury.

The notions that are reflected in comments made by others as to the theory of operation are not correct by any means. The energy required to charge the magnets have nothing to do with the energy delivered by the motor. Many would say that this is most interesting and important.

Al has found, in the process of examining various cases, that few individuals if any, have the correct blueprints. Also, the blueprints are not a whole lot of help unless a person has a clear understanding of certain principles of magnetism. Though this motor can be successfully constructed with "off-the-shelf" components and not to mention being done so in a crude fashion, the apparently ability of most is not sufficient to attain a working model of the rotary motor.

Al has seen theoretical speculation concerning certain magnetic principles by "respected" members of the HJ Motor Group that further suppress the successful application of the technology. Though likely not intentional it is nevertheless the result of careless thinking and poor technological vocabulary. Such practices propagate inaccuracy and inability to produce any viable results and end up merely creating a vicious circle resulting in lost art and the downward spiral of success.

Al discussed this matter with Howard during one of their visits. They were able to arrive at some conclusion perhaps, but that of which will not presently be disclosed. Al needs to think about it a little more.

As far as participation by other individuals:

To date, there has been no person that has kept their word concerning certain aspects of disclosure. There have been no individuals that have kept up other agreements directly related to the use and dissemination of the technology. Some individuals have replicated Howard's research in various ways, including the distribution for gain, in such a manner as to claim it as being of their own origination. This may include the distribution of nonfunctional blueprints. As far as Al knows, Howard has only and repeatedly been the victim of greed and egotistical lust.

To date, not one single person has ever commented on Al's advice for making the motor work. This show of apparent ignorance eludes Al's belief.

At this point in time Al does not believe that Howard is highly inclined to divulge any more information to the general public or prospective co-participants. The royalties due on his recent book have not been paid either. This situation will change with the publication of his new book containing advanced theory. Those who have any sense, in my opinion, will be well advised to read it.

And as for Al himself: He is presently looking for a few good men. To date Al has only been in contact with one or two individuals who have shown even a spark of integrity. At the present time, there are only two individuals actively involved with the Permanent Magnet Research Institute.

Howard's parting and publishable comment from their meeting of October 10th was simply as follows and quite closely matches his exact words: "If you can't believe what you see, then there is little else that I can do for you."

Al thinks that it's not always the government that suppresses technology. Sometimes it's the individual who bites off his or her own nose to spite his or her face. That is, the government does not need to directly suppress the technology because the citizens are doing a splendid job all by themselves.

However, it should be noted that it is plausible that negative elements hide behind the veil of our good society WHO serve the purpose of being suppressing agents.

It is not necessarily our government which doles out the suppression. They often get blamed for a lot of things which are merely the bad direction of a small individual or group within.

Maybe the distribution of incorrect information is being done by the implant of a suppressing agent(s)?

Virginia Polytechnic Institute and State University does not help Howard though he lectured there for a while. Most of the technologists there are quite jealous of Howard and for whatever reasons seem to be a major contributing factor to the suppression of the technology. The college is where the first world symposium took place. Al was sent there to eavesdrop and record the presentation which was largely an attempt to discredit his work. Al spoke with some of the scientists who attended the symposium. Most were quite skeptical, both about the technology and the true intentions of the lecturers. Some even left in laughter. There were a few who expressed that they sincerely hoped that the technology would come to perform, regardless of any negative opinions.

However, this apparent suppression may have been done with Howard's ultimate blessing since such a discrediting would likely draw attention away from his work yet get the ball rolling for world curiosity and open some minds. Making money at this sort of thing was a hopeful wish for Howard since he is by no means a wealthy man. Aside from this he just wanted to help the world. He reminded Al, however, that not all good things are good for mankind and that the introduction of such technology to the world would indeed be disruptive. After considering his comments over a period of nearly thirty years, Al has come to realize that Howard's concerns may warrant some serious consideration.

Al intends to see Howard again sometime to find out by some gentle fashion if this early suppression indeed was his intention, or if it simply occurred inadvertently. Also Al plans to find out whatever else he can since time is short and Howard, being 92 years old, may not be here for very much longer.

As mentioned above, this account of Al's suppression story is a consolidation of emails exchanged between this writer, Gary Vesperman, and Al Witherspoon up until mid-October 2006. However, I have emailed Al a few more questions. But since then I haven't been able to contact Al by phone and email.

For instance, it is not clear to me whether the two National Security Agency agents had rented a house across the street from Al's house or Howard's house. How were they able to still acquire needed magnets which they weren't allowed to buy? Exactly what did happen at Oak Ridge and Howard's involvement in the development of the atom bomb? What were the real reason and circumstances relating to the Science and Mechanics article? What happened in 1941 at the U.S. Patent Office 37 years before Howard actually commenced construction? What are the details regarding the construction of the generator at Jet Propulsion Labs? What's this about snowflakes and honeybees?

Stewart Harris: Theory of Magnetic Instability

The theory of magnetic instability is a magnetic principle which appears to be the embryo of a valid free energy device. It was invented by Stewart Harris. He applied for a patent in 1978, and it was rejected. Dr. Marion Bowman from Washington, DC traveled out to Mr. Harris' home in Las Vegas, Nevada to witness the operation of the device. He was impressed and returned to Washington enthusiastic about its applications.

Shortly after the demonstration, all copies of the patent application and other information subsequently disappeared from the US Patent Office in Washington, DC. In addition, Mr. Harris' home was broken into and his original drawings, papers, applications, and correspondence were stolen. For some unknown reason, they left behind the prototype. Coincidentally, Mr. Harris lives just a few blocks from the office of Film Funding, Inc., where this writer, Gary Vesperman, used to work in Las Vegas.

For some time I had Harris' prototype on my desk which I delighted in demonstrating to visitors. A horizontal three-inch-long roller cylinder of about five stacked 1-inch diameter disk-shaped magnets rolls UPHILL, without energy input, between two similar four-inch-long cylinders of about ten stacked 1-inch disk magnets placed in parallel with each other and taped onto a cardboard ramp (try 30 degrees up from the horizontal).

Radio Shack sells disk magnets, but they are a little too strong. The horizontal cylinder rolls uphill a little too fast. Try weak disk magnets instead, or strong magnets that are made weaker by thermal or mechanical shock.

I had noticed while playing with Harris' device that the roller cylinder would hang up at the top of the incline. But if the cylinder was immediately picked up and placed back at the bottom of the incline within 60 seconds, it would accumulate enough additional rotational angular momentum of unknown origin to fall over the top of the incline.

At the International Symposium on New Energy that was held in the Denver Hilton South, Denver, CO (25 – 28 April 1996), I asked Dr. Harold Aspden if his "Aspden effect" is the same as the roller cylinder's temporary accumulation of additional rotational angular momentum. He said it is not. However, Aspden and I decided that it appears to be such an interesting etheric energy phenomenon it should be investigated further.

This is what would make a fine project for a grade school science class: Try magnetic disks of various sizes and strength. For each particular size/strength, carefully record various time delays between the time the rolling cylinder is taken off the top of the incline and placed at the bottom of incline. There might be some type of "half-life" whereby the roller cylinder's residual additional rotational angular momentum decays with time until the roller cylinder hangs up again at the top of the ramp.

Lester J. Hendershot: Hendershot Magnetic Motor

During the late 1920's Lester J. Hendershot, while working on a new type of aviation compass, stumbled across a method of generating energy. The "Hendershot magnetic motor" made headlines and attracted such big name investors as Charles Lindberg. Hendershot, while attempting to establish a true magnetic north compass, found that by cutting the same line of magnetic force north and south, he had an indicator of the true north and that by cutting the magnetic field east and west, he could develop a rotary motion. He wove together a number of flat coils of wire and placed stainless steel rings, sticks of carbon and permanent magnets in various positions as an experiment. Based on this principle, after two years of trial and error, he built a magnetic motor that would self-rotate, to his surprise, at a constant speed of 1800 rpm while producing 45 horsepower.

Hendershot changed directions and decided to build a generator on the same principle, after deducing that a magnetically-powered motor was not as practical as a magnetically-powered generator. Hendershot had discovered that the Earth's rotating magnetic field could be used to provide power to motors and generators, much like Nikola Tesla's discovery that the Earth was a huge capacitor, capable of providing significant amounts of electrical power. Simplified, Hendershot believed that if one were to cut the lines of force of the Earth's magnetic field, one could harness this to provide direct power to generators and motors. Nikola Tesla attempted to do just that, when he built his "magnifying transformer" at Shoreham, Long Island, NY.

To read the first hand accounts of Hendershot's historical encounters, see the following research links:

http://www.time.com/time/magazine/article/0,9171,880984,00.html
https://secure.netsolhost.com/nuenergy.org/alt/RadonFuel.htm
http://www.clubusenet.com/thread/262719.html
http://www.borderlands.com/freeenergy.htm
http://www-tech.mit.edu/archives/VOL_048/TECH_V048_S0041_P004.pdf
http://www.clarabow.net/articles/ourreaderswrite.html
http://www.freepatentsonline.com/20070007844.html
http://www.rexresearch.com/feg/feg1.htm#hendershot

Hendershot ran into political difficulties in promoting his device, attempted to take his business to Mexico, and finally faded into obscurity having taken a "couldn't refuse" payoff to never work on his device again. (Source: http://www.ssrsi.org/sr2/Heat/fed.htm)

In 1961 Dr. Ed Skilling, from Columbia University, successfully replicated and tested a Hendershot free energy device, out of which he got 300 watts. Skilling had been associated with Hendershot and learned of the device through him. The generator was self-resonant at 500 kHz.

James Watson: 8-Kilowatt Battery-Popper Motor

Thomas E. Bearden, Ph.D., has provided a significant 'account', dated 1999, regarding James Watson located at http://www.cheniere.org/misc/battery%20poppers.htm, copied as follows with some editing:

James Watson successfully replicated Bedini's battery energizer (with direct advice from Bedini). Watson made improvements and modifications, and eventually was able to build one and adjust it as he wished. He demonstrated an 8-kilowatt battery-popper motor at the first International Tesla conference in Colorado Springs in 1984.

Later Watson was moving toward development and marketing.

Then Watson and his entire family disappeared. Neither Bedini nor I could locate him. Neither could his financial backer, the late R. J. Reynolds III. This was a researcher and friend whom I was in contact with several times a week. Then bingo! Nothing further.

He [Jim Watson] abruptly and completely broke off all communication with everyone. A squirrelly message was left on his answering machine for a few days, saying he had moved (but not in Jim's voice). Then it too was removed. And that was that.

Eerily, it seems that if you call the police in the town where Jim Watson lived, they will tell you he still lives there on the same street in the same house. At least that's what they told a friend of mine who checked a few months ago, which is years after Jim and his family originally disappeared. And that check may be the oddest thing of all. The police implied on the phone that Jim and his family never disappeared. Everything fine. A-OK. And that's a bald-faced lie. He and his family did disappear. No one could find them, regardless of how they tried. His financial backer couldn't even find him.

The clear implication is, stay away from that one. Somebody "from the dark side" may have made Jim the "offer he could not refuse". One may never know what really happened, whether or not Jim ever surfaces again — or has already surfaced again and is living there very, very quietly. But Jim's entire over-unity motor effort ended abruptly, even though highly successful. And even though the motor was almost ready to be put into production.

Watson has not been seen at an energy conference since that sudden mysterious disappearance. No one has had a phone call from him. I have not found anyone I trust who has seen him again.

You have not seen a Watson over-unity power system go to market. You almost certainly never will.

Yet Watson's device was perfected to the point where he could make the things like pretzels, adjust them readily, and they worked every time. They could have been put into mass production very easily. Obviously that made him a grave threat to the energy cartels around the world.

At rare intervals, the energy cartel does suppress an invention and an inventor by making the inventor "an offer he cannot refuse", in Mafia terms. Presently the going price when that offer is made is $10 million. You take your $10 million, quit all research, quit your contacts, and you live. But you live very quietly, although you live very well financially.

The engineers who measured Watson's 8-kilowatt machine there in Colorado Springs are still alive. And they know what they measured.

There's one other little thing. At that same International Tesla Conference in Colorado Springs, the folks who were in charge (for the energy barons) of suppressing all successful over-unity devices in the Western world were also there when Watson demonstrated his 8-kilowatt device. There is a certain effect which happens in a battery sometimes for a large over-unity battery popper unit like that, if the device is "for real". Time-reversal operations and wave transductions can occur, resulting in time-excitation charging inside the battery materials, in a negative time charge sense (remember, the over-unity operation is a negentropic operation). After a machine of that type and with that particular internal effects has been used to furnish energy for quite a while, you can make a definitive test on it. Simply hook it to a normal battery charger for that size battery, and start to charge it. You then may find to your surprise that the power will just seem to "disappear" in that battery, without charging the needle one iota, for 16 to 48 hours or longer, and in a rare case for two weeks.

The reason is that wave transduction occurs of your charging spatial energy into time-energy, and so you have to furnish rather enormous energy to get a little bit of that negative-time charge reversed. After you fill that seemingly "bottomless pit", then suddenly the negative time-charge will have been eliminated, and at that point the battery will start to charge up in quite normal fashion.

It is significant that Watson’s battery was stolen right out of the machine. Whoever did it, almost certainly knew how to test it to find out if Watson's generator was actually a true over-unity device. If so, then they tested it and found that indeed it was genuine.

And there was only one group there who would have known that little tidbit.

Hitachi Magnetics Corporation: Magnet Motor

Engineers at Hitachi Magnetics Corporation have come right out and claimed that a motor run by magnets is feasible and logical, but the politics of the matter make it impossible for them to pursue developing a magnet motor or any device that would compete with the energy cartels.

Among the obstacles to free energy are the big banks who own or finance the energy industries. Peter Lindemann, D. Sc., offers an analysis of these obstacles in http://www.wanttoknow.info/newenergysources or http://www.spiritofmaat.com/archive/feb2/lindemnn.htm. Lindemann suggests that the four forces suppressing new energy devices are the world's wealthiest families and their banking institutions, national governments striving to preserve national security, deluded inventors and con men, and the unspiritually motivated behavior of all the rest of us.

Floyd Sweet: Vacuum Triode Amplifier

Floyd Sweet had invented an advanced, solid-state, magnetic power converter called the "vacuum triode amplifier". If it could somehow be made stable over a long duration, it potentially offers an exceptionally high ratio of output power to input power in the range of one million. The somewhat unconventional physics of the device is explained in http://rexresearch.com/sweet/1nothing.htm. The site also describes efforts to suppress Sweet's research and development efforts:

Two people from Australia, who claimed they wanted to help Floyd, stole his notebook and promptly asked John Bedini for help in replicating the VTA based on the notebook contents. John recognized the notebook as belonging to Floyd and promptly asked them to leave. However, the notebook was never recovered.

Sweet received many death threats over the phone and some threats face to face. A well-dressed gentleman in an expensive suit, tie, hat, and hundred-dollar shoes approached Sweet on the sidewalk of the street where he lived and introduced himself as Cecil Brown. Brown showed Sweet a photograph of Sweet inside his apartment. Brown then told Sweet that he represented a conglomerate that did not want Sweet's device to appear in the world at this time. Brown further stated that sometimes unfortunate things happen to people who do not comply with the wishes of others. Brown then retrieved the picture and departed.

Gary Vesperman's file titled "Bearden web site on electrical energy" includes these three excerpts written by Tom Bearden:

"A particularly good higher group symmetry electrodynamics, in this author's opinion, is the O(3) electrodynamics founded by Evans and Vigier and further expounded by Evans {[xxxviii]}. Evans has shown that O(3) electrodynamics is a part of the Sachs unified field theory electrodynamics {[xxxix]}.

Thus O(3) electrodynamics can be used not only for modeling "normal" electrodynamic but also for modeling "exotic" unified field theory. Further, it can be used for engineering, so it permits the development of a drastically extended electromagnetic technology which can eventually engineer many new phenomena {[xl]}, including anti-gravitational effects {[xli]}. At least one highly successful antigravity experiment was performed by Sweet, in an experiment designed by the present author {[xlii]}. The weight of an object was steadily reduced by 90%, on the laboratory bench."

"Sweet was fired at from about 300 yards by a would-be assassin, using a silenced rifle. Being old, he stumbled and fell on the steps just as the assassin pulled the trigger. The bullet snapped right by his ear, where his head had just been. Thereafter, Sweet was always deeply paranoid about taking the unit outside his own apartment or continuing to develop it. I personally worked with Sweet for some years." (End of Bearden's report) Dr. Bearden provides more details on Sweet's interesting device in http://peswiki.com/index.php/Site:LRP:Tom_Bearden_Remembers_Walter_Rosenthal_%26_Floyd_Swee t.

John Bedini: 'School Girl' Motor and Battery Energizer

John Bedini, Idaho, designed the 'school girl' motor and battery energizer. Some years ago, three thugs came to his home and beat him severely. For a time he went underground and retracted all information on his devices. See http://www.icehouse.net/john34/bedinibearden.html.

Two Inventors: Model T Ford Generator with Magnets Added

About ten years ago, two very clever backyard inventors took a magnetic, electricity-generating flywheel off a Model T Ford, attached stationary magnets in a spiral arrangement to the outside, and developed a self-generating motor-generator, using the pulsed varying distance magnetic spiral principle. This generator continually produced 1600 watts of power with no other input. They demonstrated their generator at UCLA – confounding the professors, students and other observers.

Evidently some heavy-handed U.S. Government/corporate types were in the audience, however, because the inventors never made it home from their demonstration. They were found dead along the highway. Their trailer, containing the generator, had disappeared.

Apparently the Japanese now have the technology, which they are calling the "Magnetic Wankel'" motor. (Excerpted with permission from Erik Masen's article "SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-Energy Devices", *Electrifying Times*, Vol. 8 No. 3, and also in http://www.electrifyingtimes.com/erik_masen_suppression.html.)

Yasunori Takahashi: Magnetic Wankel Motor

Yasunori Takahashi, the famous Japanese inventor who developed the Beta video cassette recorder, has retrofitted his newly developed, super-powerful "YT" magnets into his 15-horsepower Magnetic Wankel motor scooter, claiming he can obtain 15 horsepower from a few amperes of electricity. If the U.S. Government allows the Japanese to export these scooters to America, we will see a further trade deficit in Japan's favor.

Rumor has it, however, that the U.S. Government refused entry to the Magnetic Wankel motor (in Mazda vehicles) several years ago, just as it blocked Honda's super-high-mileage, gas-powered cars at about the same time. Such protectionism may be "good for business" (at least for the oil companies and domestic auto manufacturers), but it hurts others and punishes the environment. (Excerpted with permission from Erik Masen's article "SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-energy Devices", *Electrifying Times*, Vol. 8 No. 3 and also in http://www.electrifyingtimes.com/erik_masen_suppression.html.)

At the 1997 International Tesla Society Symposium in Colorado Springs, Colorado, John W. Moreland, Ph.D., a health physicist, lectured on his experiments with radiovoltaic electrical generators. (Compare with photovoltaic generators such as solar panels.)

Paul Brown lectured separately on similar work based on converting cosmic rays to electricity. Brown had been working mainly to recreate T. Henry Moray's generator.

Brown and Moreland found a strange quirk of ether physics involved with their over-unity electricity generating devices. It had been assumed by many, including Gary Vesperman as the basis for his advanced self-powered electric vehicle concept, that part of the output can be picked off and fed back directly to the input. The longest Moreland has been able to get his generator to run is three weeks. Then the generator dissipates like a cat getting tired of chasing its tail.

Brown and Moreland were still experimenting with voltage splitting, etc. Moreland said they may eventually have to take a generator's input and output out of the same time domain. For example, simply connect separate batteries to a generator's input and output.

After talking with Moreland this writer, Gary Vesperman, got to thinking that for the self-powered electric vehicle, we could have a computer monitor battery charge levels and from time to time switch around between several sets of batteries. Simultaneously at all times, one battery set is being used for the motor, another set for the generator input, a third discharged set connected to the generator's output, plus possibly some spare batteries.

When chatting with Moreland about electric vehicles, I mentioned the Takahashi over-unity motor mystery. June 1997 Hal Fox had sent me a copy of a 10-minute video showing Takahashi demonstrating his prototype over-unity magnetic motor, also known as a Self-Generating Motor (Magnetic Wankel) with a drive belt turning an alternator. The motor is shown connected to a battery for starting the motor, and the battery is then shown disconnected. Two headlights, connected to the alternator's output terminals, remained illuminated after the battery was disconnected.

A motorbike using the Takahashi over-unity motor was sent in 1996 (?) from Japan to England and then to Mark Goldes in Sebastapol, California for testing. Goldes found that the motorbike had limited range, and the magnets were unremarkable. Nobody could understand why a man of Takahashi's stature and wealth would try to pull a scam.

Moreland explained that the secret to the enormous strength of the Takahashi magnets, at 25,000 gauss the most powerful magnets ever developed, is that they contain uranium. The U.S. Government forbids importing radioactive materials. For some reason, the radioactivity of the Takahashi magnets is being kept secret from the U.S. Patent Office until the Takahashi motor patents have been granted. So Takahashi had to substitute ordinary magnets for his super magnets in his motorbike motor.

Thomas E. Bearden, Ph.D., understands that Takahashi's magnetic Wankel motor has been suppressed by the Japanese Yakuza mob. (Source: http://peswiki.com/index.php/Site:LRP:Suppression:_Alternative_Energy_Systems:_%E2%80%9CNovelty_of_Fact%E2%80%9D_Freely_Derived_Sources)

This writer, Gary Vesperman, didn't follow Moreland's explanation during his Symposium lecture how certain radioactive materials can enhance the magnetic field strength of a magnetic material. I had planned to write him for a reference that I could study. Unfortunately I lost touch with Moreland afterwards – mainly because his web site www.aztecpub.com never was active.

Teruo Kawai: Motive Power Generating Device

The key statement of Teruo Kawai's US Patent 5,436,518 for his "Motive Power Generating Device" is as follows: "Electric power of 19.55 watts was applied to the electromagnets at 17 volts and 1.15 amperes. … an output of 62.16 watt was obtained." Dividing the output power by the input power yields a coefficient of performance of 3.19.

Thomas E. Bearden, Ph.D., explained the Kawai device's operation, placed his explanation on the Internet, and Kawai and party came to Huntsville, Alabama to see him and his associates. At Kawai's urging, they negotiated an agreement with him that they would manufacture and market his systems worldwide; he already had build a closed-loop, self-powering system in Japan. Kawai would fund the entire project.

Their agreement was verbally reached on a Thursday afternoon, late. That night a jet arrived posthaste from Los Angeles, with a Yakuza on board. The next morning Kawai and his party were in fear and trembling, and the Yakuza was in total control. Kawai no longer controlled his own company, his invention, or his own fate. Needless to say, the Yakuza coldly cancelled the agreement, point blank. This happened in front of Bearden and four associates. So there are five witnesses. The Yakuza and party quickly packed up the two Kawai engines that were in the possession of Dr. Bearden and his associates, and departed. No Kawai engine will ever be permitted on the world market. Several other Japanese COP>1.0 electrical power systems have also been suppressed by the Yakuza. Many such incidents — including murder — have occurred over the last decades, right here in the United States. Others will happen. (Source: http://www.spiritofmaat.com/archive/mar2/bearden.htm)

Dr. Bearden, inventor of the Motionless Electromagnetic Generator (see above), himself has been the subject of suppression efforts, including death threats. (Source: http://peswiki.com/index.php/Site:LRP:Suppression:_Alternative_Energy_Systems:_%E2%80%9CNovelty_of_Fact%E2%80%9D_Freely_Derived_Sources)

Johan Grander: Magnetic Motor

Johan Grander of Austria developed a revolutionary magnetic motor, but was turned down by the Austrian patent office with the excuse: Inventions which are detrimental to products in existence may not be granted a patent." (Erik Masen, "Suppression of Quantum Leap Inventors", *Electrifying Times*, 2007, Vol. 10, No. 2)

IPMS-Kiev and Arzamas-16: Super Magnets

The evolution of the Soviet view of the material world was reflected in the formulation of a new model of nonlinear quantum mechanics as an implicit function of consciousness. For instance, water is more than just H_20. Experiments prove water can be affected in measurable ways by subtle influences such as music or whether a person's thoughts are hate-filled or life-enhancing. A more correct understanding of materials has thus enabled super magnets to be developed.

In conjunction with research jointly conducted at the highly secretive laboratories at Arzamas-16 in Khazakstan, IPMS-Kiev has developed a family of magnets with energy characteristics equal to or exceeding those of the best conventional iron-boron-neodymium types, but with the all-important feature that they operate with equal or greater efficiency at extremely high temperatures, up to 250 degrees centigrade. These magnets are so powerful that they have been successfully used to conduct extensive research in a perpetual zero gravity environment. All these experiments have been performed without the use of cryogenics.

Joint ventures of the IPMS with more than a dozen private sector companies to develop inventions were repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

General Motors Corporation: EV-1 Electric Car

Rodger M. Ward was a two-time winner of the Indianapolis 500, National Stock Car Champion, and multiple winner of the USAC Racing Championship. In 1993 Ward registered with the State of Nevada a Small Corporate Offering Registration (SCOR) for his American Electric Car Company, Inc., whereby 200,000 shares of common stock were offered for sale at $5 per share. This writer, Gary Vesperman, wrote most of the SCOR's disclosure document/business plan.

Ward's company had developed a new type of automatic transmission that will reduce the power required to propel the car and will allow a longer driving range between charges. His company also had developed a very efficient vacuum system to energize equipment such as power steering, power brakes, door locks, and windshield wipers that would ordinarily require electricity from the batteries used to power the electric motor. In addition, his company had added an extra lead-acid battery to supply power to such accessories as the radio, heater, air conditioner, headlights, and taillights. Thus the power drain of the accessories is isolated from the power used for the electric motor.

Most interestingly, Ward's company had the right of first access, via Las Vegas-based Ashurst Technology Corporation, to a new type of battery invented by the I.N. Frantsevich Institute of Problems of Materials Science, Kiev, Ukraine. Most types of batteries rely on electrochemical reactions. The Ukrainian crystal lattice battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as less than one molecule.

Since capacitance is inversely proportional to thickness of the separation between the layers, the practical consequence of the crystal lattice battery is to electrically function in a manner similar to that of a giant capacitor.

The positive contrasts of the crystal lattice battery with the lead-acid battery are so striking as to justifiably portend a potential revolutionary advance for the electric car industry.

Ward's company initially planned to use twelve 86-pound lead-acid batteries weighing a total of approximately 1000 pounds. These lead-acid batteries were to be replaced with ten 20-pound crystal lattice batteries which would weigh a total of only about 200 pounds and thereby noticeably enhance driving performance.

Lead-acid batteries provide up to approximately 120 miles on a four to five-hour recharge. The crystal lattice batteries could provide up to 400 miles on a one-hour recharge. The crystal lattice batteries can supply constant voltage for up to 94% discharge. Since there is no heat nor waste product buildup as with electrochemical batteries, the crystal lattice batteries can easily last many hundreds of extremely rapid charge/discharge cycles.

The crystal lattice batteries operate well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the crystal lattice batteries is that they are made only of materials which are environmentally friendly, plentiful, and inexpensive.

While the IPMS did provide test samples about the size of a large flashlight battery, they were not able to deliver on their promised 20-pound crystal lattice batteries. The U.S. Government's Defense Intelligence Agency had sabotaged the Ashurst Technology/IPMS joint venture. So the American Electric Car Company, Inc., lamentably failed to bring to market Ward's potentially revolutionary electric car.

Rodger Ward and Gary Vesperman became good friends. (BTW, he drove in city traffic, cutting in and out, etc., like the famous race car driver that he is, not like a normal driver!) Ward explained why the major automobile manufacturers as well as the oil companies suppress electric cars. Only 60% of their total profit is made when a car is sold. The dealers and manufacturers make the other 40% of their profit selling and replacing high-priced parts such as mufflers, fuel pumps, etc. Electric cars are too simple, durable and easily maintained. See his biography at http://www.motortrend.com/features/auto_news/112_news040707_ward/.

The significant profit advantage of gasoline cars over electric cars may be why as portrayed by the movie "Who Killed the Electric Car?", General Motors Corporation didn't fully support and eventually scrapped its EV-1 Electric Car. To be fair, GM claims that it refused to sell its EV-1 Electric Car because it would be unable to ensure the safety and life of the vehicle after parts makers stopped supplying components. GM also claims that the EV-1 had difficulty running uphill and didn't offer air conditioning. GM does claim that its upcoming Volt electric/gasoline car will be more advantageous than the EV-1. Because the Volt will still have a gasoline engine, the Volt should be complicated enough for GM to retain profit margins when maintenance labor and replacement parts are sold.

The complicated gasoline-powered car is fundamentally unreliable and unnecessarily expensive to fuel and maintain. It has required heroic engineering efforts to partly overcome its inherent impracticality.

Within about a year after writing the disclosure document for Ward's company's SCOR, this writer also wrote Nevada SCOR's for Natural Environmental Solutions, Inc., (NESI) and Aimrite Systems International, Inc. NESI had acquired the rights to Frank Richardson's magnet-based electrical generator that required no input power and also a bladeless Tesla-type steam turbine (see above). Aimrite Systems had patented computer-controlled hydraulic shock absorbers and a computer-controlled air ride suspension system. I have ridden a test bus equipped with an Aimrite suspension. Nice ride.

I introduced Rodger Ward to prolific Las Vegas inventor Alvin Snaper. Snaper has 600 patents, processes, and innovations such as the type font ball in the IBM Selectric typewriter and Tang the orange juice drink. Ward became enthusiastic with Snaper's demonstration of a prototype of Snaper's invention of a compressed air-driven air conditioner/heater. It relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air. The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 CFM at 40 PSI. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its efficiency is nearly 30%.

Alvin Snaper also had invented a low-temperature nondestructive process for increasing the durability of vehicle parts and tools with diamond or titanium nitride. A few years later, Snaper invented a high-performance nickel-iron battery very suitable for electric vehicles.

The Ukraine's IPMS had also invented a basalt/carbon fiber foam which is extremely strong yet lighter than fiberglass. A test vehicle made with basalt/carbon fiber foam parts was reportedly the only vehicle ever tested that can cut through a cast-iron London taxicab in a collision. (See below: "IPMS: High-Temperature Gas Plasma Detonator".)

Just for fun, I then combined these technologies into an "advanced self-powered electric vehicle concept". A current version with more details and additional technologies is available in the category "Speculative Advanced Electric Vehicle Concept" (http://www.iiic.de/docs/GVShortSummaries1-46a.htm). In addition, at a public meeting (14 September 2005) held in Green Valley Ranch Casino, Henderson, Nevada, regarding the proposed Regional Fixed Guideway traversing Las Vegas, Nevada, I submitted suggestions for possible power sources for the train, most of which also seem suitable for self-powered sources for vehicles (see http://www.rtcsouthernnevada.com/rfg/documents/September2005PublicMeetingMinutes.pdf), pp. 19-77).

The Pulsed Abnormal Glow Discharge (PAGD) reactor uses high-density charge clusters to produce useful positive AC-to-DC electrical power conversion gains such as 483%. It's an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance.

Dr. Paulo and Alexandra Correa, "New Energy Electric Power – Now! Pulsed Abnormal Glow Discharge Technology," Infinite Energy: Cold Fusion and New Energy Technology Volume 2, No. 7, March/April 1996, p. 18. Gary Vesperman's compilation of "Advanced Technologies for Foreign Resort Project" in http://www.icestuff.com/~energy21/advantech.htm includes a chapter on the PAGD reactor.

US Patent 5,416,391 for Electromechanical Transduction of Plasma Pulses. US Patent 5,449,989 for Energy Conversion System. US Patent 5,502,354 for Direct Current Energized Pulse Generator Utilizing Autogenous Cyclical Pulsed Abnormal Glow Discharges. Paulo N. and Alexandra N. Correa, Ontario.

The Correas have demonstrated 1-kilowatt outputs and have run motors under load with these PAGD reactors. GM was interested in the PAGD reactor, as the company's electrical engineers loved it. Upper management killed it, and told the Correas, "The electric car is window dressing."

IPMS: Energy Storage/Battery Devices

During the summer of 1984, airborne intelligence surveillance teams of the United States Air Force, operating out of specially configured and equipped Boeing 707 airframes (called AWAC's) electronically detected (and then shortly thereafter photographed) bursts of coherent light of enormous power originating in the vicinity of Dushambe, Turkministan. The bursts of light, a brilliant blue-green color, lasted just a few seconds and were shifted almost to the ultraviolet end of the light spectrum. The "laser" beams were directed upwards out of the atmosphere towards American military communications satellites.

At precisely the same time the AWAC's detected and photographed the laser bursts (they were referred to in that jargon by American military analysts but later proved to be something almost entirely different), several of the satellites essential to America's global military command and control communications systems became inexplicably inoperable.

The Defense Intelligence Agency, under the direction of the National Security Council and assisted by the National Security Agency, escalated its surveillance of the remote site in the Ural Mountains from which the bursts first originated. For several months, during a concerted campaign of uninterrupted observation by AWAC's and American spy satellites, no additional bursts were observed or reported. Then, without warning, in the middle of the night nearly seven months later, AWAC's crews operating just outside the territorial airspace of Afghanistan detected similar laser bursts of lower intensity during a period of intensive localized ground warfare.

The Afghanistan bursts were apparently aimed at targets under attack by Soviet infantry units. The laser bursts continued in a sustained, localized but obviously mobile attack pattern, as frequently as four or five times per hour, until nearly sunset of the next day. Photographic evidence gathered at the time by the AWAC's crew, and later corroborated by photographs taken at the actual site of the fire fight and forwarded to the U.S. for analysis, showed that the targets of the laser bursts were ammunition and fuel supply depots located in the remote desert. Several of the ammunition and fuel caches had apparently been destroyed during the attack, as demonstrated by the evidence of explosions, fire, smoke and residual infra-red heat patterns detected, photographed and electronically recorded on-board the AWAC's.

All this information was transmitted (via encrypted communications bursts, routed through the military Global Command Control satellite system) to the National Security Agency (NSA), located at Fort Meade, Maryland. Analysts there recognized that they were looking at evidence of a weapons system which had never been observed before. They did not know what had produced the laser bursts. But they did know that the technology which made such a thing possible was not available to the countries participating in the NATO Convention. They were terrified at the implications of such a development.

Within hours, the information was packaged into classified documents and conveyed to the Joint Chiefs of Staff. The Joint Chiefs examined the information while they were being briefed by the AWAC's crews which had witnessed and recorded the events. After the briefing, the crews were dismantled, and their various members stationed far away from one another, with orders never to discuss the events they had witnessed. Officially, the laser bursts never had occurred.

Secretary of Defense Frank Carlucci took delivery of the packet at his residence in Falls Church, Virginia, three days later, at a private, secret meeting held in the middle of the night. No one has yet adequately explained why the Joint Chiefs waited three full days to brief the Secretary. Early the next morning, he was driven in a specially prepared bulletproof limousine to the White House. He personally delivered the information to the new President of the United States, Ronald Reagan. The content of the Secretary's report had an immediate, measurable impact.

It was this series of events which principally precipitated the Strategic Defense Initiative, a program of military defense and reprisal based on America's state-of-the-art satellite-borne laser-optical and particle accelerator technologies. The S.D.I. system was intended to provide the U.S. with a meaningful deterrent to further aggressive use of the technology developed by the Soviet Military.

There was only one problem with this system, aside from the fact that its astronomical costs almost bankrupted the American economy: it did not work. S.D.I. was designed to respond to a kind of technology which was not achievable in the West, and which could not be explained by any of the models, materials, technologies or sciences known in the West.

In 1985, the top-secret military version of the space shuttle, code named Atlantis, embarked on a special orbital mission. One of its mission assignments was to retrieve, examine or photograph the military spy satellites which had been disabled by the laser bursts recorded in 1979-84. The results of this investigation have not been declassified or released in any but the most censored version to the public. What we do know for certain, as a matter of publicly available non-classified information, however, is that each of the disabled satellites appeared to have had at least one, and in some cases as many as four or five precisely measured holes, approximately the size of an American silver dollar, melted completely through them from the outside.

The photographs taken of the satellites show evidence of intense heat, charring and carbonized residue evenly distributed around the perimeter of each hole. The evidence is clear and unmistakable – the satellites were disabled by a coherent beam of some sort, characterized by such intense energy that it was possible to melt consistently measured holes through the exterior and interior components of American military satellites, after having passed through the atmosphere of the planet and into space for as many as 325 miles. Such a thing has scarcely been dreamed of by the American military, much less put into any but the most nominally effective operational form.

After more than ten years of political, economic and technological wrangling, and after the expenditure of more than one hundred twenty billion dollars in largely ineffectual research and development efforts, it is inescapably clear that no amount of money or political pressure, no amount of geo-political posturing or economic sanctions was going to compel the disclosure or replication of the technologies which produced the results photographed over the Carpathian Mountains and the Afghanistan deserts. The Soviets had developed a weapons system which was so revolutionary that it could not be explained, replicated or defended against.

The Reagan Administration's lack of specificity about the nature of the implied threat to which S.D.I. was supposed to respond subjected the Administration, the Defense Department and the R&D proponents of the most prominent American aerospace corporations to an endless barrage of charges by the Press and the Congress. They were characterized as being disingenuous and accused of being unreasonably secretive during successive appropriations battles in the Congress.

The truth of matter is that the Administration and the Pentagon were not being disingenuous at all. They simply could not admit to the American public that they were attempting to develop an effective response to a weapons system which they did not understand and could not replicate.

There are a number of issues intrinsic to this set of circumstances, along with several dozen others which, though less well known or economically dramatic, are no less important from a technological standpoint. It is certain that the implication of these technologies has not been lost on those multi-national corporations whose entire capital structure may be threatened by the new sciences, technologies and materials which have been developed in secret laboratories, hidden in caverns excavated beneath the Carpathian Mountains, in the former Soviet Union.

Over the past decade the West has enjoyed occasional gratuitous glimpses into the heart of Soviet science. Attempts to disclose or discuss these developments in the press have been ruthlessly suppressed by powerful special interests vested in both the public and private sectors.

The science which underlies the series of events recounted here remains at the outer limits of the most advanced technology of which the West is capable. The questions posed by the military and corporate analysts about this laser beam weapons system are far-reaching in their scope and implications. Some of them are illustrative:

1) New Model of Quantum Mechanics: The sciences and models of quantum mechanics which produced such stunning recent developments in the West as the laser and maser make quite clear how much energy is required to create a beam of coherent light powerful enough to penetrate the atmosphere, retain its coherence in spite of atmospheric diffraction (and other effects described in quantum mechanics as "thermal blooming"), and melt a two-inch hole clear through a satellite made of the most sophisticated alloys ever produced in the West. Except for limited short-distance demonstrations conducted with industrial grade lasers used in cutting operations, there is no known combination of materials or technologies extant in the West to make such a thing possible.

2) New Materials: The materials necessary to create an electrical charge large enough to power a device capable of producing such a beam certainly do exist. In quantum mechanics the term large enough does not make sense, but we can agree for the purposes of this discussion on the effect of it as represented by such commonly accepted constructs as frequency, voltage, current and ionic flow rates [as distinguished by the phenomenon of resistance].

Hydroelectric plants and large, fixed-base nuclear power plants are capable of producing enough energy to theoretically power such a device. But the energy bursts in both the Carpathians and the Afghan desert were generated by sources which moved from one location to another. In order to do that, several additional considerations must be addressed:

a. Portability: The power source would have to be transportable or be capable of storing sufficient energy to repeatedly power such a device. Western technology cannot produce either a portable power production unit or energy storage system capable of the performance requirements everyone agrees must be met to make the weapons system work, either in the laboratory or in the field. System portability was the most puzzling feature of the NSA/DIA report.

When carefully analyzed, the computer-enhanced enlargements of the photographs taken by the spy satellites and AWAC's crews failed to provide evidence of any tracks which could be attributed to wheeled or tracked vehicles operating in the precise locations and at the same time as the laser bursts which were observed. The implications of this set of circumstances was almost too much to believe – the devices were apparently either hand held or transportable and rechargeable in such a way as to allow them to be transported by one or more foot soldiers, without vehicular support.

b. Enormous Power Requirement: The materials and technologies used to construct a device capable of generating a beam of such enormous power and magnitude would have to be sufficiently advanced to enable the components to be transported without damage over significant distances in unpaved areas of very rough terrain. Such strategies, engineering techniques, construction technologies or materials do not exist in the Western inventory.

c. The continuous repetition of the laser bursts suggests that the devices can be operated repeatedly at short intervals of 12-15 minutes. This means they can be triggered with significantly higher frequency and intensity than anything which can be produced in the West, even for laboratory use. Industrial strength lasers used to cut metals require careful setup, accommodate only limited use in short bursts, require extensive cooling and must be continually recalibrated. These limitations obviously did not apply to the devices being operated in the Afghan desert. Analysts at AMTL agreed that the units would either have to be recharged via an external, independent device or somehow be capable of self-recharging in the field.

Such a thing is almost unthinkable by current Western military standards. Not only can we still not replicate the technology in any meaningful form, but the Soviets had refined the technology to a point which allowed it to be carried on the shoulders of ordinary foot soldiers and recharged in the field without motorized support.

Unbelievable! How was such a thing possible? According to some of the highly qualified scientists who scrutinized the photographs, it is not possible. The "Not Invented Here" syndrome is alive and well in the American engineering community. Some of them still insist that the pictures were either fabricated or demonstrate something completely different than this narrative suggests.

3) Energy Recharge-Batteries: How did such high-intensity laser beam generators get recharged in the middle of the Afghan desert, in the absence of powered support vehicles or fixed-based power plants? There are a number of possible alternatives. They could have been powered by some sort of advanced battery technology. It's possible, but if the battery technology used in the West is used as a model to support such a thesis, it would take a bank of the most sophisticated batteries ever designed by NASA, arrayed in series and parallel configurations larger than five full-sized Soviet T-60 tiger tanks to power such a device.

This theoretical battery bank, operating at 100% efficiency (which is not practically or theoretically possible; the best batteries manufactured in the West operate at less than 60% discharge efficiency), could conceivably produce enough direct current voltage (in a zero resistance super conductive circuit, which is not possible, either) to perhaps produce one burst of light equal in intensity to 20% of the power required to burn a 2-inch hole through a satellite moving at 20,000 miles per hour at a distance of 325 miles. Soviet ground forces were generating bursts of this magnitude every 12-15 minutes for more than 10 hours with nothing but ground troops. During eight hours of this exchange, it was totally dark. Something pretty remarkable must have been going on to make such a thing possible.

4) Energy Recharge – Solar Cells: Another alternative would have been to have whatever energy storage devices were being used to power the "laser cannons" recharged by sunlight. The state-of-the-art in photo-voltaic cells produced in the West simply would not support such an undertaking. The very best solar cells ever produced in the West have been produced by the Japanese.

These cells operate at a maximum of 19% efficiency - that is, they convert as much as 19% of the ambient visible sunlight shining on a clear, cloudless day into ion flow, which then becomes low voltage direct electrical current flowing through a circuit. The Japanese panels require months per section to manufacture and literally cost more than their weight in gold to manufacture. They are very heavy and are so sensitive to vibration and calibration that once installed, they cannot be moved at all.

Photo-voltaic cells capable of providing enough electricity to recharge a theoretically infinite energy well would have to operate at efficiencies of 50-80% to recharge batteries of infinite electrical capacity with enough power to trigger such a device. Such cells would have to be very light weight and able to withstand extremes of heat, cold, vibration, dust, wind and other conditions encountered in a hostile battlefield environment. Nothing like that exists in the Western technological arsenal.

5) Dielectric Materials – Transformers and Capacitors: Another consideration must be reconciled before this issue can be theoretically put to rest. In order to produce a burst of coherent light of sufficient intensity to have the effect which was observed and recorded by the surveillance teams, the voltage and amperage required to support such a device would have to be staggeringly high. In order to operate at all, the voltage supplied to the system must be released all at once, not in a continuous stream but in a single coherent burst so intense that any materials known in the West would either evaporate or melt. Not only would the best dielectric materials known to Western Science melt because of the heat produced by such enormous energy bursts, but before a bolt of energy of this magnitude could even be released to such a device, it would have to be accumulated and stored somehow.

A similar set of requirements of a less dramatic type is present in all the electronic devices manufactured and marketed in the West. This includes the entire range of electronic devices such as VCR's, computers, televisions and sound components, telecommunications, information storage, transmission and retrieval systems of every kind. We could not live as we do without them. The components which convert, store and release ion flow into the circuitry of these devices are known as transistors, transformers and capacitors.

This discussion delves into a slightly technical area here, so non-scientific types will need to either become familiar with the fundamentals of electricity to understand what is meant or simply give it a possibility that what is developed in the next section is a true representation of the way such things actually operate. The discussion deals with such commonly used and seldom understood concepts as voltage, current, frequencies and resistance.

(a) Transformers convert voltage at one level of current (amperage) to either higher or lower voltage levels. When the voltage is increased, the amperage or current is proportionately decreased. A low voltage produced at a high current level can be transformed into a much higher voltage at a proportionately lower level of current or "power."

(b) Capacitors: The decrease in amperage which accompanies a transformation of low voltage to higher voltage is often compensated for by a device known as a capacitor. In the most simplistic terms, capacitors "store" electrical energy until the amount of voltage and current reach a certain minimal threshold. When that point is reached, the entire store of energy is released all at once in a single burst.

The tantalum materials used in the West to manufacture such devices conform to certain standard rules which are commonly accepted by electrical engineers. These rules have only recently been stretched by new technologies and materials developed in the West. For the purposes of this discussion, though, it is safe to say that electrical engineers have long relied on these rules because they have always produced the same results when applied in the same way. Here's an example.

It is standard engineering fare which dictates that a transformer capable of accommodating one volt at one ampere of current across a grid of one ohm of resistance will be one cubic meter in dimension. If followed to its logical conclusion, this standard rule of electrical engineering would require that a transformer capable of supporting a laser burst device of the kind operated by the Soviet ground forces in the Afghan desert would have to be approximately the size of a building built on a base 100 feet to a side, nearly 150 feet high.

Surely such a device could not have been hidden from the AWAC's eye in the sky which can clearly photograph the letters on a license plate from 60,000 feet altitude, nor could it have been moved on the shoulders of ground troops without wheeled vehicular support. The fact that there was absolutely no trace of such a huge, massive transformer device (or any other kind of structure or vehicle which could be construed to serve that purpose) means that something else must have been used instead. Military analysts had absolutely no idea what it could have been.

Such a burst system cannot operate without a capacitor of some sort. A capacitive device capable of storing the amount of energy required to power a single burst from a laser cannon, made of the most advanced dielectric material known in the West, would have to have been equally massive and, further, would have to have been cooled by some sort of strategy which would have been instantly and unmistakably detected by the infrared cameras and spectroscopic scanners used aboard the AWAC's and the spy satellites which investigated the scene.

The practical requirements of such a system are best demonstrated by the massive equipment required to operate and cool the Super Conductor Super Collider linear particle accelerators recently designed by the United States and Japan. No evidence of any such capacitive device was recorded in either the Carpathian Mountains or the Afghanistan desert. How can we explain it?

Without going into any detail about how the technologies were developed, suffice it for now to say that the Soviet ground forces in Afghanistan were equipped with a prototype of a hand-held plasma beam accelerator, the likes of which had only been roughly imagined by American military analysts. The device relied on some innovative strategies. Among these were:

Energy Storage Devices: The power source for the Soviet light cannons was comprised of a back-pack array of specially designed energy storage devices. The closest thing we have in our vocabulary to compare to them is described by the term "battery." In the limited sense that these devices store electrical energy, they are batteries. Any other similarity to the batteries we are accustomed to in the West ends there. The literal translation of the Russian name for them is energy accumulators.

The batteries relied on in the West are based on the chemical properties of components which, when combined in certain configurations and proportions, interact chemically with one another. The result of this chemical interaction is that it creates both heat and a stream of liberated ions – electricity. In dry cell batteries, the process of chemical interaction is one way – once they have been expended, they are simply disposed of. It is estimated that more than 12 billion expended dry cell and lead-acid batteries are dumped into America's land fills every year.

Other batteries are designed and constructed so that the chemical reactions which liberate electrical current are reversible in some degree. These rechargeable cells are characterized by the lead-acid batteries which are used in automobiles and in commercial and industrial applications. Various strategies have been developed to make batteries relying on chemical reactions maximally effective, but the theoretical limits of effectiveness of such devices have surely been reached.

A consortium of aerospace companies working with NASA recently announced the development of an advanced sodium-hydride-based rechargeable cell which is the most efficient battery yet invented in the West. Unfortunately, it operates at an ambient temperature of 2000 degrees centigrade and, if allowed to reach temperatures outside a very narrow safe operating zone, will explode with the force of a small thermo-nuclear device of approximately ten-kiloton yield. It is not safe, but it is the best Western science has come up with.

The energy storage device developed by the I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, works on a completely different principle. Its construction is the result of a completely unique nonlinear quantum mechanical model which makes it possible to create crystalline lattices of absolutely pure carbon (and other materials) in sheets of infinitely variable dimension which are exactly one molecule thick. The crystal formation techniques and the whole body of new science which allows for their creation in the first place are completely unknown to Western science.

The mono-molecular sheets deposited by this technique are wrapped back and forth on top of each other, more than one million times per millimeter, and are separated from each other by a distance of less than one atomic diameter. At this level of construction, the material becomes subject to the rules of quantum mechanics which are almost entirely probabilistic. That means a whole atom of carbon (or almost anything else except an electron or photon) will not fit in the space which separates the lattice sheets.

When viewed under an electron microscope, the sheets produce a pattern which looks for all the world like an endless field of four-sided pyramids, connected base to base, on a single plane, with the tips of the pyramids protruding endlessly, uniformly upwards. When wrapped back and forth on top of each other, these sheets of pure carbon crystal, made of carbon molecules shaped like trillions of identical tiny pyramids, all arrayed endlessly in identical formation, are positioned so that the tips of the pyramids on the bottom sheet are matched with the tips of the pyramids on the top sheets. What remains between the pyramid tips are open "spaces" or energy wells.

The quantum physics which describes the characteristics of the energy wells created between the layers of crystalline lattice is largely unknown to Western physicists. The Soviet model predicts with a high degree of probability that the quanta of energy referred to in the West as electrons (and, in some cases, photons), the stuff of which electricity is made, will, when introduced to the lattice structure, search, find and fit into the energy wells with military precision.

During the recharging or loading phase, the energy storage devices made of the crystalline lattice material channel one electron at a time into each well created by four carbon pyramids on the bottom layer and four carbon pyramids on the top layer. Because the rules of quantum mechanics which operate in this tiny environment demand it, each electron or quanta of energy has a certain polarity, spin and "color" (and other mathematically defined characteristics) which must be accommodated if it is to find, fit and stay in an energy well. Interestingly enough, when a current is applied across the lattice-work structure, the electrons behave precisely as nonlinear quantum mechanics predicts they will. They flow much like a fluid into the lattice field, then separate into individual energy quanta and spin into the last energy well in each layer, automatically adjusting their individual spin, polarity and color to match their characteristics to fit the requirements of each well, until the lattice is full.

Because no chemical reactions are involved in the process of marching electrons into or out of the energy well fields, there is no resistance in the circuit. In the absence of resistance, the electrons fill the wells at light speed, never missing a space, automatically adjusting polarity, spin and other characteristics, and creating no heat. The amount of time required to "charge" such a cell is less than 5% of the time required to recharge a conventional chemical battery of similar voltage and current.

The validity of $E = MC^2$ is called into question by the way these devices function. When the battery is fully charged, it actually demonstrates more mass than when the energy storage device is empty or discharged. The laws of quantum mechanics relied on in the West state categorically that this is not possible. It is the answer to the question, "How much does a beam of light weigh?"

According to the Soviet model, this is precisely as it should be. When this phenomenon was first demonstrated to scientists in the West who were testing the energy storage devices at INEEL in Idaho, they were thunderstruck. The quanta of energy, or electrons as we refer to them, which are poured into the crystalline lattice demonstrate characteristics of mass even though they are bundles of pure energy sitting in stasis, literally at rest. The characteristic of mass is verifiable – you can measure it by weighing the energy storage devices before and after they are charged. When they are charged, they demonstrate appreciably more mass than when they are fully discharged.

If this is confusing to you, to suggest that pure energy can be shown to demonstrate verifiable mass while at rest (in stasis), perhaps you can begin to appreciate how fundamentally different the physics of all this is when viewed in the terms of Einstein's classic equation $E = MC^2$.

The existence of this technology clearly is proof positive that not only does energy demonstrate the characteristics of mass, but it does so in a state of non-motion or stasis, sitting idly in an energy well. A state of stasis is a very far cry from the terminal theoretical velocity required by the constant in Einstein's equation, equivalent to the square of the speed of light.

The scientific implications of this phenomenon are truly staggering. At very least, the verification of mass as a property of energy quanta at rest suggests that Einstein's theory of relativity may be altogether incorrect as a means of describing the dynamics underlying the real nature of the material world and its relationship to energy.

The existence of this technology suggests, at very least, that energy and mass are equivalent characteristics of all things which are manifest in the material world. It is this fundamental contextual difference which distinguishes the Soviet model of quantum mechanics from the Western model. “The proof of the pudding,” they say, “is in the eating.”

Theoretical physicists may argue endlessly about the validity of the assumptions relied on by the IPMS scientists to develop their unique sciences, technologies and materials. But they cannot argue about the existence of the materials which have arisen from that context. They are as real as they can be. And they are unlike anything ever seen or contemplated in the West.

In the same way energy quanta stored in the energy wells of crystalline lattice materials demonstrate complete mathematical satisfaction with staying there indefinitely, when allowed to flow out in the form of an outgoing wave of electrical discharge, these quanta (electrons or photons, as you prefer) march right back out without resistance at light speed through a closed circuit to another use.

When these energy storage devices are discharged, they demonstrate other attributes which are not known in Western science, and which, because of the very nature of the chemical reactions we are accustomed to, are not theoretically possible according to conventional wisdom. Conventional chemical batteries, when fully charged, produce electric current at a useable voltage for perhaps 30-40% of the total discharge cycle. After that, either the voltage or amperage (or both) drop to low enough levels that the devices being powered by them cannot recognize or use the electrical current which remains available. At that point, the batteries either have to be recharged or replaced.

The crystal lattice batteries have been demonstrated to produce precisely the same current and voltage levels throughout 98% of their discharge cycle. They produce no heat during discharge, regardless of the rate at which they are discharged. This is absolutely contrary to our experience with batteries, transformers or capacitors. Until the crystalline lattice materials were specifically engineered to register an electronically detectable blip at 95-96% discharge, it was impossible even for the scientists who developed them to distinguish a partially discharged battery from a fully charged one.

There is another characteristic which is intrinsic to energy storage devices which comes into play here. It is a characteristic of materials which is described as energy density. For non-scientific readers, this concept can simply be construed to mean the amount of measurable electrical current which can be produced by any device or material when its mass is converted into electrical energy. The concept is expressed in mathematical formulas as the number of watts and hours of consumable energy which can be converted from each kilogram of material. It is expressed as watt-hours per kilogram.

Here is an example we can all understand. Consider gasoline. When converted into electrical power at 100% efficiency, gasoline has been theoretically shown to have an energy density of between 550 and 600 watt-hours per kilogram of mass. In easy terms, that means that if one kilogram of gasoline were converted into pure electricity at 100% efficiency (with no loss due to heat, resistance, waste, etc.), the reservoir of energy would power a 100-watt light bulb for 5.5 to 6 hours.

Most of the high-end conventional automobile batteries of the lead-acid variety operate at an energy density rate of between 20-25 watt-hours per kilogram. The best NASA sodium-hydride batteries operate at 48-50 watt hours per kilogram. The energy accumulator devices which have been tested at the Idaho National Electronic Laboratories have demonstrated energy densities of between 850 and 1050 watt-hours per kilogram.

What does this mean in practical terms? It means, for one thing, that for the first time in the history of science an energy storage device has been created with an energy density which is greater than gasoline or any other refined fossil fuel. It means that devices which rely on these energy storage technologies can theoretically be designed to store and deliver clean electrical power at higher rates of efficiency than any fossil fuel ever discovered.

The global implications of this technology are irresistible. It means, among other things, that the technology exists, right now, to eliminate the need to build another nuclear power plant or dam another river to produce hydroelectric power. It means we can no longer justify burning another ounce of petroleum, another piece of coal, another cubic centimeter of natural (or unnatural gas) or another tree to produce heat, electricity or power for any purpose, including transportation.

When coupled with the plasma beam devices being tested by the Soviet infantry units in Afghanistan, these energy storage devices operated at such unbelievably high rates of discharge efficiency that they made it possible to repeatedly induce huge electrical discharges in a highly mobile configuration.

The same technologies which were used to produce the energy storage devices have been adapted to create transformers and capacitors with previously unimaginable performance characteristics. Instead of adhering to the conventional western model of "One Volt at One Amp across a resistance of One Ohm equals One Cubic Meter," the Soviets have produced a capacitor which measures more than 1200 farads at 10,000 amperes in a package the size of a tuna sandwich.

When tested by the Technology Materials Testing Laboratory of the Defense Department at the Pentagon and at the I.N.E.E.L. in Idaho, totally new testing equipment had to be designed, engineered and constructed just to test the devices. The scientists at those laboratories had never tested anything like these materials before.

Instead of having to house transformer and capacitor devices in a series of trailers towed by diesel tractors or huge fixed-base facilities, the operating apparatus which supplied transformed power and high intensity capacitive bursts to the light cannons weighed less than ten pounds and could easily be transported in a backpack by a foot soldier.

One final question remains unanswered. "How did the energy storage devices, once dissipated or discharged, become recharged in the field, especially in the dark of night?"

The back-pack plasma beam device detected by the AWAC's during limited combat use in the Afghanistan desert was powered by energy storage devices constructed of crystalline lattice materials. After each laser burst, the energy storage devices were recharged every 12-15 minutes (nearly 45 minutes in the dark of night – the residual ambient heat of the desert is a very efficient source of infrared energy) by sunlight, collected and converted to electricity by four-foot square panels of "solar cell" material arrayed on a pole like a flag, each weighing less than ten ounces.

The electrical energy stored in the back-pack energy accumulators was transformed into enormously high voltages and released at almost unbelievably high current levels when the super-capacitors were sufficiently charged. The beam of "light" detected by the AWAC's crews was a field of plasma, flowing at the speed of light and demonstrating characteristics of mass (and, therefore, kinetic energy). The phenomenon represented by these bolts of lightning are not comprehensible according to the model of quantum mechanics and plasma physics currently being used in the West.

Battery packs utilizing these energy accumulator materials have been designed, produced and tested which provide more than 14 hours of continuously transmitted power on a single charge to conventional hand-held cellular telephone devices. Similar improvements in conventional battery/energy storage capacity have been developed and are being tested for such devices as video camcorders, laptop and portable computers and other similar consumer, commercial, industrial and military applications.

IPMS research in the field of layered crystals has thus led to the creation of capacitors with a very high level of capacitance (measured in farads). This technology is based on a revolutionary production technique which forms polarized surfaces of one molecule thickness, separated by less than one atomic diameter of space, held together by weak Van der Waals energy forces. The special properties created by these layered crystalline structures provide previously unimaginable internal surface areas. Super capacitors are constructed of layered materials numbering more than one million dipole sheets for each millimeter of crystal thickness.

These devices provide a virtually limitless number of charge-discharge cycles at astonishingly rapid charge and discharge rates. The potential impact of such devices on all electronic equipment currently being produced is incalculable, since virtually all electronic devices rely extensively on the West's state-of-the-art tantalum capacitance technologies.

At present, IPMS has on hand (among others) a super-capacitor roughly the size and dimension of a sandwich which develops more than 1,200 farads at 10,000 amperes. It also boasts production of a battery whose active mass energy density exceeds 850 watt-hours per kilogram. For the non-scientist (and all the rest of us as well) this means that a "battery" has been produced which, for the first time in history, produces more power per unit of mass than any fossil fuel ever devised.

Prototype testing of larger-scaled devices designed specifically for providing power to electric vehicles is currently underway. Prototypes are expected to be capable of sustained highway speeds of up to 70 miles per hour with a range of 525 miles on a single charge. The power plant for this application has been recently improved by the inclusion of a proprietary solid-state ceramic electric motor which weighs 7.2 kilograms and produces 100 horsepower on 12-volt direct current. For comparison, an electric vehicle employing a 100-horsepower electric motor performs the same as with a 500-horsepower gasoline engine.

If these performance attainments can be sustained in broad-based applications, electrically powered vehicles could be produced which would meet or exceed virtually all performance characteristics currently available in equipment relying on internal combustion, petroleum-based engines. Gasoline/diesel-powered transportation devices can be replaced by cleaner, more efficient and significantly less expensive alternatives.

The world market for current energy storage applications which will be superseded by these energy storage technologies is estimated to be in excess of $24 billion per year (1991), exclusive of electric vehicle considerations.

Joint ventures of the IPMS with more than a dozen private sector companies to develop useful energy inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

IPMS: High-Temperature Gas Plasma Detonator

Since its establishment in 1951, the I. N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, has been secretly developing, testing and producing more than 130 new materials in 30 general materials categories. IPMS scientists have developed a whole new science based on their unique model of plasma physics. With their invention of a high-temperature gas plasma detonator, strategic metals and other commonly used materials can literally be sprayed onto the surface of other, previously incompatible materials. These gas plasma detonation spray technologies make it possible to create permanent molecular bonds between materials which could never be married together before.

Chromium materials of an entirely new type have been developed to provide high-purity cathodes and targets. Moldable, flexible chromium (a type of material never before available) can now literally be sprayed to conform to widely varying shapes for linings (i.e., to reduce internal pipe corrosion), provide nuclear rod protection, and highly effective space hardening. These techniques have been perfected and used in practical field applications for more than 35 years.

The unique nature of these technologies may not be readily apparent to those not intimately familiar with the commercial and industrial uses of such materials. In more ordinary applications, however, the importance of being able to provide solid targets, stand-alone ingots of ultra-pure chromium, scandium, magnesium and other exotic materials, cannot be overstated. Today, the state-of-the-art in the West only allows chromium, for example, to be transported and used while in solution with other highly toxic liquids. Western scientists do not have the ability to produce free-standing ingots of any of these materials. The manufacturing models which rely on Western science make it clear that it is not theoretically possible for such materials to be produced in a free-standing form.

Similar materials coupled with the technologies of high-temperature gas plasma detonation have been developed for coating internal combustion engine parts to extend life cycle. They have been applied to enhance the performance characteristics of memory elements for computers and to support an extraordinary variety of totally new electronic circuitry. This technology has been successfully used to produce computer circuit boards whose operating components are intrinsic to the circuitry, thereby eliminating the utility or need for soldering or pin housings. The use of scandium, a very rare and exotic element available only in the Carpathian Mountains of Ukraine, make much of this possible in ways not anticipated by Western science.

IPMS-Kiev scientists have developed a series of diamond and cubic boron nitride powders which are smaller and more uniform than any other manufactured today. Also available in this family of materials are very fine (sometimes mono-molecular) ultra-high purity powders and liquids of refractory metals including chromium, vanadium, tungsten, scandium and molybdenum. These powders can literally be sprayed as a plasma field to form continuous, seamless, flexible molecular bonds with host surfaces without electrolytic processes. These materials demonstrate clearly superior performance in tool hardening, cutting edge equipment and polishing.

IPMS-Chernovitsky scientists have developed an entire family of previously unknown technologies based on woven fibers made entirely of 100% pure basalt fibers (lava rock). This totally new technology allows for the production of flexible, weave-able threads. These fibers are fundamentally resistant to heat, demonstrating a softening point in excess of 800 degrees centigrade. Fibers of this material have been produced in diameters of less than 3 microns (millionths of a meter), more than 10 times smaller than a human hair.

Allied Signal Corporation in the United States has attempted unsuccessfully for more than twenty-five years to produce a single fiber of a similar type material. Today, the Ukraine has the capacity to produce these raw fibers at the astronomical rate of 100 tons per month.

These materials are currently being produced in applications involving brake shoes and clutch plates with extraordinary performance characteristics. These materials sustain only about 15% of the wear currently attributed to asbestos-based materials used in identical applications, with the added advantage that they are environmentally friendly (non-toxic and non-polluting). In current applications, parts fabricated of basalt fibers actually operate at higher efficiencies as surface temperatures are increased, up to operating temperatures exceeding 800 degrees Centigrade.

Basalt fiber materials have also been shown to demonstrate superior insulating capabilities over commercially available materials in applications involving both temperature and sound. They have been used in applications related to mine roofing, trays of water cooling systems and as both gas and fluid filters. A four-inch deep pile of 5-micron filaments has been shown to demonstrate heat insulating properties in excess of R-65, which is nearly four times the efficiency of glass fiber equivalents, at one-half the weight.

Further, basalt fibers have been woven together with threads of tungsten, chromium and other strategic metals to produce cloth materials with previously unheard of characteristics. Woven metallic threads and fabrics of this type have never before been produced anywhere in the world.

This writer, Gary Vesperman, has included in his “Advanced Self-Powered Electric Vehicle Concept” (see http://iiic.de/docs/GVShortSummaries1-46a.htm) a monocoque (unibody) basalt/carbon fiber foam body/frame. The IPMS-manufactured basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. A test vehicle made with basalt/carbon fiber foam parts was reportedly the only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

To utilize this technology to create an automobile enclosure, three technologies are needed:

1. The basalt fiber technology can only be found at the IPMS. There may still exist some spools of the stuff in or around Kiev. The principal value of the material is that it has a softening temperature of 805 degrees centigrade.

2. The Russians use powdered metallurgy to alloy their strategic metals – the ideal mix of metal powders would be aluminum and magnesium. Since both can be found in finely particulated powders and when mixed together in the right ratios, these two metals form a material which is utterly resistive to corrosion and which has excellent tensile strength.

3. The powdered metals are mixed in a chamber like dry cake mix and then applied using a third technology – in IPMS documents, this technology is referred to as a "High-Temperature Gas Plasma Detonator". The metal powder is poured into a ceramic container, which funnels it into a specially designed high-temperature containment vessel which is also surrounded by super magnets (see IPMS-Kiev and Arzamas-16: Super Magnets elsewhere in this energy invention suppression compilation), arranged in a very precise order to create a compressive effect. When the powdered metal is brought into the chamber, high voltage, high pressure and extreme magnetic fields reduce the metal powder to a plasma, which is then expelled through a nozzle and onto a target – in this case, the woven basalt fiber which creates the shape of the vehicle.

When the metallic plasma collides with the basalt fiber material, it has a temperature of about 1600 degrees centigrade. This causes the basalt fibers to soften and partially melt – but the cooling gradient for this material is so steep that it cools almost immediately below 800 degrees centigrade, at which point the fibers reconstitute. This creates a basalt fiber-reinforced metal-alloyed shell which is extremely strong, very light weight and can be polished to a high sheen.

This is the technology the Russians have used for 35 years to create fuel cells for their huge rocket boosters – and it is the reason their boosters are so light, have no gaskets or seams and can be reused over and over again. It is primarily because of their extensive use of these integrated technologies that the Soviet space program has been able to consistently deliver larger payloads into orbit that any other nation since the space race began in 1957.

Joint ventures of the IPMS with more than a dozen private sector companies to develop useful inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Remy Chevalier (Reporter): NiMH Batteries; Solid-State Lithium-Ion Batteries

The best Nickel Metal Hydride (NiMH) batteries are no longer on the market. Why? Because either Cobasys has no intention of ever mass producing powerful NiMH automotive packs, or they just don't know how, even though they own the patent. The cells they displayed at the last EDTA conference were bulky at best, and certainly a million years away from the level of engineering exactitude Japanese automakers expect from their suppliers.

Essentially Matsusita took some of the information from their original, but mediocre patents and developed a functional NiMH battery that gave a range of 160 miles to the General Motors EV-1 and 110 miles to the Toyota RAV4 EV. This Panasonic M95 was also getting 1-2000 deep cycles and 100,000-150,000 miles on a battery pack. Something the oil companies and Detroit automakers don't want on the market, despite the Fortune 500's good mood for natural capitalism.

So now that the best NiMH battery technology for EV's has been removed from commercial circulation, Toyota, Honda and Ford are stuck using inferior NiMH battery technology in their hybrids. Toyota has indicated it will take up to 4 years for the next generation lithium-ion (Li-ion) battery chemistry to be as reliable and affordable. Till then, it's touch and go as Toyota can't crank out enough hybrids off the assembly line to meet demand, especially in deliveries to corporate fleets, taxicabs and limousine services.

State-of-the art lithium-ion chemistry is in limbo at some California-based company who has managed to secure the exclusive production rights to the only Li-ion technology that really counts, roll-to-roll solid-state battery production. That's right; no more liquid chemistry… no leakage, no over heating, no explosion, extreme light weight, easy mass production! Just like printing mylar off a printing press! Just like laminating plastic photovoltaic sheets!

Instead more conventional liquid Li-ion chemistry is being pushed feverishly. Toyota is buying out major Li-ion startups in Asia. Other Li-ion battery companies like Valence, Electrovaya, Kokam, LG Chem have attractive polymer Li-ion batteries, but they are still all based on the older liquid chemistry model, and therefore more expensive and more complicated to produce.

The chemical genius who came up with the Li-ion solid-state polymer roll-to-roll protocol is a professor at MIT who does not own his own technology. MIT owns the technology, and it is the MIT licensing office which gets to decide what companies do or do not get awarded these licensing rights. This revolutionary technology has been in limbo since 1995!

Is it because MIT is cashing checks from the Rockefeller Bros. and the Ford Foundation? Is it pure incompetence? Is it a repeat of the cold fusion debacle Gene Mallove wrote about in his book "Fire from Ice"? It's hard to tell as everyone involved is terrified to talk about it openly, which is why I am not mentioning any names. Frequent visitors to the Electrifying Times website know exactly who I am talking about!

My suspicion is that certain forces within the military, and now Homeland Security, do not want solid-state roll-to-roll Li-ion batteries from entering the civilian marketplace, the same way you can't buy Green, a special duct tape developed for Groton Electric Boat workers to strap metal parts, so strong it instantly bonds to the skin, requiring surgery if accidentally touched.

What a poor boy to do who wants to save the planet if the powers-that-be won't give him the affordable batteries he needs to make a 0 to 60 in under 3 seconds EV with a 200-mile range on a single charge? That's the question we should all be asking ourselves instead of lamenting about who killed the electric car!

The batteries are there, being manufactured for military applications all over Connecticut! If you want plug-in hybrids and 100% pure EVs so you don't ever use a drop of gasoline again, with equal to if not better performance than any liquid fuel engines, then ask yourself why MIT, since 1994, has done very little to get their solid-state Li-ion roll-to-roll battery patents into production. Don't follow the money; follow the trail of misappropriated and shelved patents.

Congress needs to put back into question the entire review process of patent law, and its consequences on environmental health, by imposing strict fines to whoever is caught buying patents for the sole purpose of keeping its protocol out of commercial circulation. (Excerpted from "Who Killed Better Batteries?" by Remy Chevalier, *Electrifying Times*, spring-summer 2006, Vol. 10, No. 1, www.electrifyingtimes.com.)

(Erik Masen adds more details in his "Suppression of Quantum Leap Inventors" *Electrifying Times*, 2007, Vol. 10, No. 2)

Chevron-Texaco bought into a Detroit company, Stanford Ovshinsky's Energy Conversion Devices (ECD), and changed their name to Cobasys. ECD held the original patents on nickel metal hydride battery technology, but never successfully marketed a turnkey NiMH battery for major markets. They did sell a considerable amount of NiMH batteries to GM for the EV1. Panasonic came along and refined this NiMH battery technology into an indestructible battery of higher energy density and longer life. That enabled the Toyota RAV4 EV (electric vehicle) to get 80-120 miles out of a battery cycle, and get over 100,000 miles of battery life out of this improved NiMH battery. ECD-Cobasys filed a lawsuit of patent infringement against Panasonic and won. This action essentially shutdown the import and use of the Panasonic M95 NiMH battery that was so successful in making EV's practical for the GM EV1, Ford Ranger Electric PU, and the Toyota RAV4 EV. As a result the proven very popular M95 90-ampere-hour NiMH is not for sale in the United States. ECD-Cobasys also put heavy licensing fees and restrictions on the NiMH battery used in the Toyota's present hybrid fleet.

Paul M. Lewis: Airmobile

In 1936, Paul M. Lewis designed a three-wheeled car that looked a lot like the present Volkswagen bug. He called it the "Airmobile", and his original model is still on display at Harrah's auto Museum in Reno, NV.

Though Lewis had not known what Dr. Ferdinand Porsche was doing in Germany, the Lewis Airmobile was amazingly similar to the popular VW beetle.

Both vehicles were low cost, simplistic in design, used horizontal opposed four-cylinder air-cooled engines, transaxles, independent suspension systems and unitized body construction.

When World War II came along, it sent VW soaring in Germany, but killed the Airmobile. Porsche fit into the German establishment, but Lewis was a "crackpot" inventor and a pain in the neck to the economic status quo.

The VW beetle's popularity proves that Lewis' original idea was valid and worthy, despite the laughter from Detroit.

The Airmobile was driven out of business in the late 1930s by the Securities and Exchange Commission and the U.S. Postal Department, who have been called bureaucratic flunkies for the oil-auto monopoly.

"I was harassed for two years, and they refused to let me sell stock in my company on the pretense they were investigating possible wrongdoing." Lewis said. "After I was beaten down, they sent representatives to tell me they found nothing wrong, and I could sell stock. A man can't make a dead horse walk."

After losing the Airmobile, despite driving it through 26 states for more than 45,000 miles without a repair, Lewis went from Denver to Los Angeles, where he continued inventing.

Joel McClain and Norman Wooten: Magnetic Resonance Amplifier

On December 12, 1994, Joel McClain and Norman Wooten, two Dallas inventors, discovered that a magnetic resonance amplifier could be capable of over-unity gain energy conversion. The electrical output of their prototype was five times the electrical input. They made a point of publicizing their invention as widely as possible via the Internet right away so as to forestall possible suppression. Since then, they have authored articles on the magnetic resonance amplifier in Electrifying Times, Extraordinary Science, and New Energy News.

A personal friend of Newt Gingrich became very interested and arranged for the Physics Department at Georgia Institute of Technology to experiment with it. They were able to increase the gain so that the output is 18 times the input. Since they could not explain this according to conventional physics, they refused to publish their results for fear of losing the respect and esteem of their peers.

Gingrich had been following the MRA with keen interest so when his friend told him of the problem with Georgia Tech, Gingrich arranged for the federal funding of Georgia Tech programs to be cut off. The President of Georgia Tech who had been in the dark on all this began getting phone calls from enraged Georgia Tech professors. Then the Physics Department published their findings.

At the International Tesla Society Symposium in Colorado Springs (July 20-23), McClain and Wootan gave a lecture on their magnetic resonance amplifier. The oscilloscope waveforms of output vs. input they showed were very odd. They sort of loop around themselves.

A few days after the conference, Wootan's two-year-old boy had been abducted, Wootan was running for his life in Canada, and McClain was in hiding.

The magnetic resonance amplifier's claimed over-unity power conversion efficiency was later shown to be a measurement error. However, a past issue of *Electrifying Times* claims that Scott McKie has invented a solid-state over-unity electrical energy converter with an input of 15 volts, .438 amperes (7.25 watts) and an output of 34 volts, 127 amperes (4318 watts). McKie's converter apparently is a more advanced version of the magnetic resonance amplifier.

Al Wordsworth: Electrical Generator and Advanced Carburetor

The details are sketchy and second-hand, but inventor Al Wordsworth had to contend with harassment of both his advanced carburetor and electrical generator. His generator had an input of 3 amps at 12 volts and an output of 32 amps at 6 to 8 volts. He died some years ago. It is believed his generator design is lost.

John Richardson: 90+ MPG Carburetor; Atomic Isotope Generator

John Richardson invented a "carburetor improvement/adjustment mechanism" which enabled autos to achieve 90 to 100 miles per gallon of gasoline. Richardson also invented an "atomic isotope generator", about the size of a washing machine, which could electrify a 5,000 sq. ft. house or building for over 100 years at a minimal up-front cost. Vicious threats from big business to his life and his family persuaded Richardson to hide the prototypes and to stop further work. (Source: http://center-for-natural-health.com/articles/richardson.html)

Fish/Kendig: Variable Venturi Carburetor

In the late 1950's the Fish/Kendig Variable Venturi carburetors got some very interesting mileage figures. John Robert Fish had invented a carburetor that double the gas mileage of Detroit's standard carburetors. When Detroit snubbed his invention, Fish tried selling his invention through the mails to do-it-yourself mechanics. The Fish carburetor even got into production on a small scale.

He was growing successful when Post Office Department agents swooped down on him for "investigation of fraud". Several years later he was exonerated of any charges. But until then the mails to and from his business had been stopped during the lengthy "investigation". He was wiped out financially.

In the early 1970's a young college student (name unknown) entered his Mercury "gas hog" in the California Air Pollution car race and won hands down. He was using the Kendig Variable Venturi carburetor that a small company (name unknown) had manufactured in Los Angeles for racing cars.

Within a week the student was told to remove the carburetor since it wasn't approved by California's Air Resources Board (CARB). His car had reduced pollution and doubled the gas mileage (for that model). This may have been suppression conducted by the Air Resources Board. The movie "Who Killed the Electric Car?" accuses CARB as one of the "gand of killers" of GM's EV-1 electric car.

Dick Belland: 100 MPG Carburetor that Runs on Gasoline Fumes

In 1979 Dick Belland and his brothers and a nephew were experimenting with an automobile carburetor which ran on gasoline fumes. They stopped when Belland received telephone threats to be fitted with a pair of cement boots. For story see http://www.byronwine.com/files/Dodge%20truck.pdf.

Ron Brandt: 90 MPG Carburetor

Ron Brandt is the inventor of the perm-mag motor. He is now of retirement age. He has personally told this writer, Gary Vesperman, that he is scared of working on over-unity free energy machines.

When Brandt was a young man, he invented a 90-mpg carburetor. He was paid a visit by a man from Standard Oil, another man, and two men wearing U.S. Government Marshal uniforms. They told him that if he ever made another carburetor, they would kill him, his wife, and two young children. Brandt was quickly persuaded that his life wasn't worth a "damn" carburetor. He happened to think to memorize the badge numbers of the two US Marshals and so had an attorney in Washington, DC check with the US Marshal's office. They had no record of the two badge numbers.

Welton Myers: Myers' Efficient Carburetor

Welton Myers, Director of Technology for Pure Energy Systems, does not have a resume, as he has always been self-employed.

I, Sterling D. Allan, received the following information from him via phone interview today.

Though Welton attended Cornell University, with a major in Agricultural Engineering, that is not of significance to him. It didn't take many years before he came to the realization that the mainstream science he learned there is full of errors (techniques deplete soil of nutrients). He completed there in approximately 1954.

From 1954 through 1960, Welton farmed (mainly corn) and raised 50 dairy cows. Towards the end of that time he also dabbled in logging and mining.

From 1960 through 1975, he laid the foundations for what today is known as Habitat for Humanity. He set up non-profit programs in New York and California, taking groups of ten families who helped each other build homes, and learned skills in the process, which they could later use in a trade.

He helped build and renovate over 1000 homes during this time. Better Rochester Living is the name of the first program in New York, and Self Help Enterprises (SHE) was the name of his first program in California.

In 1975, he began building homes for profit when his funding dried up for the non-for-profit program he was doing. He built around 25 homes in the $100k range.

Then in 1978 he had a serious accident that put him out of commission for physical labor until 1984. He was rear-ended by a car going 120 mph. "This was one of my most creative periods" he said, ironically, because it was also during this time that he had a very difficult time remembering the simplest things.

That was when he did the carburetor project in which he transformed a car to get three times the mileage. The organization he founded along with Bill Cope, "Knowledge is Power," held weekly seminars at Robert Wesley College, where people came to learn how to convert their cars to get three times the gas mileage.

That project came to a halt when his car was sabotaged, the pressure release valve being clamped down tight, causing his car to explode while he was driving it. The next day, as the car sat on blocks in his drive way, a trailer pulled up, and some men who told Welton's wife they were hauling the car for Welton (not true), towed the car away; and Welton never saw it again.

The blueprints are held by an associate today, but Welton does not recommend the design because of the high pressures involved (3000 – 6000 PSI), which could be dangerous if the car is in an accident.

It was also during that time (1983) that he built a magnetic motor along with Bill Cope and an inventor who said he had been involved with Tesla. The day after they announced that they were ready to open the technology to a public offering, the laboratory was raided, their equipment smashed, and their inventor was threatened at gunpoint to leave the country, which he did. That inventor had also been involved with John Searl and witnessed his flying saucer technology.

Welton later located the inventor in California, but he had Alzheimer's disease by then and couldn't remember anything.

Also during this time, for employment on the side to help cover expenses, Welton worked in a laundry designing the mechanical end of an automated system.

In 1984, Welton returned to working with COOP housing, starting with ten "slow" individuals who were not able to hold down jobs, and making a construction crew of them. At the end of two years, they built 7 homes for 7 of them. The other three were not able to get funding together for a mortgage. With some of this crew, he then went on to build more expensive homes, building 10 homes at a time, for example, in a new subdivision. Many of the homes were in the $400 - $500 range. They also installed around 100 solar panel systems during this time.

Then early in the 1990's he began to get involved in the patriot scene, helping people understand some of the inherent problems with today's tax structure, and helping them protect their assets. He was involved in Cleon Skousen's seminars with the National Center for Constitutional Studies. He learned how to create corporate shells with strong layers of protection.

Also during this time he began traversing the country meeting inventors and reviewing their inventions, to help facilitate their progress toward the market.

I met Welton about two years ago, and it was actually his phone conversation with me that spurred me to begin a "free energy" listing on my greater things website, which has grown into what it is today. We have been close friends and business associates (www.perentech.com) during that whole time.

I know Welton to be one of the brightest minds around. You would never know he's past 70 to speak with him on the phone. He remembers details of conversations and technologies better than I do, at nearly half his age. I look at him as one of the "grandfathers" of the Free Energy movement. --- Sterling D. Allan.

George Wiseman: Fuel Savers

George Wiseman is the President and Chief Executive Officer of Eagle-Research in Oroville, Washington (see www.eagle-research.com). George's research organization verifies, develops and distributes practical energy-saving methods and devices. Because he sells fuel-saving plans and devices, he of course is a target of suppression efforts that he describes in an email (copied below with deletions) that is displayed in http://www.zpenergy.com/modules.php?name=News&file=article&sid=316.

Date: Fri, 18 Apr 2003
From: George Wiseman
Subject: Re: Re: Suppression

>> I realize that 90 percent of the 'physicists' in these groups are simply here to block progress, to
>> maintain the status quo of disinfo and cointel -- preserve the monopoly of western deception and
>> newspeak – to regurgitate the same NOTHING they have been programming us with for ten decades.
>
>Do you mean the same "NOTHING" that has made possible all of the following technology that
> conspiracy addicts like you take for granted?

Whoa there... The problems and perceptions here are extreme, yet both valid in context.

I don't want to spark a big discussion, for which I do not have time nor interest. But I just couldn't resist putting in my 2 cents because I see innocence and ignorance being displayed.

There have obviously been major advances in some fields, like electronics and medical science. Much worthwhile has been accomplished. But I submit that it has either been in spite of suppression or in areas where suppression doesn't exist.

For example; computers wouldn't have been implemented to the public, bringing down their cost and fueling greater research if lone inventors hadn't developed both home computers and operating systems that would have put IBM out of business. IBM was caught unprepared and did what they could to reestablish control of the new market.

Medical science is so dominated by 'vested interest' that they are trying to even label vitamins as 'drugs'. Cures for diseases are often ignored and even actively suppressed in favor of techniques that just treat symptoms and incidentally make much more money.

In other fields we are still using technology virtually unchanged (with only cosmetic changes) for over 100 years, like internal combustion. This is a field in which I have some expertise and where I have personally experienced suppression of several different kinds. I have given a few of the details in my newsletters: http://www.eagle-research.com/newsletter/newsletter.html.

The electrical power grid, radio, robotics, and the basis of much of the medical diagnostic was invented and implemented by Nikola Tesla around the beginning of last century.

I can prove beyond a reasonable doubt that 'Vested Interest' does suppress technology that would cause their 'investments' to produce less income. Depending on the particular technology, such as fossil-fuel consumption, vested interest could even be governments.

I have personally attended a meeting between industry and a trade school where the topic was what and how to train the students. I can verify that industry as 'vested interest' wants the students to ONLY fix what exists. They are taught what to think, not how to think. These meetings take place on a regular basis because schools need the 'donations' from industry and they want their students to be 'employable'.

I'm sorry to say that my experience is that this 'what to think' effect is spread throughout the education system, including professions such as 'physicist'. Some are open-minded enough to actually look at hair-brained 'alternative energy' ideas and try to educate when they see an idea that won't work. Most of those that discover an idea that will work simply disappear. I haunt old bookstores because I find them gold mines of information that has been eliminated from current teaching.

I have never had a legitimate customer complaint, yet my business has been investigated several times by various U.S. Government and 'public protection' agencies, because I sell 'fuel-saving' technology. I have had my own telephone company tell me that my telephone was tapped. I have had the post office 'lose' over $50,000 worth of customer orders. These harassments are only a few of the barrage of suppression techniques that I live with everyday.

I could go on and on, easily getting labeled as a "conspiracy addict". Since I am an inventor in these technologies and have felt the suppression in many ways, I believe I have the right, and perhaps obligation, to tell people who live in comfortable niches that the suppression they are not directly feeling, is in fact affecting their lives.

We all could be living very much higher standards of living if only technologies that already exist were not suppressed. In the course of my 'alternative energy' research, I recently developed a 'spin-off' technique, using technology invented in the 1800's, to inherently eliminate the 'phantom load' and 'inductive losses' experienced by most transformer applications. In a lot of cases, particularly in small appliances, this would cut power consumption by over 50%. This single technique would save billions of watts. I can't even imagine how much power it would have saved if it had been implemented from the beginning of using AC electricity.

Anyone who thinks that suppression doesn't exist has simply not looked at the facts. For example; spending only a day in the patent office, I found that in the last 25 years there have been over 3500 fuel saver patents – not one of which is on the market. This is not because fuel savers don't work, because I prove everyday that there are fuel savers that do work. It is because the suppression mechanism is in place and 'self-propagated' by people who have no idea that they are part of the process. They are only propagating what they were taught to believe.

I don't dwell on it, but suppression is very much a reality in my life. It is why I structure my business as I do. I am a self-employed inventor and have been since 1984. I do not patent. I distribute full facts on my developments directly to the public. I do not sell 'devices' that trigger the major suppression responses.

That's my 2 cents. I felt obligated to say it. It may not be fair, but I will not respond to discussion on this subject; it's already taken two hours of my time to compose this email.

Thanks for reading.

George Wiseman
President, CEO of Eagle-Research
http://www.eagle-research.com

Tom Ogle: 100+ MPG Oglemobile

Tom Ogle's Oglemobile ran on fumes extracted from a heated tank in the trunk without a carburetor (see US patent 4,177,779). The media witnessed a test of a 4,600-pound 1970 Ford Galaxie which was driven 200 miles on less than two gallons of gasoline. Ogle predicted that an economy four-cylinder engine would achieve 260 to 360 miles per gallon.

A Shell Oil Co. representative asked Ogle what he would do if someone offered him $25 million for the system. Ogle responded "I would not be interested". He later said, "I've always wanted to be rich, and I suspect I will be when this system gets into distribution. But I'm not going to have my system bought up and put on the shelf…"

The August 1977 issue of Argosy magazine which carried a five-page article on the Oglemobile has disappeared from many libraries and even the Library of Congress. Argosy even ceased publication shortly after the article published. The El Paso NBC TV station that had filmed the test run "lost" the footage.

Tom Ogle died in 1979. Two others connected to Ogle died mysteriously. One was mugged while jogging with no cash. The other died while working for the military at a shooting range.

Charles N. Pogue: 200+ MPG Carburetor

In Jan. 3, 1935 Charles N. Pogue was issued a Canadian patent – 353,538 – for a High Mileage Carburetor.

In Apr. 9, 1935 Charles N. Pogue was issued a US patent – 1,997,497 – for a High Mileage Carburetor.

In Jan. 7, 1936 Charles N. Pogue was issued a US Patent – 2,026,798 – for his newer High Mileage Carburetor. Pogue used the carburetor for about ten years on his car and produced about 200 carburetors thru the Economy Carburetor Co. (Copies of the following three test reports plus a drawing of the Pogue carburetor can be viewed at http://www.byronwine.com/files/1936%20Ford%20test.pdf.)

In early 1936 T.G. Green, President of Breen Motor Company, Winnipeg, Manitoba, Canada tested the Pogue carburetor on a Ford V-8 Coupe and got 26.2 miles on one pint of gasoline. The performance of the car was 100% in every way. Under 10 mph the operation was much smoother than a standard carburetor.

In April 30, 1936 Ford Motor Company, Winnipeg, Manitoba, Canada tested the Pogue carburetor and was at "a loss to understand" how the carburetor got "25.7 miles on one pint of gasoline"! (That's approximately 205 mpg). Mr. W.J. Holmes and Mr. Purdy conducted the test for Ford Motor Company.

In Aug. 10, 1936 S. Stockhammer tested the Pogue carburetor on a 1934 Ford V-8 Coupe and got 28 miles per pint of gas. "I can say the performance was all anyone could desire in every shape of form."
In Dec. 12, 1936 Canadian Automotive Magazine states that the standard carburetor gets about 25 mpg at only 9% efficiency. Therefore the Pogue carburetor is 72% efficient overall at 200 mpg.

Pogue had his shop broken into and carburetors stolen.

In 1953 CARS magazine stated that in the opening months of 1936, Pogue panicked the Toronto stock exchange and threw fright into the major oil companies. Stock exchange offices and brokers were swamped with orders to dump all oil stock immediately. This same article states that Winnipeg's largest automobile dealers tested the Pogue carburetor and got results of up to 216.8 mpg!

In 1945, according to an unnamed source, carburetors marked "POGUE CARBURETOR, DO NOT OPEN" were used on American Army tanks throughout WWII but were removed from circulation after the war ended.

In 1980 Arthur C. Sgrignoli, after 45 years, has built a legendary Pogue carburetor by hand and is said to have achieved an efficiency of 86%. Contact was made through his brother, William J. Sgrignoli.

In 1981 Ultra-Lean Carburetors of Northridge, CA, was selling a set of plans for the Pogue carburetor for $50.

As of January 1981, Charles N. Pogue was still alive at age 81 and was living in a rest home in Winnipeg, Canada. He refused to talk to anyone or to receive visitors from outside his own family.

On the other hand, according to http://www.snopes.com/autos/business/carburetor.asp, the Pogue carburetor is an "urban legend". Perhaps some university mechanical engineering students can be funded to replicate the Pogue carburetor as a laboratory exercise and then measure its performance.

An email correspondent of Gary Vesperman wrote June 11, 2006 that, before he got involved with an electronic mileage booster two years ago, he checked the Internet and both Consumers Union and the Department of Energy lambasted all previous fuel optimizers. DOE listed about 75 of them they tested and which did not really work.

(Of course they say that… I think the Pogue carburetor was the one that worked until lead was added to gasoline, and it was this additive that clogged up the device and prevented the mileage gain. Bruce McBurney, source. McBurney's site http://www.himacresearch.com/ has more on carburetors.)

The addition of lead to gasoline resulted in widespread permanent environmental pollution of millions of pounds of poisonous, brain deadening lead. In 1967 at the University of Wisconsin-Madison this writer, Gary Vesperman, took an introductory course in meteorology.

One lesson Professor Reid Bryson gave was based on a study he had conducted of the extent of lead poisoning. I used his research results as the basis of a "letter to the editor" which was published in *Business Week* magazine in 1970.

I am not sure if I have the dimensions correct, but the numbers went like this: Residents of northern Wisconsin were found to have 0.1 micrograms of lead per cubic centimeters (cc) of their blood. Residents of the northern suburbs of Chicago had 1 microgram of lead per cc of blood. Residents of downtown Chicago had 4 micrograms of lead per cc of blood. The fatal level of lead poisoning apparently is approximately 6 micrograms of lead per cc of blood.

So in the *Business Week* letter to the editor I postulated that in another decade or so, rising levels of lead in blood would result in greatly increased mortality rates among downtown Chicago people since they evidently were already two-thirds dead.

Weeks later, by coincidence (?), there was intense national publicity focused on lead poisoning which resulted in Congress passing a law mandating a phase-out of lead in gasoline. Some people claim there is a so-called "law of unintended consequences". The platinum dust hazard from catalytic converters is another awful example of this "law". Maybe it is time for me to once again try to rouse the rabble?

Professor Bryson was an expert climatologist. He explained to our class the basics of global warming due to the atmospheric increase in carbon dioxide – as also explained by Al Gore in his movie An Inconvenient Truth. Bryson also explained the basics of global cooling due to increased dust plus sunlight reflecting off the ice crystals from jet engine exhaust which float high in the atmosphere for up to six hours.

I remember cornering Bryson after one of his lectures and asking him which was going to "win" – global warming, or global cooling? With an unforgettable grim look on his face, would you believe he said global cooling?!!

39 years later with vastly more data, global warming dominates the scientific consensus. Most worrisome, in 2006 climatologists found a preponderance of positive global warming feedback loops compared with pitifully few negative global warming feedback loops. (Source: "Our worst fears are exceeded by reality" http://news.independent.co.uk/environment/article2110651.ece) Global warming seems to be speeding up!

Yet ExxonMobil tries to bias global warming research towards the possibly dishonest conclusion that global warming isn't really happening. For example "Is the Sky Really Falling? A Review of Recent Global Warming Scare Stories", is a Cato Institute research study published August 23, 2006 by Patrick J. Michaels in http://www.cato.org/pubs/pas/pa576.pdf. http://www.cato.org/current/global-warming/ has an entertaining list of sarcastic titles of papers on global warming by Michaels. Is Michaels being paid to be a disinformation hack for ExxonMobil rather than as an honest weather scientist?

The Cato Institute received $55,000 from ExxonMobil in 2002-2003. The George C. Marshall Institute received $185,000 from ExxonMobil for "Climate Change Public Information and Policy Research" in 2002-2003. The Tech Central Station Science Foundation received $95,000 from ExxonMobil for "Climate Change Support" in 2003. Michaels is also employed by the George C. Marshall Institute and the Tech Central Station Science Foundation. (Source: http://www.environmentaldefense.org/article.cfm?contentid=3804&CFID=21084385&CFTOKEN=29888831.) Incidentally, Michaels earned his Ph.D. in ecological climatology from University of Wisconsin-Madison in 1979.

The Union of Concerned Scientists lays the blame for at least some of the ongoing uncertainty squarely on the shoulders of the world's largest publicly traded company – ExxonMobil. The scientific group has documented that the oil company has "funneled nearly $16 million between 1998 and 2005 to a network of 43 advocacy organizations that seek to confuse the public on global warming science".

Many of the organizations have overlapping staffs, board members and scientific advisers, according to the report, leaving the public with the impression that agreement on the certainty of global warming is far from universal. Funding by ExxonMobil allows these affiliated organizations to "publish and republish the works of a small group of climate-change contrarians," the report states.

ExxonMobil has a lot at stake. A shift toward cleaner forms of energy could greatly diminish its revenue, which reached $339 billion in 2005. (Sources: January 6, 2007 Las Vegas Sun editorial and http://www.ucsusa.org/assets/documents/global_warming/exxon_report.pdf.)

Allen Caggiano: 100+ MPG Fuel Implosion Vaporization System

INVENTOR'S HARDSHIPS --- SUPPRESSION OR COINCIDENCE? YOU DECIDE!
IS US. PATENT # 5,782,225 BEING SUPPRESSED ....OR... ARE THE "HARDSHIPS" THAT THE INVENTOR SUFFERED JUST "A COINCIDENCE".??????." YOU DECIDE !

In the early 1970, in Brockton, Ma, I owned and operated a company called Debal Heating and Air Conditioning. This was about the time that we had that phony gasoline shortage. Each morning myself and 12 employees would sit in the gas line with 6 trucks to get a mere 5 gallons of gasoline. As I sat in that gasoline line day after day, I started to think there must be a better way. If they have the technology to put a man on the moon they must have the technology to get much better gas mileage.

It wasn't long before I built my first fuel vaporization system. I read everything that I could get my hands on about this. Well sad to say it didn't work. It made plenty of vapors, and exploded like a BOMB. Over 70% of my body received 3rd degree burns. I spent 69 days in intensive care, kissing death several times. Don't worry, all the bugs are worked out now.

October 15, 1983 was the birth of my Fuel Implosion Vaporization System. At this time I owned and operated a company in Brockton Ma, called Weatherall Energy Research and Development. I had just finished building a commercial high-efficiency air conditioning evaporation coil when I poured one gallon of gasoline into one end to flush it out. To my surprise massive fumes discharged from the other end, and all I got back was less than one cup of gasoline.

I started brainstorming, I miniaturized the air conditioning evaporator coil, installed it in 1973 Dodge station wagon with a 318 engine. By early 1986 we had worked out all the shortcomings and bugs and had a working prototype that gave between 111 to 113 mpg. We placed an ad in the Brockton Enterprise and the Boston Globe, seeking people to beta test our Fuel Implosion System.

It wasn't long before I got a call from a California corporation wanting exclusive rights to our invention. My attorney checked them out. They were a subsidiary of several other corporations and finally all owned by an oil company. I declined their offer. Shortly thereafter all my troubles started.

First came two men, showing IDs, saying that they were from the FBI and that I was violating federal laws altering carburetion systems and that if convicted could get 20 years in a federal prison. I called my attorney and told him what happened. My attorney informed me that I wasn't in any violation of any federal laws.

If I was smart I should have stopped here. (BUT I AM NOT TOO SMART). For the next two weeks I would receive every day in the mail, in a plain envelope, 8"x10" close-up photos of my wife in the supermarket, church, and my children getting on and off the school bus and in the playground at school.

(Just pictures only.) In addition we would get all kinds of weird calls mostly after 2 a.m. My wife couldn't take it anymore; she filed for divorce and left me.

A few days later my attorney showed up at my office, looking white as a ghost. He had all my legal files and records with him, placed them on my desk and said that he could no longer represent me in any legal matters. I asked why. All he would say is: "WAKE UP!". I could not understand. He had been my personal friend and attorney for over 16 years.

When my wife divorced me and my attorney abandoned me, I wondered what else could happen. Nothing, I thought, nobody can stop me now, so on with my fuel implosion system. Boy was I wrong: hell opened up and swallowed me alive.

I am a very light drinker; if I drink 6 cans of beer a year, that was a lot. I never did drugs or was around anybody that did. On July 4, 1986 the chief of the Brockton Police, Richard Sprawls, with a bunch of other Brockton police raided my Tremont St. Brockton home, and arrested me for trafficking of cocaine. My bail was set at $500,000.

I was lucky that I had a friend, LT. Jim Sullivan of the Brockton Police Department. He showed up at my bail hearing and said something to the judge, and my bail was reduced to $500.00. Is somebody trying to tell me something?

Oh well, back to work; I built two more fuel implosion systems. I installed them in a 1973 Olds Cutlass and 1966 Mustang. I painted my 1973 Dodge station wagon bright yellow, with big red letters all over it saying: "THIS CAR GETS OVER 100 MPG AND DOESN'T POLLUTE THE AIR .THE BIG BOYS ARE TRYING TO MAKE ME AND THIS CAR DISAPPEAR,--HELP ME! " I only got to drive my yellow wagon for 3 days.

On November 24,1986 Brockton chief of police, Richard Sprawls, and other members of the Brockton Police Department raided my Tremont St. Brockton home. They seized two shotguns, a 12-gauge and a 20-gauge, both of which were legally registered to me. I used to use them for skeet shooting.

I was arrested and charged with for trafficking of cocaine again. My bail was revoked. I was placed in maximum security in the Plymouth House of Correction. I was now sentenced to 15 years for the July 1986 trafficking of cocaine and waiting for the second trial for the November case.

I knew where I could get some solid evidence that would clear me, but I didn't know who to trust ANYMORE. So, I escaped from maximum security, went and got my solid evidence and gave it to the right person and surrendered the same day.

Boy I was lucky, they had over 240 law enforcement offers searching for me with guns, dogs, helicopters etc. I ran like a jackrabbit through the woods. My advantage was, the woods were my old hunting grounds.

Two days later Brockton's chief of police was arrested for STEALING COCAINE FROM THE POLICE EVIDENCE LOCKER. HE WAS SENTENCED TO TWO YEARS IN PRISON. REMEMBER THE COCAINE THAT CHIEF RICHARD SPRAWLS SAID HE FOUND AT MY HOME IN JULY AND NOVEMBER 1986? NOW I KNOW WHERE IT CAME FROM, THE POLICE EVIDENCE LOCKER, AND IT FELL OUT OF CHIEF SPRAWL'S POCKET ONTO THE FLOOR IN MY HOME WHERE ANOTHER BROCKTON POLICE OFFICER FOUND IT.

Well, the Massachusetts Supreme Court of Appeals overturned my cocaine trafficking conviction. Grounds: tainted evidence, illegal search and seizure.

FREEDOM AND HOME, HERE I COME! WRONG AGAIN! HERE COMES THE FEDS. THEY HAD A WARRANT FOR MY ARREST FOR VIOLATING A NEW GUN LAW THAT WAS PASSED ON NOVEMBER 24,1986. THAT WAS JUST 10 DAYS AFTER MY ARREST OF November 14,1986. Remember the Brockton police seized my two shotguns?

Guess what? I had the privilege of being the first person in Massachusetts and the third person in the United States to be tried, prosecuted and sentenced under this new law 18 USC 922g and 924e. I didn't stand a chance; there was no case law in the law books to support my defense of this new law.
I was sentenced to two 5 years' sentences for perjury, because when I bought the two shotguns there was a box that said: were you ever convicted of a felony. I checked the no box, because I was never convicted of a felony, just a misdemeanor.

Well, the feds said under federal law my misdemeanor was a felony, therefore, I was guilty of 2 counts of perjury and they gave me 5 years on each count.

Next I got 5 years for being a convicted felon in possession of a firearm. Now I have been sentenced to a total of 15 years in federal prison without parole. I am still sitting in the courtroom. After a week of trial, my attorney said that the US Attorney was trying me under the second part of the new law. My attorney said the trial will be short, won't last more that ten minutes. There was no way I could be found not guilty.

Well, it went like this:

1: I was convicted as a felon in possession of a firearm.
2: I was convicted of perjury.
3: I was convicted of a second count of perjury.

BINGO! I HIT THE JACK POT!!

USC 18922g-e1 states: If you have 3 prior felony convictions and have possession of a fire arm, then you are an ARMED Career Criminal and that carries a minimum mandatory sentence of 15 years without parole. Now I have a total of 30 years in federal prison without parole. Well, the Feds have me tucked away for 30 years where I cannot cause any more trouble with my fuel implosion system. WRONG, WRONG, WRONG:

I met a lot of powerful people in the federal prison, with powerful connections on the outside, among them, Kenny whose son was a patent attorney for a large patent law firm who did our US patent. #5,782,225, while I sat in the safety of the federal prison system.

Remember the Feds sentenced me to 30 years without parole??? Well, on September 13, 1997 (Friday the 13th, my lucky day) I was released from federal prison with 5 years parole.
STOP! Something's wrong here. I only did 10 years of a 30-year sentence, with no chance of parole. Well it took the federal courts to rule that it was legal for me to possess the two shotguns, that they had no jurisdiction. The case is now pending in the 1st District Court. They will not rule on it.

This September 2001 will be 4 years that I have been out of federal prison and have been a good boy, nice and quiet, until now.

My Intentions: In the past 20 years I found out that the oil companies will do EVERYTHING in their power to suppress this kind of technology, because it could reduce the gasoline consumption in the U.S. by 76% over a 5-year term.

The government will lose mega bucks in gasoline taxes.

The major car manufacturers will lose billions spent on the technology of the fuel injection systems, my technology makes theirs obsolete.

I put all my patent and shop drawings up on this website, for anybody to use it free. I am 58 1/2 years young now; the sand is running out of my hour glass fast. I don't want to take this technology to my grave with me. If you think that I should get something out of this, then build my fuel implosion system, and after your 5th tank of gas send me the price of a tank of gas; otherwise I don't want a cent.

If you believe that me and my patent and technology have been suppressed, then tell as many people as you can about my story and ask them to do the same.

The Reason I Ask This Is: I believe that millions of people around the globe want this kind of technology and know it exists. When we get enough people wanting this technology, I have powerful attorneys, who know and are able to present it to the courts of the globe.

I will take my remaining 7 cars, that have my fuel implosion system in them, out of exile and drive them from Boston to California with the whole world watching, and I think my chances of reaching California alive are excellent.

By my publishing this website, I must be out of my mind. What else could happen to me? MAYBE I will get killed or something. What will be will be.

Thank you for your interest. Please help me spread the word. And for those of you that think that my story is just a bunch of bad luck for an unlucky inventor, you will be of those who oppose this type of technology. So go to my home page and VOTE NO for this technology.

Sincerely,
Allen Caggiano, Inventor
http://www.get113to138mpg.com/

P.S.: As much as I would like you to build my Fuel Implosion Vaporization System and succeed, I MUST URGE you NOT to build it without QUALIFIED and PROFESSIONAL help, if you are not a qualified machinist or mechanic yourself. This is NOT a simple D.I.Y project and working with (vaporized) fuel is dangerous!

(The electric auto magazine Electrifying Times (www.electrifyingtimes.com) has published a much longer article on Caggiano and his FIVS in its spring-summer 2006 issue Vol. 10 No. 1. By the way, that particular issue happens to focus on suppressed energy inventions.)

(The following is a subsequent report on Caggiano's on-going suppression troubles.

I just want to inform you as to Allen Caggiano situation. He had the web site www.get113to138mpg.com. He recently was trying to bring out a product. He had a few problems and then disappeared. From what I have been told Allen had been in a hospital recuperating from surgery. He went in to have a CAT scan and woke up a month later without the use of his legs. He said he died twice but came back. He was in a coma most of the month. While recuperating and watching TV one afternoon he saw a SWAT team raiding his apartment seizing his computers, notes, tools and car. The postal service is also investigating because he failed to deliver products. He said there were pressure crack problems. He could not ship and thought things would be redone in time. But just too many things went against him. Even though things look bad for him I still believe he is trying to get this out doing the best he can. I and some others have checked out his stories and had them confirmed. He does have a valid patent for fivs 2 ad. He was framed in his first arrest, and the police chief was dirty. If he were a con artist smart enough to pull this off, he certainly would not be around trying to do what he is doing still. He would be in another country spending the money with another name and ID. For that matter who would use their family name with so many ties and some of the different weird stories have been independently confirmed. His web site is down and I wonder what will come of him. Best way to suppress something is to make it look like a con game. It seems the oil companies are good at that. HIMAC has always tried to help anyone in bringing out this technology. At present we are publishing the work of Tony O'Donnell. He has tripled his fuel mileage, obtained an Australian patent and some foreign patents, but could not afford North American patents and the time ran out. We put out his information research and AutoCAD drawings in a CD format – over 500 pages $39.95 money back if not satisfied. Allen is not the first to get hassled over this. We can only hope he is the last and this information finally surfaces to completion. I only know Allen from phone conversations and the feed back from those who know me. I have not witnessed a verifiable mileage run from him. When I know more it will be posted. (Source: http://www.himacresearch.com/links.html.)

(Erik Masen provides an update in his "Suppression of Quantum Leap Inventors" *Electrifying Times*, 2007, Vol. 10, No. 2)

Recently in our last issue we did a feature story on Allen Caggiano "High Mileage Dreams". Allen had spent a good share of his life developing and selling versions of his high-mileage fuel devices. This feature story covered his many near death experiences by groups who did not want to see his technology go mainstream. Recently some U.S. Government representatives invested in Allen's company in an attempt to shut him down for good. Allen fled to China where he is having his high mileage devices manufactured. Few have heard from him since!

William Bolon: Automobile Steam Engine

William Bolon, Rialto, California, developed an unusual steam engine design in 1971 that was said to get up to 50 miles to the gallon. The engine used only 17 moving parts and weighed less than 50 pounds. It eliminated the usual transmission and drive train in an automobile. After much publicity, the inventor's factory was fire bombed with damages totaling $600,000. Letters to the White House were ignored so the inventor finally gave up and let Indonesian interests have the design.

Shell Oil Company: Achieves 376.59 MPG with a Modified 1959 Opel in 1973

Shell Oil Company wrote "Fuel Economy of the Gasoline Engine" (ISBN 0-470-99132-1); it was published by John Wiley & Sons, New York, in 1977. On page 42 Shell Oil quotes the President of General Motors who in 1929 predicted 80 MPG by 1939. Between pages 221 (see http://www.byronwine.com/files/Shell%20P221.pdf) and 223 (see http://www.byronwine.com/files/Shell%20P222.pdf) Shell writes of their achievements: 49.73 MPG around 1939; 149.95 MPG with a 1947 Studebaker in 1949; 244.35 MPG with a 1959 Fiat 600 in 1968; 376.59 MPG with a modified 1959 Opel in 1973 (photos of these three cars are shown on page 223).

The Library of Congress, in September 1990, did not have a copy of this book. It was missing from their files, of course. [They had it – since it is legally required to have at least one copy of all such publications in the U.S. However, it seems to have been stolen or hidden.] Byron Wine bought a copy from Maryland Book Exchange around 1980 after a professor informed him that it was used as an engineering text at the University of West Virginia.

The modified 376.59 MPG 1959 Opel is now owned by an Alabama antique car restoration company (see http://www.race-cardrivers.com/shop.htm).

Honda: 60 MPG 1992-1994 Honda Civic VX

The U.S. Government, pressured by major US oil and automobile companies, eventually denied import of the 60 MPG 1992-1994 Honda Civic VX. V stands for variable valve timing which can greatly increase a motor's efficiency. (Erik Masen, "Suppression of Quantum Leap Inventors", *Electrifying Times*, 2007, Vol. 10, No. 2)

IPMS-Chernovitsky: Super Ceramics

The I.N. Frantsevich Institute for Problems of Materials Science (I.P.M.S.) is one of more than 70 institutes founded by the government of the Soviet Union during the decade following World War II. Its mission was very simple: the scientists forcibly relocated from post-war Europe and enslaved at the Institute were commissioned to learn everything there is to know about the material world. They were not asked, indeed, they were not permitted, to make any decisions about how their discoveries were to be applied. In fact, from the outset and during all of the ensuing 40 years, there was not a single applications engineer among the 6,600 scientists who worked in the Institute.

The peculiar set of circumstances which provided the essential breeding ground for the extraordinary discoveries spawned by the Institute was not reserved just to I.P.M.S. The central government of U.S.S.R. jealously guarded its absolute right to make all decisions about what was done with the discoveries created in all the institutes. It is not surprising, therefore, that a system of government so paranoid about anyone stealing a pair of shoes that it manufactured left boots in Moscow and right boots in Kiev, would totally fail to recognize or effectively apply the benefits of some startlingly new sciences to clothe, house and feed its own people.

In fact, it was precisely because the Institute was forced to operate in a purely theoretical environment, with no pressure whatever to meet production or marketing deadlines, operating virtually isolated from any contact with the outside world, that the scientists and academicians were able to produce at least 7 whole new sciences, 30 technologies, and 130 materials unknown in the West. It is largely because the most brilliant theoretical physicists in the entire Soviet Union were able to work for nearly 50 years in the singular pursuit of pure research that the sciences developed at I.P.M.S. are so fundamentally unique.

It is interesting to note that only a small part of the new sciences developed at the Institute was revealed to or known by the government of the former Soviet Union prior to its collapse in August, 1991. The antipathy of the Institute's scientists to the USSR government's shabby treatment led them to successfully hide nearly all of their often revolutionary research results.

One of the Institute's four sites, IPMS-Chernovitsky, developed moldable, machine-able, ultra-high temperature, super-hard, and strategic metal-alloyed ceramic substances.

The uniformity and density of ceramic materials is what determines the quality, consistency and persistence of the resonant tone produced by an oscillating crystalline material. Research has created a whole new family of moldable, machine-able, ultra-high temperature, super-hard and strategic metal-alloyed ceramics capable of withstanding operating temperatures of 1200 degrees centigrade. This is more than 400 degrees centigrade higher than can be tolerated by other known ceramic materials commercially available anywhere else in the world, including those manufactured by Allied Signal Corporation and Kyocera.

These materials are being utilized in entirely ceramic internal combustion engines, high-speed turbines and self-lubricating bearing surfaces. The latest ceramic materials designed for use in high-speed jet turbines operate continuously at temperatures in excess of 1200 degrees centigrade. This is more than 400 degrees centigrade higher than the theoretical limit allowed by the quantum mechanics model relied on in the West.

The ceramics produced at the IPMS-Chernovitsky plant have been made harder by fully one factor of hardness than the hardest alloyed metal machine tools currently produced by any other known means of manufacture. They have been made harder by at least one full order of magnitude than either natural or synthetically produced diamonds. Practical applications include drilling and mining, grinding tools, down-hole equipment, tool inserts and the new generation of cubic boron nitride tools that are currently in use.

Proof positive of the extraordinary uniformity and density of these materials is easily verified by a simple demonstration if the measurement of softening temperatures is deemed insufficient. Ceramic pistons manufactured for use in ceramic diesel engines will, when struck by a hard object, produce a clear resonant tone which persists for more than seventeen seconds. This is at least eight seconds longer than the resonant persistence produced by the finest glass or crystal ever manufactured.

Joint ventures of the IPMS with more than a dozen private sector companies to develop inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Stefan Marinov: Magnetic Vortex Hyper-Ionization Device

At his death Dr. Stefan Marinov was Assistant Professor of Physics at Sofia University, a member of the Physical Institute of the Bulgarian Academy of Science, and the editor of Deutsche Physik. One energy device he was developing was an over-unity magnetic motor.

http://www.spiritofmaat.com/archive/mar2/bearden.htm discloses the strange circumstances of Marinov's death.

(The excerpt below, with editing, is from Vencislav Bujic's report published January 14, 2002.)

Stefan Marinov was working on his magnetic vortex hyper-ionization device just one month before his sudden, unexpected death. There is high chance that his death was connected to the testing of this device, and that it was not a "suicide" as officially stated. Marinov was a good Christian and nobody expected him to commit suicide.

According to official news he presumably jumped off from the top of the four-level outside emergency staircase of the Bibliotheque in Graz, Austria. But nobody actually saw him jumping off. He was still alive, not even bleeding, when an ambulance and police arrived. Marinov died on the way to a hospital.

The police never notified anybody, including his son in Bulgaria. They sealed his apartment, not letting anybody inside, and also refused to release any letters found there, and refused to give any information.

Stefan Marinov was born in Bulgaria. When he got a passport, he moved to Washington. Secret agencies and their 'elite' bosses, who control sources of energy and are confusing people, wouldn't let Marinov alone when he went back to Europe, this time to Italy and Austria. These are the same people who prevented Tesla and many others from giving to all the people sources of free energy. His life was ended abruptly. He had big plans for the future and was making various future collaborations. Marinov had planned to attend the International Physics Conference in Koln, Germany, on 25th of August 1997. He even had made hotel reservations for the conference for him and his colleague Professor P.T. Pappas from Athens, Greece.

Bob Aldrich (Reporter): Vibrating Energy Source

Message 414 DATE/TIME: 05/24/93 01:47
From : BOB ALDRICH -- RECEIVED --
To : JERRY DECKER (SYSOP)
Subject: (R) Bearden's Latest
Folder : A, "Public Mail"

Hi Jerry,

By lamentations I mean lamenting on how difficult it's been to get free energy made available to the people at large. How many people have tried to make it possible over the years? Must have been thousands. Who has succeeded?

Say, did you ever hear of a device that farmers were using possibly fifty years ago that worked on vibration? Apparently some very simple device that when set to vibrating, would put out ample free energy. Chicken farmers and such were building them and using them to power the ranch.

Until some one or two farms mysteriously blew up or burned to the ground, after some warnings. This was in the Midwest to my recollection. The fellow who told me did mention specifics but it was several years ago. He was very hard to pin down as he was always onto the latest thing and didn't want to talk about things in the past much.

Later,
Bob

Dennis Lee: Freon-Based Low-Temperature Phase-Change Engine

Dennis Lee during the mid-1980's developed a freon-based low-temperature phase-change engine similar to Bob Stewart's heat engine. The father of the Boeing 747 and other highly qualified people helped Dennis perfect his engine. A small plant was established in Seattle to produce and sell a commercial home-scale electrical generator. A Seattle area power company (the same one which became infamous for its failed WHOOPS nuclear power plants) campaigned to shut down the plant.

Dennis Lee was forced to move his company to Southern California to start over. He was subsequently imprisoned on a false charge for two years. His book "The Alternative" documents the falsity of the charge. The main point being a two-year imprisonment on a charge using an obscure law *never* used against anyone else in the state for either fine or imprisonment and during which a million dollar bond was demanded by the judge, similar to bail charges issued against murders and violent criminals, not inventors or even petty thieves.

Robert Stewart: Stewart Cycle Heat Engine

Bob Stewart spent $3,000,000 (mostly from farmers) developing patents on his "Stewart Cycle" engines for transportation vehicles and large-scale water lifters for canals during the late 1970's. His efficient and pollution-free engines use ambient heat to expand a working fluid such as ammonia and move pistons through sealed cylinders. He claimed that his low-temperature phase-change engine is more efficient and powerful than Dennis Lee's version.

Twice he built a factory, first in Coeur d-Alene, Idaho, and then in Deming, New Mexico, to make available for sale such valuable and beneficial technology. Both times, the factories were raided and shut down by the U.S. Government's Securities and Exchange Commission.

Through the Las Vegas area grapevine, Stewart fortunately in time heard that a contract on his life was in effect and had to go into hiding for nearly a year.

Jim Powell (Reporter): Flywheel/Dual Hydraulic Cylinder

Date: Tue, 20 Jun 2006
Subject: Great Information!
To: garyvesperman@yahoo.com

Hi Gary,

A friend just forwarded your 25-page e-article entitled History of 'New Energy' Invention Suppression Cases, and I enjoyed the reading. Amazing stuff!

There was one machine (for lack of a better term) I saw back in the mid-seventies that has haunted the back of my mind ever since, and I looked for a mention of it in your article. The article hints you have much more information and files elsewhere. Thought I would share with you what I recollect in case you already know about the contraption I witnessed.

During the mid-seventies I was a long-haul trucker and met an older man at a truck stop in Tennessee. Over cups of coffee we were talking about motors and diesel and mechanical things in general when he mentioned a buddy of his had invented a "perpetual motion machine" that he thought was pretty interesting.

I asked where it was and could I see it. He said the guy didn't live too far from where we were sitting but I would never be able to get my rig up the mountain. He offered to give me a ride. He was right. This buddy lived back in the hills and in Tennessee that can mean a mouthful. Good thing his truck was four wheel drive.

When we got there, his buddy was rather evasive about the whole thing which really puzzled the guy that brought me up there. So he kept asking and pushing for a demo and finally the inventor told us the day before some guys had visited and took a part or two and told him to not fix it or they would be back. I got the feeling that if it had been just me there, he wouldn't have told me anything or showed me anything but because his friend was with me it was different.

He took us out back where there were odds and ends on a workbench, and he quickly gave me a brief explanation of how the parts fit together and how it worked. I am sorry for your sake that I haven't remembered any names of the individuals so if you want to toss my email it is OK. Here is how the description went:

Flywheels by their character tend to develop power once they are in motion and can generate more power while spinning than they consume to keep spinning. Sounds interesting but I am no physics wizard.

So he had rigged a big flywheel between two double-acting hydraulic cylinders with the appropriate switches triggered by the rams to keep the two cylinders reciprocating as long as there was a steady supply of hydraulic oil pressure. The hydraulic oil pressure came from what looked like a modest-sized power-steering pump which was driven by the flywheel.

The flywheel was kept in motion by the moving cylinders, and the cylinders in turn were kept in motion by the switches and the fluid pump. The fluid pump was kept in motion by the flywheel. The switches and support for the flywheel (bearings) was taken during the confiscation by his unpleasant “visitors”.

To start the whole thing in motion he had a small electric motor to help start spinning the flywheel. Once it got up to a certain RPM the electric motor was disengaged and shutdown.

They both told me how he had been using it for various power needs around the farm from pumping water to cutting wood for over a year. When someone told him he should seek a patent for his machine, he followed that advice. Instead of getting a patent, he got the visit the day before I arrived.

I didn't feel like they were pulling my leg but again I know nothing of physics, and I was in my early twenties. There was no appeal to partner, contribute money or support or anything that would have made me suspicious. Wish I could have seen it working because it has kept me wondering the past 30 years.

Perhaps you have heard of these things and can comment on whether it was bunk or not. You may even have the scientific knowledge to instantly recognize its possibility or improbability. Anyway, after reading your article I thought I would pass this along for what it is worth.

Best Regards,
Jim Powell

This writer, Gary Vesperman, does not know of any similar device in the unconventional science literature. Perhaps one of my genius scientist friends can figure out this energy invention. Gosh, do the energy invention suppression bullies even track down energy inventors in remote hillbilly country, take away or damage their machines, and threaten them with death?

Christopher Bird/Walter (Reporter): Energy Suppression – An Invisible Galaxy of Inventions

http://www.spiritofmaat.com/archive/feb2/bird.htm and
http://www.befreetech.com/energysuppression.htm both list 48 energy inventions – nearly all of which are suppressed or at least not being commercially made and sold.

IPMS: Micro-Channels and Filters

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS) was established in Kiev, Ukraine in 1951. Between 1945 and 1955, the government of the Soviet Union created at least 72 self-contained, completely isolated scientific communities like the IPMS scattered all over the most desolate parts of the Soviet empire. Stalin systematically established more than 360 such enclaves as a matter of policy. He deliberately prevented the scientists and their families from co-mingling with the rest of Soviet society or corresponding with the West. This phenomenon of cultural isolation was typical of life in the U.S.S.R. after World War II.

Many of the key scientists who were forcibly expatriated by the Red Army under Stalin's orders and relocated to work in the Institute had been captured by the Soviet armies during the occupation and annexation of Eastern Europe at the end of World War II. Only a handful of them succeeded in escaping to the West. Those who tried to escape were almost always captured and executed. In some cases, their families were sent to languish and die in the Gulags.

Many of the original team of scientists sequestered in L'vov, the entrance to the Institute, had been contemporaries, co-workers and close personal friends with many of the most prominent physicists and other scientists who emigrated to the United States before, during and after World War II.

During World War II in Europe, and afterwards in Stalin's Soviet Union, the original Directors of the Institute experienced the horrors of developing technology for destructive military use. For more than 40 years, scientists at IPMS (and, no doubt, at some of the other Soviet institutes) elected to keep secret as many of their key discoveries as possible until a time when their genius could be constructively applied to solving the global materials, energy consumption and industrial manufacturing issues which are responsible for the current deplorable state of the environment.

Among the original group of scientists relocated to work in the Institute were some who were part of the German team which worked during World War II to develop fissionable nuclear materials, synthetic fuels and foods, and other technological advances for the Third Reich. Information regarding the advanced nature of some of the work they participated in has only recently been declassified and released to the public. Some of the formulas and technologies they developed were absolutely revolutionary and many have never been replicated in the post-war world.

Among recently declassified files is a set of documents which describes the development of infra-red, heat-seeking "smart bombs" which were so effective that a single bomb, dropped by a single Nazi bomber in a night attack in the North Atlantic in 1942, sank a British troop ship carrying more than 3,000 American troops. The bomb recognized and guided itself down the troop ship's smoke stack in much the same way similar devices were observed to function during Operation Desert Storm, nearly 50 years later. The technology which made this device functional was so far advanced beyond anything available to the Allies at the time that the War Department kept the story classified for more than 50 years.

Many of the materials, processes, technologies and applications produced by the Institute are so unique that in some cases there are literally no words in the languages of the Western industrialized nations to describe them.

IPMS has produced a family of micro-channel and filter materials with uniformly controllable orifices as small as .5 micron from combinations of carbon-fiber, basalt, ceramic and strategic metals – including stainless steel, scandium and chromium. These materials demonstrate a consistency of orifices fully a factor of ten times smaller and more consistent than the smallest ever manufactured in the U.S.

These materials have been used in applications for heat exchangers, catalysts and separation of gases on a molecular level. A notable application involves the use of such materials to separate virtually 100% pure CO_2 from hydrogen gas at the well-head from gas wells. Then 98% of the CO_2 can be pumped back into the well for re-pressurization, with the pumps then being operated directly on virtually pure hydrogen fuel.

The scientists, academicians and others at the Institute who developed revolutionary new models of quantum mechanics, quantum physics and the manufacturing processes and techniques which resulted in these materials, refused as a matter of conscience to allow much of what they had developed to pass into the hands of the KGB and the Soviet military.

Joint ventures of the IPMS with more than a dozen private sector companies to develop these useful inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Viktor Schauberger: Jet-Turbine

During the 1920's Viktor Schauberger designed a novel hydroelectric generator for which he received Austrian Patent No. 117,749 Jet-Turbine on May 10, 1930. It seems that Schauberger actually used a small turbine of this design in a stream of water near the forest wardens' building during those years, but no reliable records are available. An English-language version of his patent is available at http://www.rexresearch.com/schaub/schaub.htm#117749.

Schauberger's jet-turbine does not require the use of a dam. Instead, the water to power it is contained in a vertically oriented large-diameter cylinder, ten feet or more in height. Due to the force of gravity and the elastic modulus (fluid dynamics) of water, a very large amount of potential energy in the storage vessel is converted to kinetic energy as the water is released into the oscillator (impeller). A pump is used to pump the water exiting the turbine back to the storage vessel.

The jet-turbine was estimated to produce 9 times more power for a given water flow than with a conventionally designed water turbine. The design also did not force water through immense pressure and heat which destroy the structure of water.

The water-vortex (jet of water) is produced inside a ribbed copper-cone, by the conical-plus-ribbed shape and gravity, and the resulting water-jet is rolled into the copper-impeller, which turns the generator, producing energy in a silent, effective way. The conical impeller has two or more intertwining spiral grooves incorporated in its outer surface, into which the water emerging from the nozzle is entrained, in order to rotate the shaft of an electrical generator. This method does not require a great deal of water, like conventional water-dam methods, and is absolutely silent.

In practice, only a small fraction of the output energy is required to power the pump, thus making this device a true free energy system. Ideally, the storage vessel should be egg shaped, with the outlet to the oscillating valve possessing the configuration of a long hyperbolic parabola. This outlet configuration will induce a longitudinal vortical motion to the water prior to its flow through the oscillator, thus cooling and densifying the water. The return pipe from the turbine should enter the storage vessel tangentially, in order to assist in the formation of a vortical flow.

In 1986 a group of enthusiasts living around the township of Schladming, who were interested in the practical application of Viktor Schauberger's ideas and Walter Schauberger's mathematics, decided to replicate Schauberger's jet-turbine in order to produce their own electricity. The "Schladming Group" comprised of R. Harbacher, H. Zefferer, H. Schrempf, A. Schwab, T. Promberger, M. Dainhofer, V. Knaus, and H. Mayer.

On the property of one of their members living on the Birnberg, they had carefully constructed the combination of egg and hyperbolic cone, which was sourced from a nearby brook. Water from the stream was fed into the upper part of the egg tangentially, thereby providing the initial impulse for the creation of a vortex. The electricity generator to be attached to the jet-turbine was being specially manufactured. Austrian authorities then told the Schaldming Group to stop their work before experiments were completed, using the excuse that they did not want to see these devices popping up all over the countryside.

Successful or not, what this replication of Schauberger's jet-turbine does show is that small groups of people working together cooperatively can provide their own sources of cheap power and can do much to re-establish their independence from centralized power and control over their lives. The problem that confronts us all, alas, is that it is the centralized electricity authorities who write the rules which ensure as far as possible that no one can escape the power grid. The greater the number of people who are willing to challenge this central control over their independence, the more difficult it will become for those to continue holding such power over us. (Sources: http://peswiki.com/energy/Directory:Suppression and http://peswiki.com/index.php/OS:Jet-Turbine)

Canadian Scientist: Standalone Water-Based Electricity Generator

Jeane Manning authored *The Coming Energy Revolution* and also has co-authored *Suppressed Inventions & Other Discoveries* (an anthology put together by Jonathan Eisen). She has heard numerous stories of suppression during twenty-five years of investigating non-conventional energy inventions. Her website is http://www.changingpower.net. New Energy Congress member Leslie R. Pastor's review of Eisen's anthology: "The book is breathtaking in its openness regarding actual suppression of 'real-time' inventors and innovators."

One story she told Gary Vesperman is about a Canadian scientist. In October of 1999, Manning met him through a mutual friend. According to her notes, he had invented an energy device which was the size of a refrigerator when he ran his home on its electrical output. He wouldn't reveal how it worked, except that it involved sound frequencies, copper plates, water, a transformer and a battery and could be built the size of a Walkman. (Vesperman: This device appears to be similar to the super-efficient water electrolysis devices developed by Daniel Dingel, Ken Rasmussen, and Stanley Meyer (see above). Notice that it offers the desirable feature of being scaleable from very small to at least big enough to run a house off the power grid. It also functions as a standalone generator, not as a less desirable over-unity power converter.)

His mistake had been in being confrontational. He called officials at Ontario's hydro-electric utility and told them to take their meter off of his house. When they arrived and cut off his power, he went down into his basement. While the officials stood out in his yard, the lights inside his house went on again. He came outside and bragged, "I'll put you out of business in six months!" Soon he was visited by men wearing Royal Canadian Mounted Police uniforms who gave him warnings and a document. He later showed the document to his son, a lawyer, who reinforced the message – keep your mouth shut. He dismantled his inventions.

He told Manning that the Royal Canadian Mounted Police basically told him to forget about his invention for thirty years. Twenty-six of those years had passed. He said the police kept an eye on his activities throughout the years. For instance, they interrogated him after an innocent business meeting in California which had nothing to do with the invention.

This German-Canadian scientist joined the many inventors who took their energy secrets to the grave. He was elderly, and Manning believes he died from natural causes.

Brazil: Ethanol Produced from Sugar Cane

Ethanol, produced from fermenting starch-based corn or sugar, is increasingly being blended with gasoline. Prices for ethanol in the United States recently hit an all-time high at over $3 a gallon. To impede competition from ethanol, the oil companies have arranged for the United States to impose a 100% (currently $0.54 per gallon) tariff on ethanol imports, which keeps prices for the alternative fuel artificially high. Brazil, which recently became energy self-sufficient in 2006, is the world's largest producer of sugar-based ethanol and would benefit greatly from a tariff reduction in the United States. Apparently it is cheaper and more energy efficient to produce ethanol from sugar cane than corn. Naturally, Brazilian rainforest preservation advocates likely would argue for running engines on water instead or some other more environmentally benign energy source.

Eric Fry and Kevin Kerr reported July 17, 2007 in *Rude Awakening* (www.agorafinancial.com) that ethanol production now consumes one quarter of the entire American corn crop, boosting the prices of corn and numerous corn-based products such as pork. But ethanol production consumes about as much energy as it delivers...if not more. American corn-based ethanol production relies on large government subsidies as well as huge amounts of fertilizer and fuel. Ethanol also requires prodigious amounts of water from the rapidly shrinking Ogallala Aquifer.

To cash in on the new corn boom, many farmers are continuously planting corn instead of rotating corn with soybean plants. Rotation serves several ecological and agronomic purposes. It makes it more difficult for diseases, weeds and insect pests to persist. The right rotation also builds soil fertility. Soybeans are a natural partner to corn because they capture nitrogen from the atmosphere, leaving more in the soil for the next year's crop. By not using proper rotation practices, farmers will almost inevitably face the prospect of growing corn in nutrient-deficient clay as well as increasing the loss of biological diversity.

By the way, the tariff on imported oil is 0%. External versus internal cost accounting analysis, with its corollary – the thousand-year cost, indicates that it would be fairer and make more sense to encourage conservation and to raise money for protecting Middle East oil sources with a tariff on imported oil.

David Crockett Williams (Reporter): Non-Drug Industrial Hemp as Bio-Fuel

Non-drug industrial hemp is not hallucinogenic marijuana although both are varieties of the same species (Cannabis sativa). Hemp provides a surprising variety of products. More than any other plant on Earth, hemp holds the promise of a sustainable ecology and economy.

Hemp seed is the most complete single food source for human nutrition. Because one acre of hemp produces as much cellulose fiber pulp as 4.1 acres of trees, hemp is the perfect material to replace trees for pressed board, particle board and for concrete construction molds. Hemp made into paper is of higher quality and durability and also is less environmentally damaging to make than paper from wood pulp. For centuries hemp has been processed into high-quality fabrics, sails, ropes, diapers, etc.

Additionally, hemp grown for biomass could fuel a trillion-dollar per year energy industry, while improving air quality and distributing the wealth to rural areas and their surrounding communities, and away from centralized power monopolies. Remarkably, when considered on a planet-wide, climate-wide, soil-wide basis, hemp is at least four and possibly many more times richer in sustainable, renewable biomass/cellulose potential than its nearest rivals on the planet – cornstalks, sugarcane, kenaf trees, etc.

For a comprehensive reference read Robert A. Nelson's thoroughly researched *Hemp Husbandry*, available free online at www.rexresearch.com. The book that started the hemp revolution, "The Emperor Wears No Clothes", has sold more than 600,000 copies to date (to order see http://www.jackherer.com/hemporium.html). Also see http://votehemp.com and http://groups.yahoo.com/group/hemp-reform-act.

Hemp as a bio-fuel poses a possibly insurmountable competitive threat to the fossil fuel companies. Since the days of the American revolution, the U.S. Government proactively encouraged growing of hemp. In order to reverse the U.S. Government's policy and to suppress hemp production, certain large banks and fossil fuel companies eventually were able to fool and stampede the US Congress into legislating a national ban on marijuana (and hemp) in 1937.

The US is the only major industrial nation to prohibit the growing of non-drug industrial hemp.

In spite of increased production and utilization of hemp grown in other countries, and increasingly strident pleas by state legislatures, hemp-related businesses, etc to legalize non-drug industrial hemp, the Bush Administration through the US Food and Drug Administration, working on behalf of the energy cartels and their associated banks, still maintains with an iron grip a fraudulent suppression of hemp disguised as a "war on drugs".

Ironically, the U.S. Government's own Veterans Administration Medical Center in Pueblo, Colorado has conclusively demonstrated (http://brain.web-us.com/alcohol.htm) that a couple of weeks of painless alpha-theta brainwave tuning permanently stops all forms of chronic substance addiction including alcoholism.

David Crockett Williams has submitted June 26, 2006 the following analysis that suggests that discussion of the politics of non-drug industrial hemp suppression should be included as a subset of energy invention suppression politics discussion:

In addition to high-tech energy technologies and inventions that have been suppressed by various means against their developers, one of the most important suppression issues regards the hemp industry for production of bio-fuels to replace the need for fossil fuels.

The main reason why it is very important to include the suppression of the hemp bio-fuel industry in any comprehensive energy technologies suppression discussion is because learning the suppression history about hemp enables people to understand the nature and scope of the ability of industry and government collusion to suppress knowledge – just like the knowledge about the new energy technologies inventions has been suppressed since the time of Nikola Tesla over 100 years ago, by the same greedy industrial monopolists with the help of their bought and paid for politicians.

This is important because otherwise folks studying the data on new energy technologies always wonder how such important information could be kept from the public, "if it is real". The history of hemp suppression explains this with irrefutable historical information now neatly compiled and annotated by folks like Jack Herer and his friends. See http://www.jackherer.com and http://www.myspace.com/hempjack.

Hemp was outlawed in 1937 in a fraud on the US Congress that is still not widely known. After an intentional and racist twenty-year campaign of yellow journalism slandering the "marihuana" becoming popular with blacks in the US after its introduction in the South by Pancho Villa's army's excursions into the US, marijuana was outlawed without telling the Congress it was in fact the hemp plant, the cannabis extract of its flowers being a main ingredient in most all patent medicines for decades before and after the turn of the 20th century.

The American hemp fuel industry was pioneered by Henry Ford who was against the oil monopolies and favored bio-fuels for automobiles. He even grew hemp showing how this was a superior alternative.

But in the early part of the 20th century most of the new industrial monopolists were interconnected by the emerging corrupt banking industry, those who put maximizing profits above all considerations including cost to consumers.

When the cotton gin analog for processing hemp by machine was finally invented in about 1917, this threatened many industries then emerging including the new paper industry begun about 1900 with the discovery of the process using sulfuric acid to bond the lignin in cellulose to enable paper to be made out of trees.

Newspaper magnate William Randolph Hearst was so heavily leveraged into ownership of forests to produce paper for his newspapers that he would have been bankrupted by a strong hemp industry using the new hemp decordicator machine because it takes much less sulfuric acid to make paper from hemp cellulose, and hemp is renewable.

So Hearst orchestrated his yellow journalism for the banks and other emerging industries like the growing petroleum industry, chemicals industry, alcoholic beverage industry, the fiber industry, and the drug industry, perpetrating this fraud on the Congress by outlawing hemp as marijuana. Then began the systematic expunging of the truth about hemp from the historical record and from the educational system in the US, by using the spurious and fallacious "narcotics hysteria" fomented and ongoing since that time.

Before the publication of Jack Herer's book “The Emperor Wears No Clothes” in about 1990 very few people knew about hemp, this suppression campaign being so successful. Since then many people have learned the truth by reading his book and others including Herer’s first editor – Chris Conrad. See http://www.chrisconrad.com.

There has come to be a very strong network of activists by now who know the truth and are working at many well funded levels to correct this situation. They know that the energy industry uses of hemp are important but they do not know much about the new energy technologies or the documentation of their suppression.

So including hemp energy industry suppression in this compilation about suppressed energy technologies will link these two key issues, both of which are needing widespread implementation to address global climate change as per the testimony of experts such as Dr. Brian O'Leary, who has started numerous new energy groups, and Alden Bryant, the grandfather of the UN Climate Stabilization Treaty movement and Earth Regeneration Society. See http://www.brianoleary.com and http://www.earthregenerationsociety.org.

This will afford the already established hemp issue activists the information they need to better open the minds of the American public and to also champion the end to suppression of new energy inventions, because they are fighting against a "drug war" prejudice. By their knowing and showing how the energy inventions are also being suppressed, the public could be awakened to the fact and the nature and scope of this industry-government collusion in suppressing any information that threatens the status quo of contemporary industry.

This will help them overcome the "drug war" as the smokescreen for the prohibition of hemp for all of its uses including energy and to replace the need to cut down so many trees and to re-green the planet to ameliorate climate change.

For an article explaining more about this double-edged sword to cut this Gordian Knot of suppression, the new energy technologies inventions plus a global scale emergency Hemp for Victory campaign, and why both are needed to remedy Earth's current climate crisis, see http://www.angelfire.com/on/GEAR2000/gear.html.

David Crockett Williams, Global Emergency Alert Response 2000
http://www.angelfire.com/on/GEAR2000, http://www.myspace.com/davidcrockettwilliams

Williams recently emailed The Canadian's article "Over 4.5 Billion people could die from Global Warming-related causes by 2012" in http://www.agoracosmopolitan.com/home/Frontpage/2007/01/08/01291.html which explains that the global warming crisis is much more immediate and dire than commonly understood. Western Siberia's 400 billion tons of methane in permafrost hydrate is gradually melting, releasing methane into the atmosphere. The released methane will speed the melting even more, initiating the rapid onset of runaway catastrophic global warming. Methane is more than 20 times as strong a greenhouse gas as carbon dioxide. Even a couple of billion tons of methane being emitted into the atmosphere each year would be catastrophic. For comparison, the atmosphere currently contains only about 3.5 billion tons of methane. 2012 is only five years away! A study by several thousand experts "Global Warming: The Final Verdict" in http://www.truthout.org/docs_2006/012207L.shtml dispels any doubts of a looming global catastrophe.

Dean Warwick: Ampliflaire Efficient Wood-Burning Stove

Dean Warwick's patented Ampliflaire is a major break-through in heating technology and is the only heat exchange process capable of raising combustion cycle efficiency within fuel burning systems. Other systems of heat exchange by their very nature must lower combustion cycle efficiency.

Ampliflaire recovers the heat energy other systems lose. Wherever fuel is burned or heat energy is wasted, there is a unit to resolve the problem, and flue-pipe models, retro-fitted to conventional boilers, convert them into overall effective condensing systems with remarkable savings.

Ampliflaire open fires release the electrical energy in plants, absorbed from the sun during the growing cycle. Grown fuels are the most efficient converters of solar energy, and the burning of grown fuels in this way is the safe way to make available energy from a nuclear reaction.

As hydroxides (OH) of carbon (C), the potential energy in plants far outshines their current use. With the largest man-made forest in Europe, the United Kingdom Government already recognizes a commitment to grown fuel which can easily satisfy British needs. Examples are winter species grass for methane gas, bio-diesel, hydrogen from plants, liquids, and wood replenishing solids.

Ampliflaire reduces heating bills by approximately 90%, reduces pollution, increases property value, removes household dust, eradicates condensation, and efficiently circulates refreshed air.

The company's brochure features numerous practical cases of individual or commercial clients who are now enjoying the benefits of Ampliflaire. From small cottages to large hotels, from churches to business premises, the company has an efficient and effective system available.

Dean Warwick keeled over dead October 7, 2006 in the middle of a Unidentified Flying Object (UFO) conference presentation in Blackpool, UK. Mr. Warwick was an alternative energy pioneer, former U.S. Government officer and intelligence insider who had promised to make some momentous announcements. The circumstances suggest a Central Intelligence Agency (CIA) 'hit' using an Extremely Low Frequency (ELF) weapon. These ELF weapons can be set on a 'delta wave' and are able to shut a person's nervous system down.

Much of this technology has been perfected on the 4th level of the CIA underground Dulce facility in the New Mexico desert. The fourth level of this underground base deals with technological aspects of human aura research, dream manipulation, hypnosis, telepathy and advanced mind control. The ELF weapons 'suck' the life out the victim's body, and Warwick literally 'fell asleep' on his feet. The suspected assassin was followed out of the auditorium by a quick-thinking woman who then observed him laughing as he proudly reported his murderous deed on his cell phone. (Sources: http://www.ampliflaire.co.uk, http://www.thetruthseeker.co.uk/article.asp?id=5337, and http://www.thetruthseeker.co.uk/article.asp?ID=5290)

Idaho Inventor: Advanced Zero-Point Energy Device

During the FBI siege at Ruby Ridge, Idaho, where the FBI shot to death a mother and child during a standoff concerning alleged illegal firearms, an inventor happened to be living and working on an advanced zero-point energy device in northern Idaho.

As the story goes (told to Erik Masen by an investor who was on his way to visit "Inventor X," who had just made a breakthrough in free energy but also, like Howard Rory Johnson, had made the mistake of publicizing his breakthrough on a local TV station):

The day before the investor arrived, two U.S. Government agents broke into the home, thinking that both Inventor X and his wife were away. As it happened, however, X's wife was still home and very familiar with the use of her hefty handgun. She held the agents at bay inside the house, while debunking their story that they were cable TV repairmen checking out the lines.

Had it not been for the siege at Ruby Ridge that day, who knows what else might have happened there. (Excerpted with permission from Erik Masen's article SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-energy Devices, *Electrifying Times*, Vol. 8 No. 3 and also in http://www.electrifyingtimes.com/erik_masen_suppression.html)

Grant Hudlow: Method of Converting Garbage and Tires to Gasoline, Etc

During the early days of the Reagan Administration, much lip service was given and some money was budgeted to develop alternative sources of energy. Pahrump, Nevada resident Grant Hudlow, a former rocket scientist, was funded to investigate converting garbage, biomass, and tires to gasoline, low-grade heat, fertilizer, and saleable chemicals. His method began to look so promising that the oil companies and their allies in the Reagan Administration got scared and arranged to cut off his research funds. (Source: Gary Vesperman)

Joseph Newman: Energy Machine

In the news some years ago was Joseph Newman's energy machine. While Reagan stalled on acid rain, and Hodel pushed offshore drilling, the U.S. Patent Office continued to block commercial development of this latest of many government-smothered free energy devices. Newman sued the Patent Office for refusing to grant his machine a patent, in violation of its own regulations and the advice of the expert they chose to examine the device. They also issued false statements to the press about the invention's workability.

Over thirty respected electrical engineers, physicists and technical experts have endorsed Newman's machine and signed affidavits confirming his claim of greater energy output than external energy input. Ten congressmen have introduced bills which would require Newman's patent be granted.

As the Newman battle heated up, President Reagan appointed Donald Quigg, a thirty-year Phillips Petroleum executive, to head the U.S. Patent and Trademark Office. The judge entrusted with the case, Thomas P. Jackson, has violated judicial procedure, ignored expert testimony and ordered Newman's prototype confiscated and destroyed. During Watergate, Jackson was the attorney for John Mitchell and the Committee to Re-elect the President's corrupt finance division.

Newman identified the gyroscopic properties of subatomic particles and built a unique arrangement of coils and magnets to draw energy directly from them, thus converting almost immeasurably small amounts of the machine's mass into energy. Theory and device are detailed in "The Energy Machine", $38.45 including postage, from Joseph Newman Publishing Co, Route 1, Box 52, Lucedale, Mississippi 39452; 601-947-7147. Free press releases and brief technical descriptions are also available; send SASE. (Newman's claims and theories do not seem to be universally accepted among mainstream physicists and engineers. Gary Vesperman)

Bill Jenkins (Reporter): Free Energy Machine

BILL JENKINS: Free Energy Machine. Live on Something's Happening. Audio cassette #A1008-90 $9.00.

Bill Jenkins hosted the ABC radio "Open Mind" program for 7 years, the most popular program in the country in its time slot. He dealt with "New Age" topics and was taken off the air. Here he discusses the program and his adventures since, including a near arrest on treason charges for preparing to market a free energy machine.

Volcheck: Engine Powered by Gas with Unusual Expansion Properties

In 1995, a man named Volcheck of Grand Coulee, Washington, made a trip across the United States and back in a car powered by a special gas he developed that had unusual expansion properties. He claimed to have obtained the formula from some unpublished notes of Leonardo Da Vinci.

Volcheck says the gas expands enormously at about 395 degrees Fahrenheit to 450 pounds pressure. In other words, from approximately 390 to 395 degrees Fahrenheit, the gas expands from a volume of one unit to a volume of 10,000 units. He used this gas in a modified Franklin aircraft engine which behaved more like a steam engine. He never refueled during the trip, consuming $10 worth of this special gas.

Soon after his return, some congressmen invited him back to Washington, DC, for a special hearing and congratulatory meeting. While he was gone, U.S. Government federal marshals or a S.W.A.T. team forced entry into his shop, confiscated or destroyed his record-setting car, plans, components, and special gas containers. They subsequently told him to forget any more projects like this.

Gianni A. Dotto: Anti-Aging and Anti-Gravity Thermionic Couple

DATE/TIME: 06/13/93 10:05
From : ROBERT BONNER
To : DAVID MCWHERTER
Subject: (R) UV radiation + us
Folder : A, "Public Mail"

"Dave, There was an Italian researcher (actually he had a Ph.D.) who did research on how magnetic fields affected the body. He made about 3 or 4 classifications of magnetic type energy fields. Two were bad; one had some health benefits but in the long run had detrimental effects. The last one was, of course, the one he speaks of as far as research goes. This person's name was Gianni A. Dotto, born in Venice. His main area of research was "Bio-physics". Anyways, he built something that resembled a thermionic couple. It also levitated too... I said his name "was"; he's dead – murdered some time back. His device worked really well as far as curing cancer goes. And he was killed for it. Run over, several times to ensure his demise. [Details about the Dotto Ring are available online at http://www.rexresearch.com]…

"His ideas on how our DNA is electrically controllable is fascinating. With this device you could theoretically live until you died of an "accident". Once you reach about 40 something, (well, let me put it differently...) Once your body reached 10 base pairs per turn (DNA lingo) you could use the device to SUSTAIN that state of being, anything less than that and you begin to deteriorate. i.e. grow old... Now, if, perhaps, you could find the right setting, maybe you could be 25 forever. But who in the world wants that?!?!

"There were "reverse aging" effects detected on his elderly patients. So this is where all that mess above comes from. It isn't claimed to just be theoretical; he (Dotto) witnessed it. Anyways, I have the document and have read it. Would be cool to build.

"The most expensive piece is the ring part; it is an alloy. But, it would cost about 13 grand to build, maybe less if you knew the right people. It might be worth it for immortality and a life free of cancer and AIDS and the common cold. --- Robert Bonner"

IPMS: Thermal Electric Cooling Devices

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS) was established in Kiev, Ukraine in 1951. It operated in absolute secrecy and was totally unknown to the American intelligence community until just prior to the implosion of the Soviet Union in August of 1991. The mission of the Institute was to use whatever tools or means were necessary to know everything there is to know about materials. They had no production deadlines to contend with, and there was not a single applications engineer in the entire organization.

The 6600 scientists and technicians who worked in the Institute developed an entirely new model of nonlinear quantum mechanics to describe the forces which make the world we live in behave as it does. This new model suggests that the material world is substantially different from the world described by the models relied on in the West. Seven new sciences, twenty-seven new technologies, and one hundred thirty previously unknown materials developed in the Institute are based on the same revolutionary new model of quantum mechanics.

Research and development in the deposition and culture of layered crystal lattices has produced an entirely new class of materials, previously unknown to Western science. These are referred to in recently submitted patent application documents as "Thermal Electric Cooling Devices". Because of the nature and function of a specially designed combination of crystal layered "hosts" and their intercalated "guest" materials, these specially designed capacitors actually absorb energy when subjected to a flow of electrical current, producing a specific cooling effect on the material surfaces. All other known materials produce heat when subjected to the same conditions. Temperatures of 60 degrees Kelvin (-259 degrees Fahrenheit) have been produced under controlled, carefully documented laboratory conditions. This is cold enough to liquefy free-standing nitrogen gas from the atmosphere.

The potential applications for this technology are manifold, but perhaps the most important is the potential it provides to totally eliminate any need for the use of compressed fluorocarbons of all types in refrigeration. Parallel applications in the telecommunications, computer and electronics industries have also been demonstrated to be highly effective and cost efficient, particularly as they relate to the use of super-conductive materials.

Arrangements to commercialize these useful energy inventions by joint ventures of the IPMS and more than a dozen private sector companies have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Bob Lantz: Lantz Water and Power System

From : "Jerry E. Smith" <jerryesmith@gbis.com>
To : "'Gary Vesperman'" <vman@skylink.net>, "'gear2000@lightspeed.net'" <gear2000@lightspeed.net>, "'halfox@qwest.net'" <halfox@qwest.net>, "'mruppert@copvcia.com'" <mruppert@copvcia.com>
Subject : RE: Lantz needs Reno attorney
Date : Sat, 9 Feb 2002 08:58:07 -0800

Hi, I'm not sure who I'm responding to, so I am sending this to all of you. The only lawyer I know in the area who might be interested in this case is Day Williams of Carson City. He is a civil rights and personal injury lawyer who has represented me in the past (also the late Jim Keith and Sirhan Sirhan!).

Day R. Williams
Attorney at Law
204 N. Minnesota St.
Carson City, NV 89703-4151
775/885-8398
daywillia@aol.com
www.daywilliams.com

I hope this is of some assistance.

Jerry E. Smith
Author, "HAARP: The Ultimate Weapon of the Conspiracy"
(Adventures Unlimited Press, 1998)
http://www.jerryesmith.com

-----Original Message-----
From: Gary Vesperman [SMTP:vman@skylink.net]
Sent: Saturday, February 09, 2002 8:06 AM
To: Jerry E. Smith
Subject: Lantz needs Reno attorney

Jerry, I don't know anything about this, and I am too busy to even read it.

Gary

From : "David Crockett Williams" <gear2000@lightspeed.net>
To : "Hal Fox" <halfox@qwest.net>, "Gary Vesperman" <vman@skylink.net>, "Michael C Ruppert" <mruppert@copvcia.com>
Subject : Urgently need referral to Reno area attorney for Lantz
Date : Fri, 8 Feb 2002 02:16:08 -0800

WWII vet framed by CIA agent to stop energy inventions?

Below is draft of press release I will finalize with Lantz on the phone this morning and send to media lists etc. Please let me know if you can refer an attorney in Reno area who I can phone today to help with Lantz court appearance Monday Feb.11 at which his date to surrender to jail will be set.

From: "David Crockett Williams" <gear2000@lightspeed.net>
Subject: WWII vet framed by CIA agent to stop energy inventions?
Date: Thursday, February 07, 2002 10:06 PM

Seventy-five year old retired chemist and engineer Bob Lantz of Reno, Nevada, fought for the United States as a Navy pilot in WWII, but Monday the U.S. Government is set to imprison him, to "die in prison" according to his "public defenders", in an apparent scheme to suppress his new-energy invention to replace nuclear and fossil fuel power. Perhaps paralleling the case of Horst Jeske, jailed for years in a bogus fraud conviction set up by wired funds transferred by Frederick van Boduncan years after Jeske introduced him to Lantz as a CIA agent, and the case of San Francisco investigative journalist George Williamson who identified Boduncan from his research as a CIA operative previously involved in smuggling drugs into the US via oil rigs in the Gulf.

George Williamson was later named in a lawsuit by Mohamed Al Fayed against the CIA and other government intelligence agencies regarding purported CIA documents Williamson offered to Al Fayed linking the agency with the death of Princess Diana.

Lantz reports Monday for a custody surrender hearing after his sentencing to 5 years imprisonment for a fraud in fact perpetrated without his knowledge by Norbert Vogler of Colorado who forged investment certificates with Lantz' signature notarized by his friend who later acknowledged that Lantz was not present when the forged signatures were notarized -- one of 237 lies that Lantz has documented by Federal prosecutors in his trial after the government put him into poverty by illegally confiscating over $250,000 from him after a raid in 1994.

Why would anyone want to put an old man in jail who is so scrupulously law abiding that he never even got a speeding ticket, someone who accepted the government secrecy order suppressing the Papp Air Engine and therefore cancelled his contract to make Papp's protoype, someone who even calmly accepted the multimillion dollar loss in business due to U.S. Government denial of his permit application to export his water purification Sonofloc System 77 to the government of Egypt for seawater desalination?

Could it be that powerful people within the U.S. government are implementing covert policies to keep new energy inventions suppressed that would threaten the fossil fuel and nuclear power industries? Copious evidence says yes, and that Lantz' troubles really started after he began making new-energy system prototypes for other inventors in 1977 culminating with his 1989 discovery of an "overunity" energy generation system which combines his System 77 with an ultracentrifuge so the overall device not only purifies any kind of water but also produces sufficient heat to produce megawatts of electricity without any fuel at all, perhaps by "tapping the zero-point energy" with a kind of device the US Department of Energy in 1998 called "the Holy Grail of energy research".

How else could it be possible for this bogus fraud case to even be prosecuted after expiration of statute of limitations, with falsified evidence and the apparent collusion of prosecutors who lied and and public defenders who refused to contest the lies and offer documentation of innocence? Why else would Boduncan have brought this "gold certificate scheme" to Lantz as a funding mechanism for his invention?

The Lantz Water and Power System was first tested in 1989. It can solve our global energy and water quality problems.

And what does he get for it? An unacceptable "deal" offered by prosecutors and pushed by two successive public defenders who each claimed he "would die in jail" unless he took the plea bargain acknowledging guilt and forfeiting his assets (over $100k of that confiscated was not even in his name), a "raw deal" which this War Veteran refuses to accept.

Are we to sit by and let this happen or will concerned citizens and media bring his story out so he can get the legal help he needs to get his bogus conviction reversed, his name cleared and his money back so he can pursue development of his New-Energy System?

There is a vault at the US Patent Office containing 5,000 patents ordered secret by the government, confiscated from the inventors who are threatened with 20 years in jail if they release the information as per "dual-use" secrecy law uncovered under Freedom of Information Act and reprinted on p.162 of Jeane Manning's book "*The Coming Energy Revolution*". Her book provides overviews of various energy inventions. Isn't it about time we did something to take this situation under public investigation and control, especially motivated by the current Enron fiasco exemplifying the "ethics" of the fossil fuel industry and government complicity in "rigging" the energy industry?

Can we help Bob Lantz become a hero of this coming energy revolution instead of its casualty? Certainly our surviving WWII veterans deserve better treatment from our country citizens that they love and fought and died for.

Dr. Timothy Trapp: 127 Energy Technologies

Dr. Timothy Trapp, Warren, Ohio, is President of the non-profit company World Improvement Technologies (WITS). A contact email for WITS is wits2011@yahoo.com. They also have another non-profit organization called World Improvement Through The Spirit (WITTS) ministry.

Dr. Trapp called Gary Vesperman June 24, July 1, and again on July 4, 2006 with accompanying emails to provide more details on the companies' activities and suppression history.

Currently employing 11 scientists, WITS has been active in producing, installing and servicing free energy systems worldwide for 19 years. Dr. Trapp and the two non-profits have developed over 127 energy technologies. Approximately 20 utilize cracking water into oxygen and hydrogen, approximately 14 are gravity motors, approximately 50 are radiant energy machines, and the remaining are miscellaneous energy, propulsion and pollution remediation devices.

127 energy technologies are currently commercially available, including large-scale over-unity power plants – 5 megawatts and up. Many of these power plants are under construction in foreign countries but not in the United States due to suppression by the U.S. Government. WITS also makes and sells a device for 30 dollars that can be added to any electrical system that has batteries which would drastically increase the efficiency of that system (e.g. cell phone, radio, electric car).

Dr. Trapp states that if governments were FOR this technology instead of against it, a home-power generator the size of a desktop computer could be built and sold for about the same cost as fuel powered generators or less.

When Dr. Trapp moved back from Alaska, upon arrival, the shipping container containing his tools, equipment, etc., had been emptied. In spring 2001, Trapp's lab in Arizona was raided. At the end of 2001 two WITS scientist assistants were (and currently still are) in Ohio prison on trumped up drug charges.

In the past 20 years the U.S. Government has destroyed over 14 WITTS laboratories. As recently as spring 2006 a WITTS laboratory burned to the ground. The contents of each laboratory contained millions of dollars worth of equipment and several costly free energy machines. Dr. Trapp's laboratories were raided, his equipment was smashed, and his people were beaten and arrested numerous times on false charges. False evidence was planted many times.

After beating up one of his WITTS salesmen, the salesman was then killed by driving the salesman's car off a cliff. Another WITTS employee was also murdered by U.S. Government and so-called law enforcement agents. There have been numerous attempts on the lives of Dr. Trapp as well as many of his associates.

Dr. Trapp wrote "This really should be a wake-up call to the people of America who believe we have religious freedom here. We don't, when it comes to anything that might help the little guy.

On the positive side, with energy prices constantly going up, there is more activity than ever in alternative energy. Power plants are going in many countries. And a few countries are seriously working to get off fossil fuels all together."

From : Jerry Decker <jdecker@keelynet.com>
To : Gary Vesperman <vman@skylink.net>
Subject : Re: Trapp energy suppression
Date : Sun, 23 Dec 2001

Hi Gary! His name is Tim Thrapp.... (Not entirely correct. His name is Dr. Timothy Trapp. Vesperman) he used to live in Alaska. He was the one who told me about Henry Ford working with John Keely to create an arrangement inside early Model Ts so that magnets placed in them would make them self-running....the story goes that Ford was threatened by the oil companies for graft (kickbacks) or something along those lines...so he did this magnet trick as insurance...no one has yet come back with any proof of the claim that SOME Model Ts had these slots in the bell housing where magnets could be placed to make it self-running...here is the file; http://www.keelynet.com/energy/ford.htm (Vesperman: This can not be entirely true. John Keely died in 1898.)

When Tim called me several years ago with that story, he said one of the cars had been found and the engine or a copy of it had been demonstrated, and the inventor killed on his drive home with the engine on a trailer...the engine was stolen... Tim also said he had some radical new power generator capable of 50 kilowatts but he gave no details about it..this was back in 1997....seeya!

Gary Vesperman wrote:

Dear friends, I have received a letter from an energy inventor the following new energy suppression incident: "Tim Trapp, from Ohio, was put in jail by the federal authorities in Arizona and by the state police in Ohio."

Without success I conducted some searches for Tim Trapp on keelynet.com and google.com.

Do any of you know of any authoritative reports on Mr. Trapp's energy suppression troubles?

Gary Vesperman
702-435-7947

Jerry W. Decker - http://www.keelynet.com

Richard Diggs: Liquid Electricity Engine

Richard Diggs, Custom Invention Agency, P.O. Box 11, Carthage, Missouri 64836; patent process on hold, though he has over two hundred others. Diggs developed at an inventors workshop (I.W. International) his "Liquid Electricity Engine" that he believed could power a large truck for 25,000 miles from a single portable unit of his electrical fuel. Liquid electricity violated a number of the well known physical laws that the inventor pointed out. The inventor was also aware of the profound impact the invention could have upon the world's economy – if it could be developed.

David G. Yurth (Reporter): Remediating Nuclear Waste Materials

From: David G. Yurth [mailto:davidyurth@comcast.net]
Sent: Saturday, April 15, 2006 5:27 PM
To: 'STetreault@stephensmedia.com'
Subject: Remediating Nuclear Waste Materials - UNLV

Dear Mr. Tetreault: After reading your article in the Las Vegas Review Journal entitled “Nuclear Project Draws Interest,” I thought it may be of interest to you to know that the DOE has played this game with university and privately funded laboratories for many years. Perhaps the most comprehensive review of this subject ever undertaken was prepared by Mr. Richard Shamp, President of Nuclear Remediation Technologies, headquartered in Hyattsville, Maryland (301) 559-5057.

Beginning in 1997, NRT and its chief scientist S-X Jin [once the highest ranked particle physicist in the People’s Republic of China, until he escaped to the US in 1994 while addressing the Institute of New Energy symposium in Salt Lake City, Utah] have been submitting critical laboratory documents to DOE, demonstrating the effectiveness of known technologies used to remediate radioactive emissions generated by nuclear fuel waste materials in both solid and liquid form.

After being finessed into providing all the definitive laboratory data to Dr. Frank Goldner of DOE’s nuclear remediation division, then-Secretary of DOE Spencer Abraham attempted to confiscate, classify and impound NRT’s technology while at the same time pretending to be considering providing grant money to support its continued development.

The fact that the technology in question had already been awarded six patents [K. Shoulders et al] was the only thing that prevented him from succeeding. Instead of providing grant funding, Dr. Goldner was instructed to put an end to NRT's pursuit of DOE funding for the development and deployment of its technologies. And that is precisely what he did.

During a conference call held on November 15, 2003, I was informed by Goldner that not only did DOE not intend to ever provide any funding to anyone for the purpose of remediating radioactive emissions in spent nuclear fuels, he insisted that it is and will continue to be DOE's policy for the next 40 years to encapsulate and bury every ounce of high-grade nuclear waste material stored in the US under ground at Yucca Mountain.

Further, he told us that any attempt to obtain any high-level nuclear waste materials for testing by anyone, including government funded laboratories, would be arrested and jailed without access to legal counsel under the Export Administration Act. I still don't know what the EAA has to do with remediating radioactive emissions, but that is what he said.

In 1999, while Elliott Richardson was Secretary of DOE, NRT was awarded a discretionary grant of $2,000,000 for the purpose of advancing its test schedule. The work was to have been undertaken in concert with Dr. George Miley, physicist in residence at the University of Illinois at Champaign-Urbana – Dr. Miley's laboratory at the Champaign-Urbana campus was level 2 accredited by DOE, and was therefore acceptable as a test and development site. However, within less than 90 days after the announcement of the grant had been published, pressure from within the Department rose to such extraordinary levels that Secretary Richardson was forced to withdraw the grant, albeit grudgingly.

The only similar technology ever contemporaneously developed in the US for the remediation of radioactive emissions in high-grade nuclear waste materials was developed in the late 1990's by Dr. Paul Brown and his colleagues at World Atomics in Colorado Springs, Colorado. After being granted several patents for the 'Nuclear Spallation Device' he designed, Brown contracted with several Japanese contractors to build three successively powerful prototype versions of his device.

He had them built in Japan because DOE actively intervened more than a dozen times to prevent US companies from building it. The problem with Brown's device was that it was little more than a small, semi-controlled nuclear fission-powered device designed to continuously bombard nuclear waste material targets with a highly charged gamma ray field. Because it was so dangerous to operate, Brown was never able to obtain the necessary State Department or UN transport clearances to have it shipped across international waters into the US for further testing and development.

As you may recall, Dr. Brown was killed shortly thereafter under the most questionable of circumstances, just as the utility of his nuclear spallation technique was about to be publicly demonstrated in Japan.

(Only a month before he died, Dr. Brown met with me, Gary Vesperman, and a few of my business and science associates in Henderson, Nevada to present his method of neutralizing radioactive waste. His method is No. 13 in my list of methods of neutralizing or disposing of radioactive waste in http://iiic.de/docs/GVComparison.htm. A few weeks after Brown's suspicious fatal car accident, Art Rosenblum also died in a car accident. Rosenblum had been enthusiastically promoting Randall Mills' Blacklight Power Inc.'s energy source.)

We have known how to safely remediate radioactive emissions from spent nuclear fuels, both liquid and solid, for nearly a decade. We have the test data and prototype apparatus to prove it. That data, including all the protocols, policies, procedures and experimental design criteria associated with our work have been submitted to DOE many times over – Dick Shamp can tell you all about it if you want to go to the trouble to ask him – with the net result that DOE will not allow the US Postal Service to deliver our proposals any longer. If you want to see what is really going on with nuclear remediation, this is a very good place to begin.

Thanks for writing your article – you're about to find out how big Pandora's box really is.

David G. Yurth, Ph.D.
Director Science and Technology
Nuclear Remediation Technologies, Inc.

(Yurth's letter to Tetreault has not been published in any Las Vegas publication. Why? Maybe to protect the profitable contracts to be generated by the DOE-estimated $150 billion lifecycle cost of the Yucca Mountain Nuclear Waste Repository? Gary Vesperman)

Paul Brown: Hyper-Cap E-Converter

Paul Brown, Ph.D., had invented this device which Gary Vesperman wrote up for his "Advanced Technologies for Foreign Resort Project" (see http://www.icestuff.com/~energy21/advantech.htm).

"Perpetual Battery. The hyper-cap E-converter is a thick quarter-sized battery which would put out .001 watt "forever" for such applications as critical components inside fail-safe computers, cellular telephones, etc. The energy comes from tapping ether fluctuations."

The following is excerpted with permission from "Inventor Paul Brown's Nightmare Story", *Electrifying Times*, Vol. 10, No. 1, www.electrifyingtimes.com. His story originally appeared in Jeane Manning's book "*The Coming Energy Revolution*" www.jeanmanning.com.

Brown invented a novel method for converting natural radioactive decay material into electricity in the form of a battery. In February 1987 the proud inventor and his associates at a private research company in Boise, Idaho, decided it was time to make a public announcement of his discovery.

A series of traumatic events followed. The Idaho state departments of health and finance filed complaints against both the company and Brown. His license for handling radioactive materials was suspended. He began to receive anonymous threats, such as "We will bulldoze your home with your family in it."

Relocating the company to Portland, Oregon, did not stop the troubles. Despite the fact that a 1988 Fortune magazine article commented favorably on the nuclear battery venture, securities fraud charges were filed against Brown and his company. Oregon's finance department investigated, as did the Internal Revenue Service and the Securities and Exchange Commission.

After meeting each challenge, Brown redoubled his efforts to develop his technology, but events worsened. His young wife was assaulted. Even in their home they did not feel safe; it was robbed three times and vandalized on four other occasions. Brown was accused of drug manufacturing and eventually lost control of his company. The Browns' also lost their home. Finally, the pipe bombing of his mother's car in the early 1990s drove Brown to become a recluse.

"I understand now why inventors drop out of society." he said in a 1991 open letter to other new-energy researchers. His advice to them! "Keep a low profile until you have completed your endeavor, be selective in choosing your business partners, protect yourself and your family, and know that the nightmare stories are true." Brown eventually died in a suspicious car accident in April 2002.

Ira Einhorn: Free Energy and Mind Control Researcher

(Excerpted from "A Snapshot of my 70's" by Ira Einhorn, September 1, 2002)

… What Geller could do, I saw a lot of it first hand, indicated that the basic physical framework in which physics operated was inadequate and that so called "free energy" devices -- devices that would solve our energy problem and end what is now called global warming and allow for the decentralization of most economic activities -- could become a reality. Hence I circulated all previously known anti-gravity information and all the emerging work on "free energy" devices.

Unfortunately, all new technology can be used as weaponry as well as for human benefit. So, I was soon up to my ears in a multi-pronged intelligence game that is still waiting to be unraveled…

… So when the opportunity arose, after a series of dinners and meetings in Princeton and New York with Bogdon Maglich, the head of Migma Fusion, the only private nuclear fusion research operation in the United States, and a number of Yugoslavian government officials, I agreed to help organize a large Tesla celebration. To this end, I enlisted the support of the president of the prestigious Franklin Institute in Philadelphia, Bowen Dees, and after a stint at Harvard and with the blessing of the Yugoslavian Consul-General in New York, I went off to Yugoslavia, to spend days at their expense, as an unofficial ambassador.

I was planning to do many things during this celebratory conference that would have linked the Tesla Museum in Beograd with the Franklin Institute in Philadelphia: besides giving Tesla his just due and showcasing his achievements in a major exhibit at the Franklin Institute, while holding a major international conference on his works, I would also have organized a smaller conference on the suppressed aspects of his work in mind control and free energy and found a way to directly demonstrate mind control to those who came to the conference.

In the fall of 1978 I was a Fellow in Residence at the Institute of Politics within the Kennedy School at Harvard. I taught one course, ran a small lunch time chat series in which Harvard luminaries, Ambassador Reichauer, E. D. Wilson and Karl Deutsch, among others, ate and chatted with 5 or 6 of us for a couple of hours; I lectured in every conceivable venue at Harvard, conducted a number of public symposiums, brought a number of the members of my Network to Harvard to lecture, ate dinner with a host of well known political figures, and made an inordinate amount of noise about mind control technology and the Russian Woodpecker to, among others, then CIA head Stansfield Turner. This lead to a meeting in the Boston Airport, arranged by one of JFK's chief aides, on the matter with a top defense intelligence scientist who ended up spending the evening with me and giving me his home telephone number.

In 1979 I received a small private foundation grant to study free energy devices in preparation for a large involvement in such activities. I was planning to visit all of the inventors personally and then prepare a report that would have formed the basis of a venture capital enterprise that had been encouraged, due to some of my mailings, by a number of my affluent friends. The objective was to develop and bring one device to the marketplace…

…All was not to be. I was busted for a murder I did not commit, and all my work on mind control and free energy became history. [signed] Ira Einhorn September 1, 2002

The following is excerpted from Ira Einhorn's July 5, 2002 email:

Robert Eringer proposed all kinds of book schemes for me; schemes in which I was not interested. Nor did I find any of the people my agent sent to me, re: the biography, to be of interest. Thus when Eringer suggested he would like to look at my fourth novel, Cantor Dust, which was near and dear to my heart, I informed my agent and sent it to him. Eringer was very enthusiastic about it. He said he would prefer to do my autobiography, but would work on getting my novel published as an opener to getting my autobiography. I said he was welcome to try. Thus began a continuous stream of many hundreds of e-mails between this alleged intelligence operative and myself, broken only by his journeys to England, wherein he told me he saw a number of publishers without success and one new house that agreed to publish Cantor Dust when they were actually in business, and his family vacations. We were still at it the day I was extradited to the United States: July 20, 2001… [Deleted]…

One of Robert Eringer's closest associates is Claire E. George, past Deputy Director of Operations for the CIA, in charge of covert operations for the entire planet. Sources who have researched the situation indicate that Claire E. George and Robert Eringer have worked together on a number of operations, still work together and have a pile of money at their disposal.

Einhorn presents the highlights of his case in http://groups.yahoo.com/group/Ira-Einhorn/message/454.

"We'll know our disinformation program is complete when everything the American public believes is false." -- William Casey, CIA Director (from first staff meeting, 1981) (Source: THE BROTHER JONATHAN GAZETTE DAILY DIGEST Wednesday June 28, 2006.)

How much is good press worth? To the Bush administration, about $1.6 billion. That's how much seven federal departments spent from 2003 through the second quarter of 2005 on 343 contracts with public relations firms, advertising agencies, media organizations and individuals. (Washington Post; Feb. 14, 2006) (Source: http://www.washingtonpost.com/wp-dyn/content/article/2006/02/13/AR2006021301897.html?nav=hcmodule)

Thomas Henry Moray: Radiant Energy Pump/Electricity Generator

Thomas Henry Moray, Ph.D., (August 28, 1892 - May, 1974) was an inventor from Salt Lake City, Utah. Moray graduated from The Latter Day Saint's Business College. Moray studied electrical engineering through an international correspondence school course. He received a Ph.D. in electrical engineering from the University of Uppsala.

T. Henry Moray's research dates from the time he was 9 years old (1901). Over the 73 years of Moray's research, he left behind him a wealth of notes, not only pertaining to radiant energy, but a wide range of scientific research bordering all the way from the devulcanization of rubber, the influence of mineral reactions in the presence of high energy, bio-electronic effects (electrotherapy), sound pick up, solid-state physics, and finally the detection of energy that constituted the major endeavor of his work.

Moray was a pioneer in the field of electrical energy. As a youth he greatly admired Nikola Tesla and in particular was very interested in Tesla's obsession with the earth having a limitless supply of energy available to it from the universe. Like Tesla, Moray wanted to find out how to tap this energy. Like a lot of people he became amazed at the "crystal radio" where a crystal can be tapped with a fine wire to make a radio work – without any battery or power. Moray figured that if this was possible it should be possible to find a crystal (or "magnetic rock") that could be tapped for a power source.

Moray became very interested in the properties of certain rocks and crystal structures and the powders from them. He actually developed and utilized a transistor more than 20 years before anyone ever dreamed of such things. These solid materials are what he made his so-called Moray valves out of; they were like radio valves *but were not using a heated coil* like radio valves (also known as vacuum tubes in today's terminology). They were all cold with no external power to feed them. They were a mixture of semi-conducting materials and intricate one-way conducting materials (diodes in today's terminology). The Moray valve was therefore a solid-state device – unlike a radio valve that heated a plate to produce energy.

It is well documented that Moray developed a bipolar semiconductor as early as 1927. His germanium "valve" was working in 1931. In the 1930s Moray developed advanced semiconductors and transistor-like devices.

Moray provided a complete disclosure of his semi-conductor research to Dr. Harvey Fletcher of the Bell Laboratories. Dr. Fletcher later became head of the department at Bell Laboratories that developed the transistor. Moray, therefore, could be the true father of modern electronics since his work predated the Bell Laboratory bipolar transistor findings by at least 20 years.

During the 1930's T. Henry Moray was refused a patent on his cold semiconductor cathode because the patent examiner couldn't understand how it could emit electrons. The patent examiner reported that he could not allow the patent because he could not see how it would work since "the cathode had no means of being heated".

"He tried to patent his device, but the requests were denied because the item he called the "Moray valve' was too new a thought for the patent examiner. It was actually a germanium transistor, and solid states were unknown at the time." his son John Moray said. 20 years later the development of the transistor apparently proved that his device could actually have worked.

Both Nikola Tesla and Thomas Henry Moray consider harnessing cosmic energy (vacuum or zero point energy in today's terminology) as the most practical method of producing energy yet discovered by man. Furthermore, they thought it is possible to utilize this vast source of energy from the universe without a prime mover at any point on the earth or in space – on the ground, in the air, on the water, under the water, or even underground.

Radiant energy is energy that is transported by waves. This includes energy transmission in the form of waves through space or various media. Radiant energy is also energy transferred through electromagnetic waves. Solar energy is a type of radiant energy. Radiant energy is the sum total of all the energy that comes to the earth from all the universe. The earth also reflects back radiant energy into the universe. Our sun directs electrically charged particles towards us. Radiant energy may be calculated by integrating or summing radiant power with respect to time. Radiant energy is usually expressed in joules.

During the 1920s Moray demonstrated a "radiant energy device" to many people who were unable to find a hidden power supply or batteries. Moray called his device a solid-state detector or the "Moray valve". It basically comprised of a large antenna connected to a complex series of high-voltage capacitors, transformers, and semiconductors. By supposedly stimulating the existing oscillations of radiant energy from space, his device could generate electrical power without any man-made power input. By 1936, Moray had eventually engineered his device so that a 55-kilogram version could constantly produce 50 kilowatts of power for several days.

An electrical generator may be considered as not in the true sense a generator – as electricity is not made by the generator – but is merely an electrical pump. Moray's radiant energy device may then be referred to as a cosmic ray pump: that is, a high-speed electron oscillator serving as a detector of cosmic radiations which causes a pumping action or surging within its circuitry. Moray used the term "radiant energy" to describe that source of energy coming from the cosmos to earth and radiating from the earth back to where it came. This is the energy the Moray device captures and could be described as those particles of energy pervading all space.

What sort of an apparatus is Moray's radiant energy device? Briefly, it would appear to be similar to a radio receiving set of power proportions.

An antenna is connected to a 29-stage solid-state collector material; a small rounded pellet mixture of triboluminescent zinc, a semiconductor material, a radioactive or fissile material, and germanium. The device contains two coils of wire, or inductances. It also contains several condensers, or capacitors, of different sizes. There is a detector tube, or electronic valve, and two oscillator tubes. Added to this is a "bar of silver and a bar of copper", a starting device, and a step-down electrical transformer, reported to be 1000-to-1, primary to secondary.

After tuning of the device the semiconductor material acts as a one-way gate (diode in modern terminology) for surges of high-frequency background atomic ion energy which can go through the material more readily in one direction than the other. For conversion of ionic to electromagnetic energy to then be transformed into useful electrical power by conventional radio circuitry and a transformer, the device must be grounded.

All of this was enclosed in a box measuring about 30 inches long by 16 inches wide by 16 inches high. It weighed about 30 kilograms. There were no moving parts. Moray said there are no dangerous radiations surrounding the box when it is in operation.

Moray's 30-kilogram radiant energy device produced 4 kilowatts of cold electricity which was able to power light bulbs. However, electric motors require special winding to increase their efficiency. While commercially available electric motors will operate on the power from a radiant energy device, they are not as efficient as motors running on ordinary commercial currents. Moray says when his motors are running in the dark they glow with a violet aura. His motors ran cold!

It has been estimated that using current dielectric technology that a 50-kilogram radiant energy device could be built to produce 300 kilowatts – sufficient to power buildings and also electric vehicles.

Some persons who have seen radiant energy power lights say the bulbs look as if they were filled entirely with white light, as if the gas itself which fill the bulbs were fully incandescent. Moray believes this to be true.

Radiant energy will heat electric flat irons and other electrical heating devices. It is claimed heating capacities are reached much more quickly with radiant energy than with commercial currents, and are considerably hotter than when powered with ordinary electric energy.

One photograph shows Moray demonstrating his generator as it powers 50 100-watt light bulbs and a 655-watt Hotpoint iron. Thus he proved that his radiant energy device was not running off batteries – as his detractors said it did.

By 1936 he had developed a generating unit that weighed about 55 pounds and was capable of producing as much as 50 kilowatts of power on a steady basis.

On several hundred occasions Dr. Moray lighted a bank of 35 light bulbs with power from his simple but ingenious radiant energy device. There were 20 150-watt bulbs on the panel. At the same time the generator powered a 600-watt glow heater and a 575-watt flat iron.

Moray, as Nikola Tesla before him, was unsuccessful in introducing his devices working on this principle. Some report that his secret was forgotten. Moray tried for several patents to no avail.

These valves are ONE reason why patents were continually refused – as he was told "there is no such thing as free energy".

"You must put energy in to get it out." As patents were applied for, there were refusals due to the fact that the patent applied for "infringed other patents". Even thought Moray patiently wrote details of how this could not be, the US Patent Office refused to allow any.

On the other hand, Moray gradually had perfected his device's output from a capacity to light one small incandescent light bulb to a present capacity claimed to be 50 kilowatts. Fifty kilowatts represents about 67 horsepower and, certainly, 67 horsepower is not to be disregarded. Many small factories do not use as much as 67 horsepower.

According to Moray, one of his radiant energy devices can be built for about $800 (year is unknown as there has been considerable inflation). Mass production methods might cut this price in half. Under these circumstances, a unit in a home would bring about a substantial saving in power bills over several years time.

As many as 100 persons have witnessed radiant energy demonstrations. Radiant energy, as it emerges from the Moray apparatus, may be considered a form of electricity. It is an alternating current, but an alternating current of very high frequency.

If a photograph of a single bulb lighted with radiant energy is taken the print shows a large, dark ring, perpendicular to the base of the bulb. This ring looks like a circle of translucent black fog. It seems the light somehow reflects itself on the air, or projects a shadow of itself there.

The demonstrations attracted newspapers and scientists from Bell Laboratories and from the Department of Agriculture, but none could attest to how the device actually operated nor could evidence of fraud be found. Even though eminent scientists examined his device during and after its operation, and admitted that they could not understand the source of the power they had witnessed, still he was never able to gain their support for his work.

Moray refused to sell his technology to corporate interests, fearing its misuse.

In the later 1930's engineers from the Rural Electrification Administration (REA) were ordered to work with him by President Franklin Delano Roosevelt. A controversy grew between the inventor and the government engineers. As a result Dr. Moray charged that the REA was trying to sabotage his work.

Moray reported that he and his family had been threatened and shot at on several occasions. His laboratory was ransacked to stop his research and public demonstrations. Repeated assassination attempts were made against his life. It was necessary for him to bulletproof his automobile since he was shot at while driving down the public street. Small wonder that Moray developed an extremely alert and suspicious nature, and visitors to his desk often noticed a fully loaded pistol lying on the desktop within easy reach of his hand!

In 1940 Moray demonstrated before the members of the Public Utilities Commission (in Utah?) his free energy generator. It maintained a continuous output of 250,000 volts with no apparent input.

The next day Moray was found shot in his lab, and all of his notes were stolen. Moray had been wounded by shotgun pellets in his lab by an attempt to frighten him into handing over the secrets of his work. Except for his own skill with a pistol to successfully defend himself against his assailants, Moray would have been murdered.

An REA engineer named Felix Frazer who was Moray's assistant had gone berserk and smashed the Moray device with an axe. It was never rebuilt. The frustrated inventor could not afford to duplicate his invention. He went to his grave many years later convinced that the destruction of his device was part of a communist plot. Frazer apparently was angered that Moray would not sell his device to corporate interests.

There is a rumor that to stop the USSR getting this technology the equipment was destroyed by Moray's assistant. Or, the equipment was destroyed because Moray refused to unconditionally hand over all aspects of the devices he had built. It was further claimed that one of his sons dumped the entire contents of Moray's laboratory into a river – because of continued threats and harassment – not only to himself but to his family as well.

The entire truth may never be known, but it is a fact that Fraser became enraged and grabbed a sledgehammer and smashed Dr. Moray's device to pieces.

"Dad believed to his dying day it was all part of a communist plot," John Moray said. "He had refused to cooperate with certain known communists so his invention paid the price," Moray added.

"It certainly smacks of some kind of conspiracy," the younger Moray mused.

The tragedy of it all was in the fact that Dr. Moray's years of research and development, and his entire fortune were wiped out when his device was smashed with a sledgehammer. It had taken Moray 20 years and $200,000 of his own money to develop it.

"Because of the expense and hardship in rebuilding the generator, which the patent office had refused to consider, my father never actually completed more than one unit at a time as he perfected it.

"Each updated model used parts from the previous model as he made improvements in successive stages."

Another factor in the total destruction of this marvelous technology was the demise of the various companies that provided Dr. Moray with components. Both the Great Western Radio Co. and the Baldwin Electric Co., which he worked with vanished as part of his resources.

"Inflation, the massive war effort and threats to my father's life spelled doom to any ideas he may have had for replacing the destroyed generator device," the younger Moray claimed. However, more than $200,000 in the late 1920's and early 1930's would indeed translate into many millions today.

Make no mistake about it; Dr. Moray did what he claimed to have done. He had achieved free energy. The Soviet Union even offered to provide him his own fully equipped laboratory in Russia, with no expense spared, and to back his experiments fully. Fraser could have been a trained Soviet agent who had succeeded in working his way into Moray's confidence and gaining access to Moray's laboratory as a technician and assistant. When Moray still refused to give his invention and services to the Soviet Union, the assistant destroyed the device, smashing it to pieces with a sledgehammer.

Sadly, T. Henry Moray died with his dream unrealized and the original device destroyed.

Walter Rosenthal (Reporter): Small Electrical Power Converter

Walter Rosenthal was a retired aerospace engineer with some test equipment such as oscilloscope and voltmeters. He had closely followed for a long time development of new sources of energy and personally knew some energy inventors. (Rosenthal recently passed on from natural causes. He received much praise for his careful energy invention measurements. See for example Thomas E. Bearden's eulogy in http://peswiki.com/index.php/Site:LRP:Tom_Bearden_Remembers_Walter_Rosenthal_%26_Floyd_Sweet)

More than twenty years ago, Rosenthal became involved with an inventor's invention of a small electrical power converter. Something about converting a flashlight battery's DC to 4 watts of power with a high conversion gain. He realizes now that it would be a very valuable invention because it could be used in cell phones, laptop computers, portable radios, etc.

Then the inventor got a call from a man representing Atlantic Richfield (now ARCO). They offered the inventor $40,000 to take it off the market. Otherwise, they would subject him to troubles, etc. He refused. They eventually offered $400,000.

One day he came home to find a group of men going through his apartment. He asked them to leave, and has had no further confrontations. He has not done any further development work on this device. Perhaps consequently, as of a few months ago, he was still alive and well. That energy device is still not on the market.

Later on, Rosenthal figured out that the Atlantic Richfield people could only have known details about the invention by tapping either his or the inventor's telephone.

Joseph C. Yater: Heat-to-Electricity Converter

In September 18, 1975 Joseph C. Yater invented a heat-to-electricity converter that he says will cost the consumer approximately $200 and would be up to 90% efficient. The device operates by capturing "fluctuation voltage" (the static noise heard on radios and amplifiers). The rooftop device would be heated by the sun and use millions of microcircuits to tap the freed electrons from heated molecules. Yater took his device to the U.S. Government, which declared that his device had "real potential". After promising him a working model within 6 months, the U.S. Government came back to him with the reply that the device would be impractical. Subsequent scientific analysis also revealed flaws in Yater's reasoning.

Adam Trombly: Trombly-Kahn Closed-Path Homopolar Generator

During the early 1980's Adam Trombly and Joseph Kahn, Ph.D., co-invented the Trombly-Khan closed-path homopolar generator which has an output power exceeding its power input by a factor of 4.92. The patent application and drawings represent the result of the expenditure of $290,000 in two phases. Their US patent application was rejected twice on the grounds of impossibility that the machine could work. Then the United States Patent Office notified the Department of Defense. Instead of congratulations, Trombly and Kahn received a secrecy order. The two authors were warned not to publish any information on the basis of violation of secret homopolar generator work being done concurrently in the U.S. Government's Department of Defense.

Adam Trombly, the senior designer of the machine, received two written gag orders from the Department of Defense – forbidding him to reveal details of the machine – upon threat of 10 years imprisonment for violating security relating to homopolar generator design. The DOD-imposed secrecy has prevented any recompense whatsoever from accruing to the men who performed this work.

According to information obtained under the Freedom of Information act by the Federation of American Scientists, the Pentagon placed 774 patent applications under secrecy orders in 1991 – up from 290 in 1979 – and 506 of these orders were imposed on inventions by private companies. The U.S. Government has standing gag orders on several thousand inventions.

In 1989 Adam Trombly proposed the retrofitting of the Four Corners coal-fired power plant with an advanced Trombly-Khan closed path homopolar motor-generator. Trombly and Farnsworth estimated that the cost of such an advanced electrical generator to be approximately the cost of installing smoke scrubbers on one coal-fired generating unit. (Sources: http://www.rexresearch.com/trombly/trombly.htm and http://www.broandrew.com/suppression.html.)

Adam Trombly: Trombly-Farnsworth Solid-State Oscillating EM System

Adam Trombly also co-invented with David Farnsworth the Trombly-Farnsworth solid-state oscillating electromagnetic (EM) system. In June of 1989 Adam Trombly and David Farnsworth of Zero Point Technologies, Inc., demonstrated a solid-state resonant device which physically produced over fifty times greater electrical output than input at the Church of the Holy Covenant just prior to a major address by Trombly at Dag Hammarskjöld Auditorium in the United Nations. The demonstration had originally been scheduled to coincide with Trombly's address.

But at the last minute Trombly and Farnsworth were informed by the Director of the United Nations Environment Programme, Noel Brown, that United Nations Security personnel refused to allow the demonstration in the Auditorium for security reasons. (The Church of the Holy Covenant was no longer used as a church but was used by the United Nations as an alternate venue for the demonstration of "sensitive" technologies such as that belonging to Trombly and Farnsworth.)

The demonstration was attended by fifty people including five major Wall Street executives, several engineers, and a Senior Engineer from Boeing Corporation Dr. Charles (Chuck) Clark. Clark had been allowed to spend several hours alone with the technology prior to the New York demonstration. Clark had checked for every conceivable trick that might be used to deceive naïve or unwitting observers.

The demonstration went perfectly. Many present stated that they felt they had attended a historical event; one that would help the human species emerge from the economically stratified and earth destroying dark ages of fossil fuel technology and into a time of universal, pollution-free electrical power. Some participants/observers were moved to tears by the ramifications of what they had witnessed.

After the demonstration the entire entourage proceeded to Dag Hammarskjöld Auditorium where Trombly addressed the standing room only crowd. He asked all of the witnesses to stand, and they did.

He then asked Dr. Clark to comment on what he had seen. Chuck said, "I am not here representing Boeing. I am here because I was hired to find out if this technology really works. I can't tell you how this thing works. David and Adam can explain that better than me. What I can tell you is that it does work exactly as Adam has just said. I have checked for every trick in the book, and all I can say is that this works."

There was a stunned air in the room. When Trombly finished there was a long standing ovation which was followed by a very long walk from the front of the Auditorium to the entry foyer. One senior diplomat called it “One of the longest standing ovations in the history of the UN.”

There were just so many people from all over the world expressing their excitement that it took nearly forty-five minutes for Adam to get through. By the time he reached the foyer he saw the five Wall Street executives were huddled up with a man whom Adam had introduced the day before as one of his best friends. They looked anything but happy. As Adam approached, one of them took him aside and said, "Your friend just told us that you faked the demonstration. Is that true?"

"Are you kidding? My entire life has led up to this moment. The future of this planet will depend on the development and deployment of these technologies if we are to have any hope of surviving the hell we are currently creating for ourselves." Adam was stunned.

"I do not know what his motivation is for saying that. He is not a scientist nor is he an engineer. It just doesn't make any sense."

"Well, you said he was one of your best friends. So you have to understand that our commitment of $500,000,000 is withdrawn until we can sort this out."

In an instant one man had obstructed history for us all. He misrepresented the truth even after the real professionals had agreed that the technology worked, and that there were no tricks. Adam later realized that this individual had cleverly infiltrated his life and won his confidence. He had torpedoed the future.

Adam did hours of interviews that afternoon and into the evening. Dr. John Lilly also asked to be interviewed. He said, "This is the most wonderful and exciting thing I have ever seen! I am coming out of retirement to help Adam promote this thing. Maybe we do have a future that’s worth living in after all."

The following Monday Trombly and Farnsworth presented a similar demonstration to some Congressional representatives in the US Senate Banking and Finance Committee Hearing Room. After the Congressional demonstration, Trombly commented: “Here is a technology that points to a better future; a future free of the taint that the politics of scarcity casts upon us all.”

After these demonstrations Trombly indicated that he had so far survived 47 assassination attempts over this technology which apparently threatens existing energy industry monopolies.

While David Farnsworth was in their $20 million Oregon shop/lab, early one March morning in 1994, badge-wearing US Marshals broke in with sledgehammers and chainsaws. Farnsworth watched with his wife and a friend from a motor home while they ransacked his lab and took the energy machines away.

They recklessly removed expensive electrical devices including expensive spectrum analyzers, earthquake forecasting devices and advanced generating equipment away from walls and shelves. They carelessly stacked them in waiting trucks and vans to be transported to a federal warehouse in north Portland.

The supposedly law-abiding U.S. Government employees also took home thousands of dollars of Farnsworth’s expensive ham radio equipment.

The US Marshals then filed charges against David Farnsworth and took him to court. Eventually, those charges were dropped.

Adam Trombly has had a total of 54 attempts on his life. One of the latest occurred early in 2006. Also, a suspicious incident occurred July 4, 2006 when Trombly was visited at his Aspen, Colorado home by a man of Middle East origin from Las Vegas who knocked on his door and earnestly tried to give him ten free cases of meat. Having been previously forewarned, Trombly refused, even after an additional offer of a free freezer, fearing the meat had been poisoned. This incident indicates that an energy invention suppression hit squad might be based in Las Vegas.

(References: June-December 2006 emails by Adam Trombly and Bruce Meland to Gary Vesperman. "In Search of Quantum Motors and Generators" by Bruce Meland, *Electrifying Times*, Spring-Summer 2006, Vol. 10, No. 1, www.electrifyingtimes.com. The book "*The Coming Energy Revolution*" by Jeane Manning. Tom Bearden's web site www.cheniere.org/correspondence/080301.htm.)

Gary Vesperman: My Car was Fire Bombed July 3, 2006

John Martens and I share the rent on a house in a nice, relatively crime-free neighborhood in Henderson, Nevada. The evening of July 3, John rode home on his bicycle at 9:45 p.m. The streets were quiet with no one walking in our neighborhood. He left on his bicycle 15 minutes later in a different direction. He still sees no people around. He does recall having a spooky feeling that someone was watching him leave and looked back a couple of times as he was riding away.

At 10:15 p.m. I went to bed and shut off my bedroom light which can be seen from the street. A few minutes later John's dog Coyote started barking. I let her bark for a couple of minutes hoping she will stop. I got up, looked out the front door, and could see what appeared to be fireworks burning in the street behind the car. I walked to the car, looked in the rear window, and saw the bottom of the back of the driver's seat burning!

I ran back into the house, called 9-1-1 and reported my car on fire. The firemen came later than I thought they would and with an iron bar proceeded to break all four door windows, even the two small windows in the two rear doors. I had jangled the car keys in front of them when they had arrived. They then found that the driver's side door was unlocked and sprayed water on the burning driver's seat to put out the fire.

They told me to wait for their arson investigator. He found on the driver's seat the carcass of an incendiary fire bomb three inches long and an inch wide. He said it burns at 2000 degrees.

The next day, being July 4, I asked two fireworks sales stands about it. It is illegal in Clark County where Las Vegas is located. It can be bought at Indian reservations fifty miles north. It appears whoever threw the firebomb in my car knew what he or she was doing.

I asked my mailman who has been delivering mail in my up-scale neighborhood for over ten years. He said he has NEVER seen a car torched in our neighborhood during all those years. My car is only one of numerous vehicles parked in our neighborhood. Yet my car, which is registered in my name, was the one targeted.

The car is a 1991 Chevrolet Corsica which had been painted, its interior in good shape, and has a fuel-efficient strong power train with new tires and many new parts such as new brakes, muffler, etc. It would have been a nice high-mileage reliable car for several years. In addition to the firemen breaking all the door windows, the roof lining burned and there are other burns and melted plastic parts. The interior is a mess. John is a certified auto mechanic and had spent many hours restoring it. John and I eventually had the car towed away to a junk yard as a heartbreaking loss.

Adam Trombly has had a total of 54 attempts on his life. One of the latest occurred early in 2006. Also, a suspicious incident occurred July 4, the day after my Corsica was firebombed, when Trombly was visited at his Aspen, Colorado (?) home by a man of Middle Eastern origin who knocked on his door and earnestly tried to give him ten free cases of meat. Having been previously forewarned, Trombly refused fearing the meat had been poisoned. The man became upset and even tried to add a free freezer. He then gave up and told Trombly he had to get back to Las Vegas. A few minutes later, Trombly took a walk and found the man sitting on a sidewalk curb talking on his cell phone.

Trombly's report hints that an energy invention suppression hit squad might be based in Las Vegas.

One of my energy inventor friends, who himself has been a target of energy invention suppression, happened to visit me a few weeks later. He has emailed "What I witnessed at Gary's house was no teenage prank. It was obviously intended to totally destroy a car, not just scratch the paint or leave a scar. With several other cars parked at the same house, Gary's was obviously targeted, not just the easiest to reach."

Three weeks before my car's firebombing, I had published on the Internet the third version of this compilation of energy invention suppression cases which can be read in www.byronwine.com (do Find for Vesperman). Other sites can be found by entering in the dogpile.com search engine Vesperman suppression.

So it may be that the energy invention suppression terrorists, possibly based here in Las Vegas, had retaliated by firebombing my car. I don't feel intimidated at all. In fact I am mad and more determined than ever to help end energy invention suppression.

Adam Trombly (Interview): The Truth about Zero Point Technology

(Originally published in Spirit of Ma'at: "Free Energy & Alternative Energy - Part I" — Vol 2 February 2002. For the print version see http://www.spiritofmaat.com/archive/feb2/prns/trombly.htm.)

The Truth About ZP Technology: A Wake-Up Call to the American People – An interview with Adam Trombly by Celeste Adams

Adam Trombly is one of the top scientists in the world in the development and creation of zero point energy technology. Devices that he built are working today in other parts of the world. And yet, instead of using zero point energy, Adam Trombly's own house in Maui is being fitted with a bank of expensive solar panels.

Why can't Trombly use his own expertise to fuel his own home? Trombly has spent most of his professional life under one gag order or another. But he decided, he told us, "that if I was going to give an interview for this particular publication, I wasn't going to pull any punches."

If much of this seems overly negative, keep reading. Trombly wants to wake us up, and to shine a light upon things that have been kept dark. But his grounding is deeply spiritual. It's just that the Divine forces that seek to assist us cannot do so unless we call upon them. "Now, in this moment," he tells us, "we must come out and ask for help. When we can ask for help, we get it."

Adam Trombly's revelations will shock you to the depths. But it is his hope, and ours, that it will help you to awaken, or to assist you in your task of awakening others.

Trombly's ultimate vision is the "redreaming of the American Dream."

Adams: How did you become interested in free energy?

Trombly: I was raised as a scientist and I have spoken the language of science all of my life. My mother was a blood specialist, my father was a biochemist, and my sister was at one time a biophysicist.

When my father had just gotten his Ph.D. in biochemistry from Purdue University — I was a young child — he was enlisted as a biochemist, by a fellow Purdue alumnus named Frank Olsen, into a U.S. Air Force/CIA joint project. He was stationed at the biological warfare laboratory in Fort Detrick, Maryland. This was in 1952 during the Korean Conflict. He had been a highly decorated U.S. Army Air Corp officer in World War II, but the government felt that he had a skill of strategic importance to the national security.

At Fort Detrick, he and Olsen, along with a couple of other scientists, were working on a very compartmentalized project. Since he died when I was in the eighth year of this body, I knew very, very little about what this project involved. On the seventh anniversary of his death (4/3/1967) I was in my mother's attic, putting out mousetraps, when I discovered a couple of boxes that contained journals my father had kept during his time at Detrick. You weren't supposed to keep journals, but he did.

One of the things he wrote about in his journals was his exposure to alien technology that totally defied what were considered, at that time and even still to this day, the laws of physics.

He wrote a letter to Dr. Quackenbush, who was on his dissertation board at Purdue, saying that what he had seen challenged even his "most vivid imagination." This was right after he got there.

After he had been there about a year, the notes he wrote got really interesting. He specifically described various technologies which he stated plainly were of "alien origin." He described not only flying disk-shaped craft and their related energy and propulsion systems, but Extraterrestrial Biological Entities. His work was actually concerned with them.

On November 19, 1953, my father (along with Dr. Frank Olson and a couple of other colleagues) was taken by Dr. Sidney Gottlieb to a summer camp near Baltimore. While there, he and his colleagues were involuntarily given large doses of LSD in their cocktails; doses on the order of 10,000 to 15,000 micrograms. Olsen knew about the experiment, and out of concern for my father told him, "Harvey you have been given a psychoactive drug and you are beginning to feel its effects. Don't worry."

Olsen had also taken a large dose of acid, and later freaked out because he said he had, "blown the experiment." It was supposed to be a double-blind experiment for all of the participants other than Olsen. He was supposed to keep silent.

Frank Olsen continued to feel unsettled, and was rushed by CIA personnel to New York for psychiatric examination. Something terrible happened instead. Frank was bludgeoned in the head and then thrown from his hotel room window. He was murdered. This, at least, was the conclusion of forensic pathologists hired by Frank's son Eric in 1994.

My father filed an internal protest demanding an investigation of his friend's and colleague's death, and that was what ultimately triggered the events that killed him.

In January of 1954, under the illusion that he was being immunized from a new retroviral biological warfare agent, he was injected instead with a live virus that he had discovered during his research. He became extremely ill. In his notes, he indicated that he immediately knew. "They killed Frank," he said, "and now they have killed me. The difference is that I will die slowly, very slowly."

He died in 1960, from a form of lymphoma as eleven government labs did morphological workups of his cells.

When I discovered that his death had not been an accident of nature, I was heartbroken. I despaired of life. I sat with a knife a quarter inch into my chest, with blood already trickling down, begging whoever was present at Infinity to reveal the truth of existence.

And in the next moment, I suddenly had no doubt of God or, if you prefer, the Buddha Nature, and I saw things with great clarity.

Adams: Do you believe that we're in denial about the involvement of aliens in the affairs of this planet?

Trombly: The American public has been lied to for so long, they wouldn't be able to recognize the truth if Jesus told them personally.

It's very difficult for the American public to know what is going on. In many ways, we are a nation in denial, and all too often a nation of alcoholics and drug addicts. We are in incredible mass denial.

People see what are referred to as flying saucers and UFOs. Sometimes they are not saucers but triangles. Sometimes they're small, and sometimes they're huge and look like buildings.

It doesn't matter how many people in remote places or in cities see them, or photograph or videotape them. The perceptions are simply shut out.

There are amazing mind-control projects going on. People literally cannot maintain their attention span. More than once I have stood and watched crafts 100 or 200 feet over my head and had people say things like, "Well that's not an airplane," or "Oh, my God, are we actually seeing this?" "Is that real?"

But by the next day, the whole chemistry of denial has set in and those same people say, "Wow, that was a strange airplane, it was going really slow, or really fast, and how did it make that right turn?"

This is what got me started in free energy technology — though I hate the term free energy, because it's anything but free. Many have paid dearly for its advent. I don't even know what term I like at this point. I use the term Zero Point Fluctuation Technology — ZP Technology.

I used to have a company called Zero Point Technology. As soon as you put something like that on your shingle, you discover just how unacceptable this concept is to those whose growth stopped so long ago.

People are being bombarded with subliminal messages that tell them that aliens don't exist. Even The "X-Files," which is a joke (thank God they're canceling it), was originally intended, by Chris Carter, to be something more than just random amusement. It was intended to be groundbreaking. But there's government interference. And this is a huge subject. People don't understand that the "other U.S. government" has had contact for decades with cultures that aren't from this planet.

We're like the aboriginal people of New Zealand, or Papua, New Guinea, or any other remote tribe. When they see an airplane, they think that it is a God — or they at least, they used to. Of course, now they think that it's just people who are more primitive than they are, but who have technology.

We are the same way with "alien" cultures. We are the same way with really clean and advanced electrical technologies that could begin to help us understand just how wonderful and abundant Being — simply being — is.

When I got involved in ZP in 1979, I was warned by Buckminster Fuller that if we were successful there'd be hell to pay. If we were actually successful, then it could develop into a real nightmare, because the humans we're dealing with are a species that has been kept in the dark. We've been treated like mushrooms (which are kept in the dark and fed a lot of feces -- there's no nice way of putting this).

The extremes to which these people are willing to go to make your life miserable are phenomenal. They go out of their way to torment those who challenge their utter mediocrity.

Then there are certain people who hang around in the so-called free energy field, who speak at conferences and who have never discovered, engineered, or invented anything in their entire lives that is worthy of note. What they have done is mediocre at best. I won't name them, but they just haven't produced. These are the people who say, "No one has ever bothered me."

These are the same people who — behind my back and behind the backs of those who have actually produced functional technologies — say, "Well I've never seen anything that he's produced."

Adams: Can you tell us more about this alien agenda?

Trombly: I know that there's an alien agenda because my father wrote this in his journals. He said he had discovered that the U.S. government had become involved in its implementation. He went further to say that this alien agenda, in his opinion, was contrary to the good of the human species and the planet.

He believed that a sector of the military/industrial complex was involved in a program, basically, to transform our atmosphere, which is benign to our species and other Earth species, into one that is greatly reduced in terms of its oxygen content.

So this is a force which doesn't have good intentions for us. It is a force that would gladly exterminate us. And yet human beings act as agents for this force. The "human" species is exterminating itself, by its own hands.

My father spoke of alien agendas in his most secret thoughts. This was not something he spoke of in public. He would never have given this interview, I'll tell you that much.

Adams: What species is this alien force?

Trombly: I can't say, but I can say that the species that are trying to harm us are a tiny minority of a vast host of alien species. My father knew of a couple. It wasn't just one, even back then. This sounds very far fetched — I know it sounds nuts. But I decided if I was going to give an interview for this particular publication, I wasn't going to pull any punches.

Adams: Many of the people who read this will share your belief system.

Trombly: Well, this is not about a belief system. I don't like belief systems! This is about reality! We are the ones who are collectively destroying the womb of the Earth in which our species gestates, in which we evolve.

There are real terrorists in Washington, and even, I dare say, in the White House. (See http://www.nogw.com/shadow.html.) And we are very rapidly approaching the time when that statement will be considered criminal. The incident we call 9-11 was a mockery. Now, every time someone dials 911 they'll think of the evil demon Osama bin Laden who in fact is someone we helped to create.

Alkhaida was largely financed by the U.S. government. We gave the Taliban 128 million dollars last year to suppress the growth of opium in Afghanistan. Where do you think that money came from? Where do you think it went?

Everyone thinks the 9-11 was caused by Osama bin Laden and his cronies. There's no doubt that some of his money comes from Saudi Arabia, but the fact is that the U.S. government is the primary source of funding for the Taliban. Why? Because Dick Cheney and his cohorts want to build an oil pipeline through Afghanistan.

Adams: What has happened to the free-energy technologies that you've produced?

Trombly: Every single technology that I have either invented or co-produced is no longer in my possession. There's one in Arizona that has supposedly become a national security issue.

A former colleague of mine once went off on his own with a design that he and I had come up with. He built a device that was very successful — and is now in a can, and he is a shell of his former self.

Forget about whatever technologies I have had a hand in reducing to practice. We have heard from very credible sources that these are nothing compared to the technologies already being produced by certain prime contractors right here in the United States.

Why is it a national security issue? Why is a generator that generates several times more output than input a security issue? Why is it that the American people cannot enjoy what their tax dollars are paying for? Why is it that we have a government that is willing to deny the American people access to the very technologies they themselves are secretly producing?

It's not a joke. Our government has produced technologies, with our tax dollars, that could immediately begin to reverse the damage done by the irresponsible use of fossil fuels, and they are not allowed to be used.

They continue to pollute this atmosphere, and they continue to reduce the amount of metabolically available oxygen. Who could possibly benefit from that? What species do you know of that is actually better off today than, say, fifty years ago?

What is it that we do when we burn these fuels? We make fire. What is fire? Fire is a rapid oxidation process that releases heat. The real destroyers of the equatorial rain forest are forest fires, because of the incredibly poor husbandry. There's nothing good you can say about what's being done to this planet!

There are far too many people in the U.S. government and other national governments who are acting in a way that is completely moronic and self-destructive. It is not a human agenda! This is what I'm trying to get you to see. There is this whole other thing happening.

We are exploited by a corporate structure — by the "military-industrial complex" Dwight Eisenhower warned us against in his farewell address to the nation. Eisenhower got the term "military-industrial complex" from Mussolini, who was describing Fascism. These are words you don't want to use in our society.

At Project Earth we get mail from all over the world, and the one word that keeps coming up since our last so-called presidential election — about that debacle, that tragedy — is the word "coup." From the perspective of the vast majority of the human species, it was a coup. They say this in India, Japan, South Korea, France, Holland, Spain — everywhere. In spite of the fact that we never posted an article on our website that said or even suggested that we had a coup, people write to us and say, "How come the American people don't realize that they just had a coup?"

Then, following on that coup, we have 9-11. Everybody is terrified, but people don't want to talk the way I'm talking now. They think it's self-destructive.

I tell you truly, it is our collective silence that is truly destructive.

The United States of America is a sacred idea. It is a sacred thought-form. What was America to the people who risked and frequently lost their lives to create it? It was the New Jerusalem. The spiritual foundation of the United States of America is an absolute necessity of our spiritual dimension. It was founded on the basis of the absolute need of the human spirit for freedom.

But freedom brings with it great responsibility and demands great intelligence.

We do not want to live in hell, but we are creating hell for ourselves. We are tormenting each other and ourselves. We're doing these things as if we have no choice. We are truly brainwashed.

The real ultimate cult that's going on in America is this one of jingoistic, flag-waving, unquestioning patriotism. We can get ourselves all hyped up on Zoloft, and that still doesn't change the fact that we as a nation have lost an incredible amount of prestige and trust because of what happened in 2000.

No matter how much money we put into the military budget, we will not be able to restore that trust in our own people or in the rest of the world until, through grace or the incarnation of the Divine Process, our democracy is resurrected from its present contrived state. It is a travesty.

When Dick Cheney refuses to turn over documents to investigators, he gives comfort to our enemies. Truly dangerous and deranged people in truly difficult countries like Pakistan cite the actions of our corrupt public officials as justification for their actions.

If we say to the world that we represent Freedom and Democracy, then by God we have an obligation to be Free and Democratic.

In the meantime, the world laughs, because perfectly capable intelligence officers in the United States are oppressed for the sake of short-term political agendas.

The Central Intelligence Agency attempted to warn the White House before September 11. The entire affair was handled with what can only be called incompetence. While three-letter agencies spent our tax dollars listening to my calls, true terrorists were going to flight. And in spite of over an 18-minute warning crash, a second full-size passenger jet went into the World Trade Center.

Even so, we are all supposed to fall into line and cheer.

Once, in 1986, I was introduced to a man in Toronto, Canada, who turned out to be a major Soviet technology spy. When he offered me a lot of money and a lot of benefits if I would turn over mechanical drawings for an electrical generating technology I had co-invented, I told that agent to go screw himself. I told him I was under a gag order, and that I would not violate that order.

He responded by saying, "What loyalty do you owe to your country? They have done nothing to help you or your work. If you cooperate with us we will appreciate you and take good care of you and your family. Three hundred million people will benefit from your technology. Who cares if a shaft is made in Leningrad or if assembly occurs near Moscow?"

Once again, I told him to go screw himself, to go back to the totalitarian hell that he came from — and then I got the hell out of his office.

In September of 1986, I turned this man in to the FBI — and as a consequence, I ended up under investigation myself!

In February of 1987, the counter-intelligence unit of the FBI contacted me. During my second so-called "interview," one of the special agents who interviewed me was Robert Hanson, now known as a famous spy for the former Soviet Union.

Hanson interviewed me about whether or not I was a spy. But he knew I wasn't a spy, because he was!

It's not just the U.S. government that's suppressing all this stuff, it's the whole theater of this species. The "human" species has rarely demonstrated qualities that say that it should be maintained or can be sustained.

This species has never acted in a way that is consistently to its own benefit. For thousands of years, this species has acted in a manner that can only be described as both sadistic and masochistic, and on a planetary scale. It has not acted intelligently.

At the same time, there is no decision to change, because the vast majority of the human species don't even realize that we have a choice to do that. They don't realize that we have the choice live intelligently. They don't even know or what that would entail.

My protests to the "powers above" are consistently related to this central fact: "I know there's a choice, you know there's a choice, but the general population on this planet has no clue that there's a choice. We can choose to live in a completely abundant and pollution-free environment. We can make that choice and have more abundance, and not less abundance. We can stop spending money for fuel. The capital expenditure for fuel could be completely eliminated. That would free up trillions of dollars annually, globally, from the world budget, from the planetary budget."

If you want to know why I got involved in this technology, it's because we have a way to generate almost boundless levels of electrical power without any pollution or fuel, without even the need for solar panels or wind power.

It's ridiculous that I am installing solar panels in my home, when I have spent the last 23 years of my life in the field of ZP Fluctuation Technology research and development and have one more than one occasion successfully demonstrated it along with colleagues who have also learned the same hard lessons that I have.

Adams: Can we still restore this planet?

Trombly: We can if we act with great clarity and great speed. No obstacle could stand in our path.

We could even reclaim the Sahara Desert. It didn't used to be a desert. It was destroyed by people who cut down the forest and overgrazed the grasslands that were once there. Now the same thing is happening in Brazil, Indonesia, China and South East Asia.

These forests and grasslands are like your skin. What does the skin do? It keeps us from becoming dehydrated. When a person gets third-degree burns, one of the leading causes of death is dehydration. The same thing is true of the forests and grasslands.

It's about maintaining that tissue and understanding that it is very vulnerable. These membranes are being taken away.

We can also reclaim the desert that is forming in the northeastern corner of Brazil, where there was rainforest a hundred years ago. The Brazilian desert exists because the Brazilian people won't stop cutting down their own trees. I say this very bluntly. If the Brazilian people want to demonstrate that they have some intelligence, then they'll stop cutting down the rainforest, which is the equatorial life support of our planet.

If the United Nations and if the American government want to demonstrate their intelligence, then they will suggest that we should give credits to these countries for their oxygen production.

We can reclaim the deserts by these new technologies, by taking the water out of the oceans and using it on the desert.

Where you run into the logjam, over and over with all these issues, is the question of energy.

How can we heal the ozone layer? It's going to take a tremendous amount of energy to do that. We have to replenish the oxygen that's not getting into the stratosphere.

One of the fundamental points that I try to make is about chlorine. It is a molecular demon once it gets into the ozone layer. One chlorine ion can interfere with the production of 100,000 molecules of ozone. So we have to eliminate as much free chlorine and bromine as possible.

But even if we entirely eliminated chlorine and bromine production, that would still not be enough to heal the stratospheric ozone layer.

Another significant cause of ozone depletion, one that is often overlooked, is the reduction in the amount of oxygen that should be transported into the stratosphere over the equatorial rainforests. Project Earth has been trying to educate people to this fact since the mid-eighties. The oxygen source has literally been cut off by deforestation. But we can heal that by reintroducing a tremendous amount of oxygen up there, and replanting the forest down here, on Earth.

It will take energy. Lots of it.

Adams: Can you describe how your life has been endangered because of your perspectives on free energy?

Trombly: If I had described my life to you since 1980, it would be a long, long story, and it would sound like a bad spy novel.

I've had a number of attempts on my life through really serious poisonings. My wife has had to revive me and give me CPR.

So we've had a whole nightmare component to our life. But we don't live in a nightmare at all. It's quite the opposite.

However, I must say that it has been almost unimaginable at times.

Once, in 1988, I was visited by a couple of scientists at my home in Colorado. One of them was Bob Dratch, a man who has done a lot of work in creating microwave detection equipment, which is widely used by the Department of Defense.

Basically, I was standing in my office, which was a large room, 27 feet long, and Bob Dratch was shaking change in his pocket, to demonstrate that his very sensitive microwave detector could pick up the signal this jingling generated. The signal would appear on the meter and the printout.

I pointed the horn of the device at Dratch to measure the effect. And then, as I pointed the horn away, I kept my finger on the trigger and happened to point it out the window of my office. To our surprise, the alarm went off on the machine! The red light went on, and the meter peaked.

My office was being microwaved!

I walked into my back yard and found the place where the signals were being broadcast. It was right behind my house, in a little forest, right next to an engineering company that is well known for making satellite antennas.

I clipped the cable to the antenna that was broadcasting microwaves at my house, and I called the FCC in Denver. I said told them that this was illegal, and I wanted it stopped now. I said, "Stop microwaving me." I already had cancer.

Within three weeks, this engineering company was totally gone. I assume they themselves had something to do with the broadcast, or they wouldn't have left so suddenly.

So dozens of people had to relocate to Kansas, or where ever.

But why were they trying to kill this body? We are perplexed at times by the strange modus operandi of this group.

The world is not going around very well right now, because people aren't loving. When people love, they become geniuses. Intelligence isn't about thinking, it's about feeling. I don't care how many times the force of darkness, which resists love, has attacked you and made you feel separate.

I don't care how difficult anyone's life has been. I guarantee you, I can match it. But suffering is finite, it's limited, it's not eternal. You can transcend suffering through love.

The resurrection we are called to is our resurrection. Once Jesus stood in front of Lazarus' tomb, and commanded, "Lazarus, come out." And we are told that Lazarus came out.

That is similar to what is happening right now. Surrounding this planet, there is a gathering which is inviting the human species into a new dimension. They are saying, "Lazarus come out, come out of your subjective tomb and out of your corruption. Come out of your doubt of God and out of your doubt of Love. In the midst of Infinity and Eternity, We command you."

Now, in this moment, we must come out and ask for help. When we can ask for help, we get it.

People don't understand that you become realized by incarnating love. We live only as expressions of love, in eternity. The only thing that is eternal is Love. Love as the presence of consciousness is eternal and infinite.

Time and space are subsets of eternity and infinity. Space and time are subjective states, and they have nothing to do with limiting the ultimate reality of consciousness, not even a little bit. They have to do with the gnarled subjective states of the contracted world.

Scientists talk about the accelerating expansion of the universe, but it's not that, it's the unremitting *transformation* of the universe that's happening, the inescapable transformation of the universe.

You don't have a choice about it this time. It isn't the same as it was two thousand years ago. We are in the midst of the time of the resurrection. It involves you and me and everyone on this planet, I don't care who they are.

There will be miracles everywhere. The most powerful thing is love. The whole astrophysical community is now acknowledging this power, but they call it the "dark energy." They give it this Darth Vader quality, because they don't know how to relate to the Light. It is the contraction of form and the denial of the Infinite Divine that causes the appearance of darkness.

Adams: How long has there been a conspiracy to prevent the development of free energy?

Well, if you are referring to the technological side of things, I guess you could say it started with Nikola Tesla. (Although the crucifixion was really an attempt to stop Free energy as well.)

Nikola Tesla was given the vision of infinite electrical power, without fuel, in the 1880s. He demonstrated it in 1886 and 1889, and then throughout the 1890s. He tried to give this gift, but the fossil fuel boys decided he couldn't give it. The fossil fuel boys decided that maybe they could make use of him, so they didn't kill him right away. They killed Tesla in 1943.

One of the detectives approached me in 1981, at a conference. This man told me that Tesla had been murdered. So I guess you could say that it all began right there. When I was a kid in school, nobody knew about Tesla. Tesla was the father of alternating current electricity. Tesla said he was inspired by aliens, beings from other dimensions. He was anathematized because he refused to kowtow; he refused to attend the same temple that the others worshipped in.

Adams: How can we make free energy available to the planet?

Trombly: There is no such thing as free energy without enlightenment and liberation. The technologies point to free energy. We are the technology. We are the free energy.

Great yogis like Sri Babaji demonstrate this. Yogananda talked about him. He was the physical demonstration of free energy. He was the physical demonstration of what the Tibetans called the Rainbow Body. He was transparent and transfigured in God realization, the realization of the Buddha Nature.

There are alien cultures and cultures in other universes who happen to be attentive to the events on this planet because this is one of the last archetypal moments. This will not continue anymore. This entire kind of universe is obsolete and will not occur again, because it would be masochism and sadism to allow it to be perpetuated.

There's a transformation that is occurring. It is about the liberation of all the energy that has been bound up in all of these worlds that are subject to corruption. That is the real physics. This is what is really important.

In the meantime, by understanding that this is true, we can tap into a field that we call Zero Point Vacuum Fluctuation or the quantum ether, and we can generate electrical power. Electrical power exists in complete abundance, without any capital cost for fuel.

Solar technology is so very expensive. We have 108 solar panels in our two facilities on Maui and it takes up a great deal of space. I would love to have ZP Technology here, but the fact of the matter is, if I had that working right now, this place would become a target.

The other side of this story is always the same thing. Just when Light appears on this planet, the subjective forces of darkness manifest with great tenacity. This government was overthrown and nobody knows anything about it. People are silent about it.

On the cover of *Newsweek,* on September 11, was an article about the secret vote that made Bush president. The article was about a conspiracy in the Supreme Court. *Newsweek* at that time was willing to challenge the Supreme Court. The Executive Branch of the United States government was about to fall, because it was going to be exposed.

But then the planes hit the World Trade Center.

If Al Gore had been elected, I know the man well enough to know that we would have been in a different economy after four years. We would've begun to implement these technologies.

The United States government has, right now, the technology to eliminate the energy crisis. This consoling gesture that George Bush made the other day, about developing hydrogen fuel-cell technology, is just a carrot that he's dangling before the American people.

Now there are military people who have come forward and are talking about the presence of aliens and alien technology on this planet. They are even talking about the fact that we are making our own flying saucers. This Disclosure Project is extremely important for people to know about (see Secrets from the Stars elsewhere in this issue).

We could be having the greatest economic boom in the history of history. We could actually do that. The technology exists. As early as the 1970s, Henry Kissinger, George Bush, Richard Nixon — all kinds of these guys — knew about this physics. But the downside is that we are on the brink of oblivion.

Parents are paying all this money to educate their children into the lie of physics instead of the truth of physics. Meanwhile, they are taking Prozac. We have legalized the anesthetization of our species. Depression is appropriate.

Adams: What is the purpose of your organization, Project Earth.

Trombly: The original foundation of Project Earth was to reveal to the human species the actual condition of our planet. We're not being told the truth about it. For the most part, the scientific community doesn't know the truth and has been so disempowered by their so-called education that they've lost vision.

Vision is the only thing that will save us. You have to be able to see where you're going.

The agreement that I made with the Divine is one that Bucky and I talked about. We would never just illuminate the problem, we would always offer a solution. If we talked about an energy crisis, we would talk about only it in the context of the fact that there is no energy crisis.

Electrical power is already abundantly available, pollution free. We like electricity. We can power our cars and flying saucers with infinite electrical power. We could have so much fun that living on earth wouldn't be a drag, but would be really great.

Your eyes would be so open that you would walk out the door and you wouldn't see the smog in Los Angeles, but you'd see the clear, sacred air.

Project Earth is not just about communicating the problems. It's about the transformation of humanity.

(End of interview transcript)

Adam Trombly, Director of Project Earth, is an internationally acknowledged expert in the fields of physics, atmospheric dynamics, geophysics, rotating and resonating electromagnetic systems, and environmental global modeling.

Taking the advice of his friend and mentor R. Buckminster Fuller, Adam has maintained a "synergistic, global view" within a multi-disciplinary scientific background. From this perspective, Adam offers unique insights into the changes humankind has effected on our environment, and the adjustments our future requires of us.

For further information about Project Earth, please visit ProjectEarth.com.

Trombly and Celeste Adams spoke on January 21, 2002.

Adam Trombly (Speech): Climate Change Factors, Ozone Layer Crisis, and Zero Point Energy Technologies

(Transcript, slightly edited from http://www.repp.org/discussion/green-power/200205/msg00011.html, of Adam Trombly's speech to the 1988 International Tesla Society Symposium, Colorado Springs, Colorado. Trombly provides additional details regarding Tesla's murder by painful poisoning, likely by the U.S. Government. It is reprinted in its entirety because I believe Trombly's message concerning energy in 2007 is even more urgent and troubling. Gary Vesperman)

As this is the last speech of the conference here, I'm going to give an overview of the development of zero point theory and I'm going to try and take into account all of you have been very patient...

The basic principle which we are obviously here to address, was originally elaborated by Nikola Tesla. The sense that Nikola Tesla conveyed of existence was, if not unique, then certainly it was profoundly inspired, not so much by initial analysis but by initial vision.

We have become a rather left brain biased society, an analytically biased society. As a result of this analytical bias we tend to refute or deny the validity of intuitive jumps or intuitive leaps and insight.

Tesla was an extraordinarily prolific inventor obviously, but in addition to being a prolific inventor, he explored very thoroughly, for his time, the dimension of the psyche. And I think that perhaps too often we tend to forget that he himself claimed that the source of his inspiration was not conventional.

He saw what he built, and then he described it to a draftsman, and built it. The draftsman was his interface with substance. To consider that when he was riding in his carriage or his Pierce Arrow here in Colorado Springs, not too far from where we are right now, he would often see devices in their totality, spontaneously.... is quite remarkable. (I myself have seen descriptions with drawings of some of Tesla's complicated machines. Genuinely amazing! Gary Vesperman)

When you see something in its totality, it tends to have a different meaning than if you tried to put the pieces of the universe back together to arrive at a conclusion. Tesla insisted that he rested in the conclusion in his own psyche. I think this is very important. Tesla was not an analytical apologist; he was not somebody who made gestures to the scientific community to make himself necessarily acceptable in his time. What was acceptable was that he produced. The means by which he produced were often unacceptable, especially in the last couple of decades.

Therefore, we heard a lot about Thomas Edison, and we heard a lot in our education about just about everybody else except Nikola Tesla. The reason I'm sure this Society exists is this left a vacuum, a huge vacuum that is not merely filled by the acknowledgment of Nikola Tesla, but by the acknowledgment of the function of a human being, the function of a being not being polarized to the left hemisphere, but balanced to the two hemispheres of the brain, in other words vision coupled with analysis.

In the development of our generator, which we originally called the "Acyclic Closed Magnetic Generator," vision was implicitly necessary to arrive at our conclusions. Basically we had to work from very little information. There were very few explorers in the field, and we had to begin to consider that perhaps the way we considered reality actually is fundamentally incorrect, that fundamental cornerstones such as the law of induction, for example, that particular cornerstone was not necessarily as we believed it to be.

What stimulated me, and I've said this before, since 1980, was the recognition that certain astrophysical phenomena express energies in excess of what the apparent input is. This is a very common thing in astrophysics, whether you're talking about quasi-stellar objects, or whether you're talking about the planet Jupiter.

When we first found out that the planet Jupiter was developing a looped current between itself and the moon Io, Jupiter was called, in a paper published by a Goddard scientist at NASA, a "Homopolar generator."

They tried to rationalize that the relative motion between the moon Io and Jupiter was actually responsible for the current that we could measure by virtue of its magnetic flux tube as tested by satellite probe. But when you went through some very simple calculations, you found that was not true.

So we decided that we would look into the matter of "Homopolar" generation itself – the history, who came up with it, as Bruce DePalma and others have pointed out. Even though Michael Faraday did an experiment on December 26th, 1831, in which he co-rotated a magnet with a copper disk and measured a current output. Even though he had done that experiment, his own law of induction tended to ignore that fact.

A professor with the Royal Society in London, a professor of science history, told me that the original Faraday cage was designed not to keep electromagnetic noise out, but to keep Michael in. You see he played with a substance we call mercury, and in those days there was very little appreciation for the toxicity of mercury. And so Faraday apparently suffered from a form of dementia, which we've heard very little about because it's one of the cornerstones of the building we have been living in, in science.

We found out after we found Faraday's diary, after we found the citations of the experiments that he had done, that there was a gentleman by the name of Bruce DePalma in Santa Barbara, California, who had suggested that on the basis of the co-rotation of a magnet and a conductor, which we were at that time contemplating ourselves, it might be possible to generate more energy out from the generator than input in.

I must say that my initial response to that was probably not as skeptical as some people might be when they heard such a thing, because in the fields of astronomy and astrophysics it is not uncommon, not uncommon at all to find an object that is obviously exceeding what we "know" to be its thermonuclear, or any other form, it's exceeding the output that it could possibly have by thermonuclear means, by fusion, by fission, by anything we normally consider.

And so, because we had seen that already in space there was this planet Jupiter clearly being a demonstration of what we initially considered to be an anomaly. Clearly putting out three times as much energy as it could possibly be receiving from the sun. We decided to reduce to practice a form of generator with the intention of practical commercial use, and through various good fortunes we arrived at funding.

We actually, for this field in those days, got substantial funding. And as a result of that work, we applied for a patent in 1980 which was, as many of you know, denied by the U.S. Patent Office as being implausible to the extreme. The statement was to the effect that, "This device could not even generate electricity." It wasn't that it couldn't generate electricity in excess of input, it was that the machine couldn't generate electricity at all. The patent officer himself was, as many of us, as all of us basically were unfamiliar, he being totally unfamiliar, with the fact that you could co-rotate a magnet with a copper disc, even though we had provided him with a copy of a page from Faraday's diary. He actually suggested that the diary notes might have been something created expo factos.

My initial naiveté in entering this field was rapidly destroyed.

We felt that if we could produce a practical, commercial, viable unit, then the world would be very excited indeed. And what we discovered instead was we were dealing with a profound level of inertia; inertia in a frame of reference we didn't normally consider.

Economic inertia, intellectual stasis and dogma. Certainly the explorers in this field, over time, whether it's myself, or Bruce DePalma, or Tewari or going back to Moray, Tesla, Hubble. These people all discovered this inertia. It is an astonishing thing when you first encounter it. It is irrational. It says that no, indeed the Earth is the center and everything revolves around it. And the moons around Jupiter couldn't possibly be doing that what you say.

Galileo wasn't vindicated by the Catholic Church until 1984. If we took that many centuries to acknowledge zero point vacuum fluctuation-based technologies, we will all be dead. And that's the sobering realization that I have come to over the last five years.

Buckminster Fuller was a huge influence in my life. I met him when I was sixteen years old and largely because of his influence I wasn't permanently lost in space; lost in the theoretical level of things. And therefore, when I began to encounter this resistance he said something that was very important to me. He said that every new idea, every new technology, every major breakthrough, has an inevitable period of gestation. He said you must learn to be patient. He had experienced profound resistance, as you may know, to various ideas that he had in the thirties.

I think that what we are really seeing is not the resistance or inertia imposed upon this technology, but instead a resistance to a fundamental shift in perception about the Universe itself.

We have tended to describe ourselves in discrete terms, as encapsulated beings, with rather defined boundary layers, both temporally and spatially.

We're born and we die. The boundaries of our body are the boundaries of our being. Inspiration has a difficult time entering into a closed bottle. Where would it come from? Where would it appear?

How could Nikola Tesla say he got ideas from space? He was considered a very eccentric and crazy man as a result of his statements. People point out that he always had all these napkins piled up next to his plate. But by the end of his life, people had forgotten that his vision is what is powering these lights. And if we had continued with his vision, we wouldn't have a fossil fuel economy today. And J.P. Morgan and Rockefeller and a number of other individuals would not have amassed extraordinary fortunes on the basis of that fossil fuel economy.

I think this is extremely important for us to understand because when Nikola Tesla's vision was denied, a part of our own vision was denied. Just as when Galileo's vision was denied. The fact of the matter is that as we sit or stand here, a field of energy pervades us. This even relatively conventional physicists like John Archibald Wheeler stated in a 1962 article in the Review of Modern Physics. "Energy has a mass equivalence of ten to the ninety-fourth power grams per centimeter." You just need to look in the literature. That ninety-fourth power grams per cubic centimeter represents a rather coherent state. It represents something that we could very easily call a continuum.

But because of the taboo against the idea that you might perhaps be able to get water from the well of space, or what people call "perpetual motion", there has not been a sense of any kind of practical application.

Once in a seminar, well over a decade ago, I asked a question I found was extraordinarily taboo, and I said, "Why can't we tap into this field?" It had been established in the literature in Europe by Philip Sipolan (sp?) since 1951 and 1952, that not only did the fluctuation field exist, a fluctuation field of extraordinary energy equivalence. And that the vacuum field was bias able; that it was polarizable.

The polarizablity of a vacuum, fluctuation background, I believe is the essential issue, and a very simple issue indeed that we need to really consider.

David Deutch in 1982 explored briefly in a book called "General Relativity," on Einstein's centenary, which was edited by Hawking, considered very briefly the fact that not only is the vacuum polarizable in terms of density, but that an ideal theoretical situation density polarization could asymmetrically approach infinite density and asymmetrically approach negative energy density. That means that within the vacuum fluctuation itself, stress can be created. That means that the vortical dynamic that Tewari speaks of is really not that difficult to imagine, because you have fluctuation density that wishes to remain isotropic, or uniformly distributed, disrupted, polarized, in a curved manifold, and that vacuum density once polarized wants to relax from that stress back into a more isotropic state.

Anybody who studies vortical physics, fluid dynamics, plasma dynamics knows that there is no greater stress than that by which we invoke a vortical momentum. And therefore it is not hard to imagine, if we simply consider the fact that we are dealing with a medium of this extraordinary density. It is not hard to imagine or even begin to feel that just by simply biasing this field in a rotating cylinder or perhaps in an oscillating circuit, by biasing this field correctly, we can precipitate vortical momentum.

Now we may only precipitate a quasi-electron. In the vacuum fluctuation of space, their production is occurring all the time. In a bias environment however, where an electrical potential exists, that quasi-electron, instead of annihilating with its anti-particle, might indeed be distracted along the potential and find its way into what we refer to very blithely as manifestation.

It doesn't necessarily take giga-electron-volts for this to occur. And that's why Tewari, DePalma, myself and others speak of the generation of power from space.

We need to very simply and seriously consider that it's already in the literature. It isn't just in the literature of the fringe; It's in the literature now even of Physical Review since 1975. Review of Modern Physics, since 1962. And in the European literature since the 1950's. It's a remarkable thing that because of the bias against so-called "perpetual motion", or so-called, "free energy", that nobody seems to want to extrapolate what is implicitly obvious.

The atom itself can then be seen as a dynamic modification of field space. Only a dynamic modification of field space, with no quality of stasis what so ever.

Harold Putoff, in his May 15th, 1987 article in Physical Review, pointed out that in order for the hydrogen atom in its ground state not to collapse, it had to be absorbing energy from the fluctuation background. In this moment. This is not something that happened at T equals zero – before the Big Bang.

This is something happening at this moment, real time present context, now with every atom and molecule that we see configured before us. It is happening right now.

It is wonderful to have Dr. Puthoff describe this energy in terms of the Bohr atom. It is implicit that the electron orbit dissipates energy. If we consider that to be a resonant shell with no locatable density bias, then it still pertains because the atom itself, even in its ground state, resonates in space.

We have a picture, that we got when we were young, that says a thing is solid, even though particle physicists are telling us that nothing is solid, and while that's all very fascinating on Nova television, we still have a picture that persists. Can an atom, existing in certain states of polarization and stress, perhaps become a conduit drawing upon the energy of space? A transducer in a certain light.

Obviously it must be, or else it couldn't exist. The electron itself must be spontaneously appearing out of the background field. If it was not spontaneously persisting then we have to invoke the somewhat Neanderthal concept that everything had to start at a certain moment. And because we have embraced this new cosmology of the Big Bang in the last couple of decades, we have some real problems.

This is not the best forum to go into this in great detail, but I will say this - the Universe is clumpy. That's a term that is used frequently in astrophysics to describe the fact that mass is not uniformly or isotropically distributed. It is simply not. On a large-scale basis with models that have assimilated data from observatories from all over the world, especially over the last few years, we have seen that the Universe we observe is indeed clumpy. It is in fact concentrated in a way that cannot be the artifact of a Big Bang.

Now that's a bold statement. Alfven (Swiss Nobel Laureate), famous for Alfven waves, has come up with an extraordinarily beautiful description of the plasma dynamics of space. And so far, interesting to note, although he was considered to be a complete heretic when he came out with his theory, every single observation we have made from space with satellite probes, has confirmed his predictions. I think it very important that everybody here who is interested in the reality in which we adhere, become familiar with either the esoteric or the exoteric level of Alfven's work. It's just beginning to appear in the literature. I think Discover magazine had a rather prosaic presentation of it, but it was also quite good. (June '88; the "Big Bang Never Happened.")

If there was not a Big Bang, where things conveniently began with a single event, then we need to begin to consider the fact that something that has a gram equivalence of about a gram per cubic centimeter, which is our body, must be a rather insignificant modification of a field that has a potential of ten to the ninety-fourth power/grams per cubic centimeter.

This impacts the way in which we live together; it impacts the way in which we live with the Earth itself.

I had not initially planned today to show some slides from the NASA program, but because this is a cap speech at the end of the day, I feel that it might be very useful to digress for a moment and observe the rather catastrophic impact that the very concept of discrete encapsulation has had upon human existence and the Earth itself.

And I would suggest to you, after considerable study of the subject, which is now becoming accepted in the lterature worldwide, that we cannot sustain the dynamic of human existence any longer unless we begin to transcend the arbitrary, subjective boundaries that we presume to be true. Whether these boundaries are about ourselves, or all phenomena of manifest existence, until we begin to move beyond this anal-retentive state, in which everything must be particularized. Everything being particularized, leaves Humpty Dumpty.

We will never be able to re-assemble existence.

As Fuller pointed out to me at an early age, "existence is already implicitly whole, we break it into parts only in our minds only."

It is already unified whether or not we have a unified field theory or not. And as Einstein suggested at his last series of lectures at the Advanced Institute at Princeton, "perhaps we can only appreciate the unified field by entering a conscious relationship with it."

Again, this is something that would not have been at all contrary to what Nikola Tesla proposed, and yet some people would be embarrassed to say it.

I think we need to very succinctly consider that we cannot continue to burn fossil fuels on this planet, and that we really haven't found anything to do with our nuclear waste.

And that the appearance of bona-fide third party confirmation of the generation of energy from space is a significant event in history. It's not significant because it will make a few men popular, or unpopular. It's not significant because it will somehow create a minor change in our concept of being. It's significant because it represents a dramatic shift that we desperately need to embrace.

Right now we are sitting at the edge of an unprecedented human catastrophe on this planet. A friend of mine, Sayed Sayed (sp?), at Texas A&M who has for twenty years been a climatologist, in an elegant experiment recently carried out in Antarctica, has shown clearly that if we lose between 6% and 7% more of the remaining stratospheric ozone the phytoplankton in the oceans will die.

The phytoplankton in our oceans contribute 50% of the oxygen that we enjoy on this planet. It is extremely important to point out that prior to the appearance of photosynthesizing biomass; oxygen was a trace gas which basically appeared through the natural transitions of H_2O.

We simply cannot afford to lose any more oxygen than we already have. At this moment, literally hundreds of millions of internal combustion engines are running. A six-cylinder engine, of normal displacement, consumes eight hundred thousand (800,000) cubic centimeters of oxygen per hour. This transforms the breathable oxygen into combustion by-products, an entire spectrum of combustion products.

In the last twenty years, in Africa alone, we have destroyed 64% of the biomass ground cover. In the last twenty years! This is a United Nations Environmental Program figure, confirmed by satellite and manned space flight telemetry. (Remember that Trombly gave this speech in 1988. Perhaps these gloomy figures and reports are likely to be even worse now in 2007? Gary Vesperman)

Also, in the last twenty years we have consumed 29% of the photosynthesizing ground cover in Central and South America. In the last twenty years! You cannot consume oxygen at the same time you consume the factories that metabolize carbon dioxide and return oxygen to us, and expect to have a sustainable environment. Because as oxygen tensions decrease even a few percent in the troposphere, ozone tensions decrease disproportionately. This is because there is a column of oxygen and other gases that rises from the biosphere to the troposphere and then to the stratosphere. It is on the basis of the mixture of these gases, that we have ozone in the atmosphere.

I would suggest that we can not afford to wait to demand that serious money is applied to this research, Federal money. We need this to happen desperately and we need this to happen immediately. And for those of us who feel that we can be blasé, and wait and wait and wait until somehow this becomes acceptable, (the implementation of this new kind of technology) let me just say that if we think we can wait; we're sorely deluded.

You wonder why there is a drought in Ethiopia. You hear in Time magazine that the so-called scientists can't figure out why there is a drought. Well, Ethiopia at the beginning of the century was covered by 43% forest. Ethiopia today is covered by less than 4% forest. How is the hydraulic cycle supposed to maintain itself?

This at first, this entire consideration at first, seemed to be in rather left field of the consideration of energy generation. But, as I began to explore it further and further and lectured around the world, I began to discover that most of the human race has been entirely uninformed. Some people have suggested this is rather conspiratorial. The slides you are going to see in just a minute have been available, some of them, for several years. We finally got a few of them on CNN December 25th (1987?)

I think when you see them you're going to realize why they are so significant. And as always I would like to thank Richard Underwood of NASA, now retired, for providing these images. They are in the public domain, but anyone who has tried to get photographic data from the NASA space flight program, especially during the Reagan Administration, will find that it is a very difficult thing to do. As a matter of fact, most of the infrared photography is now stored at AMES, and you can't get into the building. Even though this material is not classified, the building itself is off limits.

I would like to have the lights dimmed, and I would like to show these slides and then we can go on from there. We can discuss in more detail about this and other things.

This is the way clouds are supposed to look over the rain forest. These are healthy clouds. These clouds are appearing over the Northern Congo area and this photograph was taken in the mid-seventies from Skylab. Cumulonimbus, stratocumulus, very beautiful cloud formations and an extraordinary density of water vapor as you can see.

Next slide. This is what the ground looks like after you get rid of the forest. This picture isn't from Africa, it's from Brazil; but literally millions of hectares worldwide look like this today. You can see that the watershed to this river, which is the Sao Paulo River, has been almost totally devastated. You can see that evaporation would occur rather rapidly instead of in a moderated sense through the membrane canopy of the forest.

The next slide shows the way clouds look after you do this. By the way, this is the same coordinate almost exactly, taken from the Space Shuttle in 1984, as the slides show big billowy beautiful clouds from Skylab ten years earlier. What you see beneath this cloudbank is now desert. So the cloud building is no longer healthy. Instead of that nice kind of veil of water vapor, you see an extraordinary, Los Angeles scale, optical density. That's dust.

Dust that has been lifted and aerosolized and now remains in chronic suspension over much of the African continent. The clouds are flat. The convective, humid currents that rose from the rain forest no longer carry water vapor in significant quantities.

(At the end of the above "Charles N. Pogue: 200+ MPG Carburetor" suppression case, this writer, Gary Vesperman, mentioned that he had taken an introduction to meteorology class given by University of Wisconsin-Madison climatology professor Dr. Reid Bryson. One memorable lesson was a study Bryson had conducted of why the Harappan Empire of ancient India had failed. Due to over-grazing by sheep and goats, the Harappan Empire's land had become barren. Each drop of rain is comprised of enough water vapor coalescing around a single dust particle that it becomes heavy enough to fall.

Bryson discovered that increasing dust in the air can reach a critical point where there are so many dust nuclei per unit volume that none of the drops of water can become heavy enough to fall as rain. A feedback cycle then starts up where lack of rain causes even more dust to be stirred up into the atmosphere. More dust causes even less rain to develop.

Bryson's suggested simple solution? Stop goats and sheep from over-grazing the land so as to allow the land to re-vegetate and keep down the dust. The feedback cycle then reverses itself – causing more and more rain to fall.

Currently the American southwestern states are enduring the worst drought in many decades. Are they about to suffer the same fate as the Harappan Empire?)

There was a great effort, a joint effort of the United Nations and several other countries to seed what clouds remain to see if the hydraulic cycle could be restored. Unfortunately somebody forgot to plant anything under the seeded clouds, so the desert is now growing. The Sahara desert is now growing six miles per year and is three thousand miles across. This is significant.

Next slide please. This is to give you an idea of the scale. We are not looking at the desert floor here. We are looking at a pall of dust that stretches as far as the eye can see, to the curvature of the Earth. Twenty-five maybe twenty-eight thousand square miles here. This area all used to be called the sub-Sahara and now is moving into the Sahara. Flat clouds, no rain.

The next slide will show you conclusively that when you see breaks in the pattern, you have a deeper understanding of the optical density. This density is equivalent to a critical day in Los Angeles. This again is chronic and has serious ramifications for us on this continent. Serious ramifications.

This has happened because somebody denied vision. This has happened because when in 1906 Nikola Tesla said that fossil fuels would one day create a corruption in the entire atmosphere of the Earth, he was called eccentric. Next slide please.

South of the aridification process, in Zaire we have fires. These fires are burning out of control. They have no planes to drop chemicals on the fires. They have no fire departments. They have no money. This is a small area, only a hundred by a hundred miles. You can see where the forest that was once there has already been stripped away, and the hydraulic cycle therefore undermined.

The next picture is Angola burning. The CIA did not win the war in Angola; fire did. 13,000,000 acres burned in 1985. When NASA scientists examined this photograph, they thought that this was some sort of strange cloud until they realized it was the combination of the plumes of smoke from the fires. Just consider the area involved, and consider the fact that this is now being visited on our country.

Alaska in the last three weeks has lost 750,000 acres to fire. The Secretary of the Interior, Hodel, said, “Let Nature take its course.” They saved part of Yellowstone that was close to Old Faithful, but decided that the rest of the wildlife habitat was expendable.

And this while we are spending hundreds of millions of dollars producing neutron bombs and other clean kill weapons, which can never be used and God forbid that they ever should be.

The next slide please. This is Junguoy (sp?) Bay on the coast of Madagascar, and it is not uncharacteristic of bays all over the world now. This is what happens after the deforestation and after the fires. This bay was over six hundred feet deep twenty years ago. Now you can walk across it during the dry season it is so filled with silt. This is happening now, today. It is not theoretical. We have to move now.

Next slide please. This beautiful lake was called Chad. Lake Chad was the size of Lake Erie. Lake Chad supported 1.8 million human beings in peripheral agriculture and fisheries. The next slide is Lake Chad in 1982. (In his movie, An Inconvenient Truth, I remember Al Gore showed possibly this very same pair of satellite photos of Lake Chad in central Africa. For an alarming update on Africa’s huge lakes, see http://news.yahoo.com/s/ap/20061209/ap_on_sc/warmer_world_african_lakes. Gary Vesperman)

It’s the hole that was left when the hydrological cycle was destroyed in Africa. This is not a cyclical drought, and it is not a drought that will be only visited on Africa. The water vapor distribution on this planet is being changed dramatically by the destruction of biomass.

The water vapor budget on this planet is being changed dramatically because we have failed to feel beyond our own little subjective event horizons. We tend to exist like psychic black holes. We take a lot and give too little.

A few years ago I pointed out at the fourth International conference on Atmospheric that the drought of 1986 and 1988 would occur. Now they have occurred. They are not going to cease because we don’t want them to occur. They are not going to cease until we realize that we need to mobilize every democracy on this planet, and hopefully this will someday soon include the Soviet Union, to implement this new class of technologies.

We can address these issues by planting forests and by using energy generated by these new technologies. Whether you call it an "N" machine or something else, I'm sure these technologies will continue to evolve.

By utilizing this energy which we can get directly from the "vacuum" of space, we can desalinate and re-irrigate. The Israelis if nothing else have shown us that you can resurrect a desert. We are going to need to resurrect a planet. We cannot posture ourselves and say that national security comes before the security of the human race. It is the security of the human race in total that is now threatened.

This is the last slide. I'm only going to show eleven slides today. I think they speak for themselves. This is a veil of dust that stretches out towards the horizon across the Atlantic Ocean, reaching from the Caribbean Sea, in the lower portion, all the way to the African coast. This is not a phenomenon that occurred in one year. This is a phenomenon that occurs every year – between eight and nine million square kilometers this year. (8-9,000,000 square miles)

This dust acts as condensation nuclei for water vapor causing precipitation in the south, over water, in Honduras, in Nicaragua, while the Midwest and Southeast are parched.

We are changing the way things work, and we haven't even begun to inspect the ramifications. It isn't just the "Greenhouse Effect"; it's a much more complex issue.

Only by stepping over the threshold into a more synergistic view, which is not just a kind of convenient term bandied about for the sake of the "New Age," but only by entering into a more synergistic view which acknowledges the inherent coherence of phenomena, can we begin to comprehend the fact that when you do something here it affects something over there. In quantum geometrodynamics, actually in a number of other studies, what we call action at a distance, in a coherent field, distance is not presumed.

I hope that this all has said something. Fuller's suggestion was that Project Earth should either determine whether there was a reason why we had to implement these technologies, or whether it was no big deal.

"Can we last longer? – I need to get my next grant from DuPont." To produce more chlorofluorocarbons? "Yes, it does seem that it might have that effect, but if I say that in the literature than I am defying my contract."

Scientific integrity, which used to be something that characterized science, is something that is sadly lacking in too much of the scientific community. Too many have become grant whores and parasitic on society, posturing themselves as authorities, condemned to the inertia of the past and past conceptualizations of reality.

Recently I was lecturing at John Hopkins, which is in itself sort of a miracle, about zero point physics and while we were considering zero point physics somebody said, "Well this is all well and good that Mister Tewari did this over in India, and that it's all well and good that you've done this in the United States. DePalma, it's all well and good to demonstrate it, but what about the United States Government?"

"I mean wouldn't the United States Government be doing something?" the child asked. A sixty-two year old child, a very nice man actually. And I said all you need to do is get a hold of the 1986 fiscal year "Request for Proposals" published by the Department of Defense.

Look on page 193 of that document, and you will see something very interesting. In AF section, which is Air Force section 86-77 subsection 6, you will see that a government which denies the reality of zero point technologies is requesting .... "further research into esoteric energies heretofore unknown including the zero point dynamic fluctuations of Space." ... for propulsion. But it doesn't exist you see...

But we want you to research it if you have a bona fide organization that happens to be a prime contractor with triple security clearance. This for propulsion for the Air Force when the entire human race is threatened. Now there is a certain kind of insanity somewhere implicit in that. It's in the literature; you can order a copy from Project Earth, or call the Pentagon. This is not a classified document. I won't get in trouble for saying anything. This is actually a program that is ongoing, right now, today, within the government enclave. Call Los Alamos and ask a question about it, and you might get a very long silence on the other end. Call Lawrence Livermore Laboratories and their Aberdeen Testing grounds. The same phenomenon will probably occur.

A significant amount of funding is going to make sure that this irrelevant, mythical phenomena is applied to weapons systems and weapons-carrying systems. Something is very wrong about that. I don't believe that anybody sitting in this room would say that it's in the best interest of our people, or any people of the world, for this kind of technology to be applied outside the realm of civilian application at such a time.

Six to seven percent further depletion in stratospheric ozone, and we are seeing depletion rate trends that indicate that this level of loss will occur very easily within the next two decades. Those of us who have really considered this, and as you consider it more and more I'm sure you'll realize that two decades pass very quickly, for all of us. It doesn't give us time, as I said before for subjectivity.

This field has survived, but not on the basis of being acceptable in the literature. Tewari has tried to publish. I know the IEEE (International Electrical and Electronic Engineers) is involved in this conference, but Tewari tried to publish in IEEE and was summarily rejected. Many of us have tried to publish and have been rejected. The reason Tewari even bothered to try to duplicate this "Acyclic Closed Magnetic Generator," after years of correspondence with DePalma, was because he was able to convince some mechanical engineers that it had some engineering method. You see they actually did material stress analysis.

We also analyzed. We used beryllium copper for a reason. It's just engineering. There are a lot of you in this room who are perfectly capable of doing it. There was nothing magical. We just operated on a different presumption. We said, "Maybe this experiment will work." And if it doesn't work, well then it's like 88% of the rest of them. If it does work, heh, then there is another level of confirmation.

Robert Kinchloe, Professor Emeritus of Stanford University, went to visit the, how can we call it, encumbered "Sunburst Machine". This machine was originally developed by DePalma, Richardson and Bernard at Sunburst Farms, Santa Barbara, California. Dr. Kinchloe just out of curiosity of his own mind, decided that he would just see if there was something about it that was unusual. He presented a paper on it, and I understand that it only got to Bruce through somebody else. But that's not unusual; my own attorney has directed my attention to an article I never knew existed. It's funny about that.

It's funny when representatives from our own Government look me straight in the eye and say, "Yes we know this is real, but we wonder why you would disclose it to foreign nations?"

I said, "I didn't disclose it to foreign nations. It was in an international publication in 1982, and I didn't even know about it."

I would suggest to you that it's time for us to not simply entertain a curiosity. I would suggest to you that it's time for us to enter a human process of inter-relationship, to try to attempt to reintegrate ourselves with one another and not in a floaty kind of "new age" sense necessarily at all. Just call ten people and ask them to each call ten people and tell them that we have an emergency on our hands. Demand that the people we are hiring represent us, supposedly, not the major corporations. We are hiring these people to represent US! Which one of you has the power to lobby in Washington?

We need to send a very clear message to Washington that states, "Gee, don't you think it's silly to be talking about Star Wars? We're only talking about Global Genocide." This without doing anything except for what we are doing right now. We don't have to drop a bomb or fight a war. Just continue exactly as we are now. All we have to do is remain in this collective state of inertia. And I don't personally believe we are going to do that. I don't believe that human beings are not going to rise to this occasion. I don't believe it for a second.

But, I do believe we need first to understand what we are confronted with. And then we need to understand that we can do something about it. We need to act, and we need to act like somebody who is being chased by a hot poker, or someone who cares.

Whichever your response is, Act!

Ten people calling ten people calling ten people, covers the country in a week. It's called "Exponential Networking." I didn't come up with the idea; Fuller did. Call ten people. Ask them to call ten people and find out what happens. It's the equivalence of an electron avalanche in human society. It works.

So, I wanted to try to give a wrap-up and I wanted to cite the fact that we wouldn't be here if it weren't for somebody's vision. Yes, their vision was applied. Yes, their vision, his vision, Nikola Tesla's vision was brought into life. Otherwise he would have been a mere mystic, wouldn't he?

Yes, we do have to sit down with our Macintoshes, or sit with our Hewlet Packard 41C calculators. We had a lot of money (for this field). A total between the two phases of the experiment of about $200,000. And now I'm finally happy to say it looks like it's going to be produced, or at least this one is going to be produced. It looks like DePalma is also moving into that modality.

We are certainly hoping that more people will come out of the woodworks and say, "Hey, well I've had this thing for the last thirty years. But I was told that if I brought it out into the public when I was working at Los Alamos twenty years ago, they would basically permit character assassination to ensue."

It's hard to believe in some ways, and I don't want to paint a black picture, but I think we have to see the end of times when the New York Times calls a National Center of Atmospheric Research scientist to ask, "How come everyone in the world says that the Reagen report on acid rain is a lie?" And the man answers, "You don't understand the kind of pressure we're under here. People's careers are in jeopardy." This when all our lives are at stake.

So I would like to open the floor to questions....

".....I raised a question in another seminar about the oxygen depletion, and the speaker told me that even if we were to kill all the forests at once it would take a very long time for the oxygen to dissipate out of the atmosphere....

We are talking about a change in the mixture of gases, okay? There are people who say that even if you combusted all the carbon on the Earth, biomass and post-biomass, the oil reserves, everything, there would still 75% of the oxygen in the atmosphere. Unfortunately, they fail to take certain things into account. For example:

Today we sit, and if you knew what we went through to get this acknowledged in the world press (And it would take me an hour to tell you), but we now have it publicly acknowledged by NASA that we have between a 2.3% and 6.6% depletion in world wide atmospheric ozone depending on latitude and time of year. This not taking into account the rather large depression over Antarctica.

When this level of ozone depletion occurs, the level of ultra-violet influx increases the probability of photosynthesis in the lower atmosphere. So, the O_2 is preferentially converted into H_2O_3 for example. This would normally only appear in great quantities after a lighting storm in the past.

We have a lot of H_2O_3 in the atmosphere. We have a lot of O_3 in the troposphere, which until very recently was being attributed to internal combustion. But O_3 was appearing in large quantities in rural areas where there was very little internal combustion, relatively speaking. It became an embarrassment when the Department of Agriculture had to admit that 2.6 billion dollars worth of crops were being destroyed per year by ozone alone.

So the photosynthetic reaction that is occurring as the result of increased ultra-violet influx must be taken into account if we are going to begin to understand what is going to be sustainable in terms of oxygen tensions. It is the mixture of gases that rise from the biosphere through the troposphere and into the stratosphere that determines the tension of ozone, O_3.

The Nimbus satellite, by the way which NASA has conveniently said is out of calibration even though it was in fine calibration last September, and in almost perfect agreement with the instrumentation on the ground in Antarctica. Which by the way at the center of the Antarctic hole, six miles up, we had 96% depletion levels last year (1987). The jumpsuits worn by some of my friends from the Center for Atmospheric Research, please understand there are a lot of good people there, people there I respect a lot, their nylon jumpsuits were actually degraded by ultra-violet exposure in just one flight. Several people had serious eye injuries.

Now anybody who is going to suggest that this type of influx is not going to effect the species of molecules that we have in the atmosphere, and the mixture of those gases, is denying an extremely important fact. So whereas I'm not suggesting we're all going to die of anoxia, what's going to happen when the phytoplankton in the oceans die? They are the basis of the entire oceanic food chain. If you are not familiar with them, they are the little critters that actually made all this possible. This conference would not be occurring today without their sponsorship.

I think we need to realize that we are sponsored by living things, and we need to support them so they can support us. Does that answer your question?

Yes, thanks.

It occurs to me that the resurrection of Nikola Tesla's vision and other people who have had the vision of the quantum ether, may yet be called on for a second offering. I think it's a good time to invest in this second offering of free energy. We did not invest the last time and now we are paying for it. I don't want to see anybody suffer. What will it be like in ten years, when already the American Cancer Society says that even with sunscreen protection ratings of 15 SPF, direct sun exposure should be limited to an hour?

I hope the Tesla Society will prosper, and move into a new age of manufacturing, implementation and further development. I want what has happened so far to be totally obsolete in ten years. One kilowatt in your pocket, why not?

There is absolutely no reason why not. You've got ten to the ninety-fourth power, grams per cubic centimeter energy equivalent field. It's not in a great big area, but it's a Lot of energy. If we can just scrape the surface, ever so slightly, we would never have to worry about it again.

That's what Nikola Tesla was scheduled to tell Franklin Delanor Roosevelt back in 1943. In 1943 he had proposed to FDR that perhaps we should look carefully at the fact that we can get all the energy we need from any space we happen to be in.

He didn't show up for his meeting with the president. He was found dead in his apartment, "Natural causes."

There is some suspicion that maybe his visionary paranoia of poisoning was not exactly paranoia, ... but premonition.

I have never mentioned this before, but when I spoke at the 1981 Conference at the University of Toronto, a detective, an older gentleman from New York, with a heavy New York accent, approached me afterwards and said that he was a detective at the time when Tesla had been found dead, and said he was involved with the investigation.

He said, for national security reasons, that nobody was to know that the coroner's report had indicated he had been poisoned.

I have never personally read the coroner's report, but the man was about the right age. He showed me a badge, and I had no reason to doubt this man who had come all the way up to Toronto from New York, just to tell somebody after all those years.

The coroner's report did say he had been poisoned. Now it turns out that the only medium to my knowledge it actually cites that Tesla had been poisoned is the Yugoslavian film on Nikola Tesla called, "The Secret of Nikola Tesla." So everybody can watch again the introduction, because they say it right at the beginning. And they also say perhaps that he was killed by the Nazis.

I did not really want to mention all this, but science cannot exist in an environment where science is not allowed to grow.

Any other questions? Well, you have all been a tremendously patient group. Thank you for your attention.

Thank you Adam.

Em-Tech Technologies: Advanced Solar Photo-Voltaic Crystal Lattice Cells

In 1989, during another flight of the Space Shuttle Atlantis, the U.S. military photographed a newly launched Soviet communications satellite in geo-synchronous orbit above Moscow. There were several things about the new Soviet satellite which were unusual. First, spectroscopic investigation of the signature of the satellite revealed the familiar tell-tale presence of nuclear material located in the aft section of the satellite. It was presumed (incorrectly, it later turned out) that this signature confirmed that the satellite was, indeed, powered by a small on-board thermo-nuclear reactor.

What did not make sense, though, was the fact that the power requirements, which American military analysts believed were needed to support the variety of functions being performed by the Soviet satellite, were believed to consume considerably more power than could possibly be produced by a nuclear reactor of the kind and size believed to be installed and operating on the satellite.

Further, the photographs revealed the presence of a peculiar kind of parabolic dish suspended from the nose of the satellite. It was shaped like the much larger satellite receiving dishes commonly used by television viewers in the West. The peculiar thing about this dish was that it was very small, less than three feet in diameter, and had a very flat parabolic surface. This meant that it did not focus the signals they presumed it received onto any boom-mounted collector or decoder device. No such device was mounted on or attached to the dish.

Finally, it appeared to be constructed of a material or combination of materials which was unknown at the time, but which appeared to be highly reflective, almost like a mirror. Interestingly enough, the dish was also apparently transparent to interstellar signals which originated behind it. For years it was believed that the strange parabolic device was a special kind of high-gain directional antenna. That assumption later proved to be totally false.

In fact, information recently supplied by the I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, to support several of its patent applications confirms that the dish was constructed of the same crystalline lattice material which is used to construct the interior of exceptional energy storage devices, but built with some very special features. The purpose of the device was to convert sunlight and other ambient wavelengths of energy into ion flow or electrical current, in sufficient amounts to maintain the electronic and other operational functions of the satellite. In the West we refer to devices which act this way as photo-voltaic devices or solar cells. The device which looked like a high-gain antenna dish was certainly a solar cell, but it was much more than that.

The quantum physics and the new technologies which made it possible to produce the crystalline lattice structure of the energy storage devices also made it possible to produce a similar crystalline structure which was capable of simultaneously converting wavelengths of widely varying characteristics into ionic flow or electrical current. The strategy employed by this revolutionary new material worked across almost the entire spectrum of known wave lengths, from far out in the realm of extra-low frequency long wave lengths propagated by the original Big Bang all the way up through the visible light spectrum and beyond, into X-rays and ultra-high frequency, ultra-short wavelength wave forms associated with pulsars, quasars and quantum singularities.

The quantum mechanics which describe the characteristics of the crystalline lattice structure recognize two distinct features of wave/particle propagation which are nowhere integrated in the linear quantum mechanics or solar cell technologies of the West. First, the characteristic of crystals which differentiates them from all other known material substances is that they resonate (or oscillate, to be more precise) at both primary and harmonic frequencies.

A crystal-based tuning fork which resonates at “A” natural will also resonate in sympathy with any harmonic of “A” natural propagated across the entire wave spectrum if the wave form is detectable and of sufficient intensity to activate the crystalline structure of the tuning fork.

The crystalline lattice of the Soviet solar cell was deliberately designed and constructed to resonate at all the harmonic frequencies of the entire wave length spectrum, as defined by six discrete bands which embrace all known wavelengths. These bands are each a harmonic of the next, and all of them cause excitation (oscillation) of the crystalline lattice structure at the same time.

This phenomenon reflects a new feature of quantum mechanics, instantaneous simultaneity of crystalline oscillation regardless of the distance of separation. The potential of this phenomenon in future applications is truly awesome. Properly harnessed, for example, this property of crystal structures as defined by the IPMS version of quantum mechanics could make it possible to communicate over vast distances with no time lag. The oscillation characteristics demonstrated by these structures operate outside the normal context of space-time.

This writer, Gary Vesperman, happens to be the inventor of a major advance in torsion field communications, made possible by these special crystalline lattice structures. The maximum theoretical capacity of torsion field communications apparently is 40 billion channels of three-dimensional holographic television through the entire earth without attenuation at one billion times the speed of light.

It has long been recognized in the West that oscillating crystal structures can be engineered to create a usable flow of ions in the form of low-voltage direct electrical current. However, instead of relying exclusively on light in the visible spectrum alone to create ion flow, the Soviet system operates on all known ambient wave lengths simultaneously, in six harmonic resonant bands. It creates ion flow wherever and whenever such wave forms are present. It means that these devices operate on ambient heat remaining in a room or in the dead of night when there is no visible light present at all.

One more feature distinguishes the Soviet material from the Western photo-voltaic or solar cell. The Western cell operates by trapping photons of light in a cleverly designed network of glass, mirrors and other inter-connected reflective materials which are deposited on a substrate of a dielectric material. When the volume of "photon" traffic striking the dielectric material reaches a minimal threshold, electrical current is created.

That is, when enough photons have been captured to excite the surface of the substrate by either directly impacting molecules on the substrate surface or by creating heat energy sufficient to cause those molecules to oscillate, ion flow is induced. It is not a particularly efficient method, but it is the best that has been devised in the West.

In the Soviet material, because photons are known to behave in precisely the same manner as electrons, the photons (which are present in all wave forms, including visible light) are simply introduced to the energy wells between the tips of the molecular pyramids on the sheets of crystal lattice which overlay each other. The material is so efficiently designed that it actually absorbs (here is another place where imprecise common language gets us into technical difficulty) the individual photons in the same way it accommodates electrons.

During the discharge cycle, when a circuit is open and available, the photons simply follow the path of least resistance, which is out through the crystalline lattice and into an electrical circuit, energy storage device, or some other similar application.

The Soviet solar panel operates at a nominal efficiency of no less than 51% in the least consistent pieces which have been tested in the United States. The best pieces have produced test results demonstrating operating efficiencies in excess of 80%. These devices/materials produce electrical current at a higher rate per unit of exposed surface area in the dark of night than the best solar panel ever produced in the West will generate in the most ideal sunlight conditions.

The simple circular device attached to the Soviet satellite was a single solar cell which was used to power the entire ship and all its functions. The nuclear fuel signature detected by the Atlantis crew was nothing more than the emissions produced by a piece of spent nuclear fuel placed on board the satellite, intended to mislead the American surveillance team. It worked.

Advanced solar photo-voltaic cells produced by Em-Tech Technologies of Toronto, Canada, have demonstrated actual hands-on efficiencies in laboratory applications of more than 50%. These cells are based on designs developed by the IPMS. Theoretical models have yielded energy production efficiencies of more than 80%. These cells operate on such wide band-widths and at such high efficiency rates that their performance characteristics in the dark of night exceed those demonstrated in broad daylight by the best current, state-of-the-art solar cells produced anywhere else in the world. When applied to current global electric energy requirements for domestic, commercial, industrial and military use, the cost of electricity could be reduced to less than $.002 per kilowatt hour, with the added capability of operating not only in daylight but at reduced loads throughout the night, regardless of weather, on virtually any scale.

(When I, Gary Vesperman, was peripherally involved with the IPMS inventions during the 1992-1994 period by way of preparing Rodger Ward's electric car IPO, I heard a cute story. Ashurst Technology Corporation was based in Las Vegas, Nevada, where I was also working. Ashurst wanted to bring some of the IPMS scientists to Las Vegas and set up laboratories. The scientists, who were used to the much colder climate of Kiev, Ukraine, balked at moving into the hot desert. Toronto, Canada was chosen as a compromise location for Em-Tech Technologies.)

For comparison, the very best solar cells ever produced in the West have been produced by the Japanese. These cells operate at a maximum of 19% efficiency. That is, they convert as much as 19% of the ambient visible sunlight shining on a clear, cloudless day into ion flow, which then becomes low-voltage direct electrical current flowing through a circuit. The Japanese panels require months per section to manufacture and literally cost more than their weight in gold to manufacture. They are very heavy and are so sensitive to vibration and calibration that once installed, they cannot be moved at all.

Joint ventures of the IPMS with more than a dozen private sector companies to develop these useful inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

David G. Yurth emailed to Gary Vesperman on August 5, 2007 his own suppression story:

When I was hired in the Spring of 1992 by Ashurst Technology Corp, whose offices were then located on Western Avenue in Las Vegas, I was assigned the task of understanding everything there was to know about the new sciences and technologies developed by the I.N. Frantsevic Institute For Problems of Materials Science between 1945 and 1991, when the Berlin Wall came down. The owners of Ashurst had accidentally hooked up with three top scientists from the Institute, as reported in the publisher's proposal I submitted to my agent in the Spring of 1994. (Yurth's proposal comprised the original edition of *The Anthropos Files: Tales of Quantum Physics from Another World*. "Anthropos" is a Greek word meaning 'of man' or 'things related to humans'. Yurth used it in the title to his book about IPMS technologies because it occurred to him that their epic scientific and technological achievements offer everything needed to save Planet Earth from what we humans have been doing to it.)

My publisher's proposal was released by my agent to former Secretary of Defense Frank Carlucci at a luncheon they both attended at the Washington Press Club two weeks after I gave her my manuscript. Two weeks later, two guys in dark suits and thin black ties came into my office and attempted to confiscate my computer and all my records. I called the police, had them arrested and then was forced by the Director of the Western Regional Office of the Defense Intelligence Agency to forego publishing the book for five years under threat of prosecution and personal injury. When you read the treatment, you will understand why it was important. That was a major league suppression exercise, the scope of which you will come to appreciate after you have read my manuscript. They are still successfully suppressing many of the technologies that are cited in that piece of work. (Some of them are described elsewhere in this compilation of energy invention suppression cases.)

However, the most important scientific technology suppression story, in my estimation, is the successful squelching of the report issued to Discover Magazine by the CDF Collaboration at Chicago's FermiLabs, citing the discovery and verification of sub-quarks as the constituents of quarks. I reported this information in my still unpublished book manuscript *Seeing Past The Edge* in considerable detail, including copies of the press releases and report abstracts issued by the more than 450 signatories to the report when it was issued. (This writer, Gary Vesperman, edited *Seeing Past the Edge*.)

If ever there was a significant suppression of essential, baseline scientific information, this was it. What it means to science, and what is suggests about the sufficiency of the Standard Physical Model is one thing. But what it says about the extent to which the gatekeepers for the scientific establishment are willing to go to suppress information that threatens their stranglehold on their own territorial imperatives is another matter entirely. If I were to choose between all the instances I know of scientific or technological suppression during the past century, this would have to be number one on my list, bar none.

Dave

Like energy inventors, physicists occasionally also encounter suppression. See http://rense.com/general77/21.htm.

Marshall Douglass Smith (Author): The Rise of Fascism in the American Energy Business

The ruthless geo-political strategy of corporate American energy oppression is clearly exposed by Marshall Douglass Smith in his book *Black Gold Hot Gold –The Rise of Fascism in the American Energy Business*. The book details the collusion of oil companies and the US military and federal government since the 1920s. A preview of Chapter 3 is available online at http://www.theforbiddenknowledge.com/hardtruth/black_gold_3.htm, and is recommended reading.

To be fair, an experienced oil and gas geologist, a friend of Gary Vesperman, thinks Smith's account is false of how the end of the Vietnam War was intentionally delayed until the very day that Standard Oil had completed its exploration of oil offshore of Vietnam.

And what do you suppose is really happening with Iraq and Iran? The *Los Angeles Times* article "It's Still About Oil in Iraq" (8 December 2006) -- see http://www.truthout.org/docs_2006/120906Y.shtml -- affords us some clues. The U.K. *Independent* article "How the West will make a killing on Iraqi oil riches" (http://news.independent.co.uk/world/middle_east/article2132569.ece, 7 January 2007), and Truthout's "New Oil Law Means Victory in Iraq for Bush" (http://www.truthout.org/docs_2006/010807A.shtml) confirm the suspicion of what many people think is the real reason why the United States invaded Iraq.

Perhaps the key to peace in Iraq would be to share Iraq's oil dividends among the Iraqi people, in the same manner that Alaska shares oil dividends (see http://www.iraqdividend.com). Instead, the American and British oil companies, in collusion with Bush administration, are planning to keep the lion's share. Realizing the real purpose of the U.S. invasion and reconstruction of Iraq, Iraq's oil workers unions are struggling to prevent the handover of ownership of Iraq's oil to foreign oil companies (see http://www.truthout.org/docs_2006/060907A.shtml).

To order a video about the US warning to the Taliban in August 2001 to allow an oil pipeline through Afghanistan --- or bombs would start dropping in October 2001 --- visit http://www.nutech2000.com/category1_1.htm.

It is logical to assume that the real reason for both Gulf Wars, and the interim between the two wars which featured US Navy patrols of Iraq, was to allow major American oil companies to use explosions from US Navy bombs – for well over a decade – to seismically explore for oil in the Persian Gulf off Iraq's shore, at nearly no expense to themselves, just like Standard Oil did during the Vietnam war.

Is it now time to explore for oil in the Persian Gulf off Iran's shore? But first the oil companies have to secretly stampede the United States and Iran into a very long war with each other…

CONCLUSION

It should now be evident that the oil/auto and power monopolies viciously defend their global energy markets by threatening, persecuting or even murdering targeted energy inventors, and even entire nations.

U.S. Patent Office Holds Secret 5000 Patents

The most straightforward way to suppress development of new sources of energy and still maintain an appearance of legitimacy might be by controlling the United States Patent Office.

Under the Invention Secrecy Act of 1951, the government may restrict the publication and dissemination of information about new inventions if their disclosure could be "detrimental to the national security." At the end of fiscal year 2006, there were 4942 invention secrecy orders in effect. These "secretized" patents are kept in the vault at the U.S. Patent Office (Park 5 Building). They never receive a patent number, and the inventor is rarely, if ever, compensated by the government for use of the invention. (Source: http://www.fas.org/blog/secrecy/2006/12/patent secrecy orders_lifted_o.html. Other patent secrecy links: http://www.fas.org/sgp/othergov/invention/admin.html, http://www.fas.org/sgp/othergov/invention/37cfr5.html, www.fas.org/sgp/othergov/invention/australia.pdf, http://www.fas.org/spp/starwars/, http://www.fas.org/blog/secrecy/2006/12/patent_secrecy_orders_lifted_o.html, http://www.fas.org/blog/secrecy/2006/12/navy_mind_control.html, and www.fas.org/sgp/othergov/invention/program.html.)

The U.S. Patent Office has a nine-member committee that screens patents in order to protect "national security".

An understandable reason for suppressing certain types of energy inventions is that the knowledge behind them is also capable of producing tremendously destructive advanced electromagnetic weapons such as the "death ray" apparently invented by Nikola Tesla and the Russian military's deployment of plasma beam weapons. Hence many such new energy technologies, particularly those using this kind of knowledge of advanced electromagnetic principles, are considered "dual use" technologies that are among the 5000 un-numbered patent applications confiscated in a vault at the U.S. Patent and Trademark Office because of their military potential and the need to keep that knowledge from America's enemies.

A hidden purpose of this committee is to also find and remove from public access energy-related patents which could threaten the fossil fuel and power monopolies.

Canada's patent office doesn't have a similar screening committee. It is recommended that energy patents possibly in danger of being classified should be first applied for in Canada. Once granted, up to one year is allowed to apply for the same patent in the U.S. Patent Office. Now the patent can not be classified because it is already out in the public domain, courtesy of Canada.

Text of Generic Patent Secrecy Order

SECRECY ORDER
(Title 35, United States Code (1952), sections 181-188)

NOTICE: To the applicant above named, his heirs, and any and all of his assignees, attorneys and agents, hereinafter designated principals:

You are hereby notified that your application as above identified has been found to contain subject matter, the unauthorized disclosure of which might be detrimental to the national security, and you are ordered in nowise to publish or disclose the invention or any material information with respect thereto, including hitherto unpublished details of the subject matter of said application, in any way to any person not cognizant of the invention prior to the date of the order, including any employee of the principals, but to keep the same secret except by written consent first obtained of the Commissioner of Patents, under the penalties of 35 U.S.C. (1952) 182, 186.

Any other application already filed or hereafter filed which contains any significant part of the subject matter of the above identified application falls within the scope of this order. If such other application does not stand under a security order, it and the common subject matter should be brought to the attention of the Security Group, Licensing and Review, Patent Office.

If, prior to the issuance of the secrecy order, any significant part of the subject matter has been revealed to any person, the principals shall promptly inform such person of the secrecy order and the penalties for improper disclosure. However, if such part of the subject matter was disclosed to any person in a foreign country or foreign national in the U.S., the principals shall not inform such person of the secrecy order, but instead shall promptly furnish to the Commissioner of Patents the following information to the extent not already furnished: date of disclosure; name and address of the disclosee; identification of such part; and any authorization by a U.S. government agency to export such part. If the subject matter is included in any foreign patent application, or patent, this should be identified. The principals shall comply with any related instructions of the Commissioner.

This order should not be construed in any way to mean that the Government has adopted or contemplates adoption of the alleged invention disclosed in this application; nor is it any indication of the value of such invention.

(The harsh punishment for a violation of this secrecy order, should an inventor exploits or even simply discusses his or her invention which is classified by a patent secrecy order, is 20 years in federal prison. In effect the U.S. Government brutally and suddenly orders unlucky energy inventors to keep absolutely quiet and not do any more work on their inventions – without compensation for their well-meaning efforts. Thus a shocked, intellectually shackled and frustrated inventor would end up losing everything he or she had invested in his or her invention. The public is also ruthlessly denied any benefits from the invention.)

US Congress: Energy Inventor Protection and Patent Declassification Act

The newly elected United States Congress should immediately write, introduce, and pass a bill titled, "Energy Inventor Protection and Energy Patent Declassification Act of 2007". Included should be 24/7 protection of energy inventors and their property by armed guards, and declassification of as many as 5000 energy patents unfairly held in secret by the U.S. Patent Office. (In spite of what one email correspondent suggests is the appearance of appointing a fox to guard the henhouse.)

Remy Chevalier suggests that the U.S. Congress needs to put back into question the entire review process of patent law, and its consequences on environmental health, by imposing strict fines to who ever is caught buying energy patents for the sole purpose of keeping its protocol out of commercial circulation.

In this fourth version of Gary Vesperman's compilation of specific energy invention suppression cases, the body count rose to a disgusting high of as many as 17 innocent people who were brutally murdered just to ensure the global market supremacy of giant energy monopolies. 31 energy inventors and associates are known to have been threatened with death, and 5 energy researchers and associates have been imprisoned or falsely charged.

The Congressional bill should also include a provision to hunt down and imprison for many years the secret government/corporate energy invention suppressors and their hired bullies and assassins.

The U.S. Congress in 2005 gave the oil companies $2.6 billion in tax breaks as a reward for $190 million in campaign contributions. (Source: League of Conservation Voters)

Wilhelm Reich: Orgone Energy Motor

In the mid 1930s Wilhelm Reich, MD, began noticing an energetic connection that is shared by all living beings and had the clarity of mind to not dismiss the observation as unimportant. Dr. Reich called this energy "orgone" and worked for decades demonstrating its laws and studying its various manifestations.

Dr. Reich in 1948 got a "synchro" type of electrical spinner motor to run from both an orgone energy accumulator and an orgone-charged high-vacuum tube. James DeMeo and Nicholas Reiter have each written an article on the orgone energy motor construction and use, with eyewitness quotes and many construction details. DeMeo has also published a third article on the subject of electrostatic motors, which are powered by sources bearing some resemblance to what Reich used in conjunction with the orgone accumulator.

An assistant, either suspected to be secretly working for the U.S. Government or was simply an incompetent and thief, had helped with its mathematics and construction. This assistant then took some of Reich's money and the motor with him that winter on the pretense of working on further refinements. Instead he disappeared. None of his claims about his past including previous employment were verifiable.

The U.S. Government then campaigned for many years to thoroughly ban and burn Reich's books and any other printed literature that included the word "orgone". U.S. Government violations at the time included the warrant-less invasions and searches of the homes of people peripherally associated with Reich. In one such case, a home was searched, and Reich's books were confiscated from private bookshelves. School teachers and doctors who worked with Reich were fired from their jobs.

Reich died at the age of 60 after serving eight months of a two-year federal prison sentence. Reich had been falsely labeled a quack and a racketeer by the U.S. Government and the corrupt American medical system. (Sources: Emails from James DeMeo, http://www.proliberty.com/observer/20030310.htm, http://www.orgonelab.org/cgi-bin/shop.pl/page=xpulse.htm, http://www.orgonelab.org/cart/xpulse.htm, and http://pw1.netcom.com/~rogermw/Reich/orgone_motors.html.)

Energy invention suppression much too frequently involves energy inventors unjustly being deprived of their constitutional rights. Years ago James DeMeo, Ph.D., wrote a scathing well-referenced article "Anti-Constitutional Activities and Abuse of Police Power by the U.S. Food and Drug Administration and other Federal Agencies" (see http://www.orgonelab.org/fda.htm). The flagrant abuses by the U.S. Government he cites are clearly reflected by U.S. Government-sanctioned energy invention suppression terror tactics. At its end, he lists the pertinent constitutional rights which for over two centuries hundreds of thousands of Americans have defended with their lives as sacred:

The Constitution of the United States Bill of Rights, 15 December 1791

Amendment I: Congress shall make no law ... abridging the freedom of speech, or of the press...

Amendment IV: The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated...

Amendment V: No person shall be ... deprived of life, liberty, or property, without due process of law...

Bruce DePalma (Interview): A Peaceful Revolution against Energy Oppression

A University of California at Santa Barbara 1983 interview by Daily Nexus Staff Writer Evette Justus quoted Bruce DePalma, local physicist and scientist:

"A peaceful revolution can occur providing we can free ourselves from the oppression which is dominating us and controlling our day-to-day existence. This oppression is the necessity to make payments to a system which gives us the energy to heat our homes, transport ourselves, brings our food and fertilizer to grow our food, and makes the plastic that goes into our clothes. When we can be released from that we will have a choice. And this can be the only revolution – a peaceful revolution, and free energy technology makes this peaceful revolution possible." (Quote submitted by David Crockett Williams.)

How to Stop Energy Invention Suppression

Compiling energy invention suppression cases is the most disgusting project this writer, Gary Vesperman, has ever done. All too many times while writing these stories, I have recoiled in dismay at the meanness of the energy invention suppression bullies who for DECADES have conducted their vicious operations paid for by giant lying greedy energy monopolies and their secret allies in the United States Government.

Even if HALF of these suppression cases can somehow be found to be false, the conclusion is still inescapable that we have a very, very serious problem of which very, very few people are even aware.

Hundreds of billions of dollars of energy business are at stake. I can not think of another issue that is more fundamental to American politics than energy invention suppression.

Energy invention suppression indirectly impacts on the largest scale economics, national security, foreign policy, Middle Eastern oil wars, the environment, food production, preservation of beloved parks and wilderness areas, protection of endangered species from extinction, trade balances, climate change, conservation of scarce natural resources, company and personal bank accounts, and the health and safety of ourselves and our loved ones.

The perpetrators of energy invention suppression constitute the world's single most powerful economic force. They are secretly committing acts of high treason for which their leaders should be hunted down and severely punished. The Internet can educate and empower a widespread grassroots revolt against energy invention suppression. To stop paying hundreds of dollars a month of tribute to the energy tyrants as soon as possible, each of us millions of energy consumers must again and again identify and carry out specific organized actions – the combination of which hopefully will culminate in a peaceful overthrow of those traitors, restoration of full constitutional rights to energy inventors, and gaining our rightful energy freedom.

- In each energy activist's immediate geographic area, establish or join an Adopt an Energy Inventor Group to financially support and even physically protect a local energy inventor against harm.
- Petition the U.S. Congress to pass specific legislation against energy invention suppression such as the above suggested “Energy Inventor Protection and Energy Patent Declassification Act of 2007”. One by one, each Congressperson must be closely questioned, monitored and held accountable for his or her actions concerning energy invention suppression. Government and corporate officials as well as Congresspersons who are found to be committing high treason by supporting often vicious energy invention suppression should be hunted down, quickly brought to trial and, if convicted, severely punished.
- Review and modify, where needed, existing federal and state laws and regulations which either intentionally or unintentionally suppress energy inventions. For example, in the suppression case described above of the Fish/Kendig Variable Venturi carburetors, the possibly corrupt California Air Resources Board forced a young college student to remove a Fish/Kendig carburetor from his Mercury “gas hog”, even though it doubled mileage and reduced pollution.
- Educate and persuade local groups, companies, labor union locals, and government agencies to pass resolutions advocating energy invention freedom.

- Monitor energy research web sites such as www.keelynet.com, www.rexresearch.com, www.zpenergy.com, www.nexusmagazine.org, www.pureenergysystems.com, www.orgonelab.org, www.bob-dratch.org, www.teslatech.info, www.byronwine.com, www.commutefaster.com, www.freeenergynews.com, www.padrak.com/ine, www.cheniere.org, http://peswiki.com/index.php/Congress:Member:Leslie_R._Pastor, http://www.atlantisrising.com, http://www.newenergycongress.org, http://peswiki.com/index.php/New_Energy_Congress, http://www.borderlands.com/freeenergy.htm, http://www.lenr-canr.org, www.green-salon.com, http://www.novainstituteoftechnology.com/, http://www.electrifyingtimes.com, and http://www.energysuppression.com.

- Sell or give away millions of "End Energy Invention Suppression Now!" T-shirts, bumper stickers, yard signs, banners, etc.

- Subscribe to and buy back issues of alternative energy research publications such as Fusion Facts, Cold Fusion Times, Nexus, New Energy Times, Infinite Energy, Extraordinary Technology, Journal of New Energy, Borderland Sciences Research Foundation, New Energy News, Electrifying Times, Space Energy Journal, New Energy Movement, German Association for Field Energy, Swiss Association for Free Energy, and Canada's Planetary Association of Clean Energy.

- The mission of http://www.energysuppression.com includes a repository of energy invention suppression cases. Energy freedom activists may post notices relating to putting a stop to energy invention suppression. Energy freedom activists who organize a local "Adopt an Energy Inventor Group" will find resource materials and a place to announce and coordinate their anti-suppression activities.

- http://www.energysuppression.com will enshrine an honor roll of "Warriors for Energy Freedom". These are companies, university student groups, labor union locals, individuals, environmental organizations, and other groups who advocate restoration of full constitutional rights and adequate financial support to inventors of new sources of energy. A description of their actions, which can be as simple as a publicly declared corporate resolution, would accompany their listings. New nominations will be voted in by majority vote of the New Energy Congress.

- http://www.energysuppression.com will display an "Energy Invention Suppression Hall of Shame" listing the names of those who have been clearly identified as perpetrators of energy slavery. New nominations will be voted in by majority vote of the New Energy Congress.

The U.S. Congress and the environmental organizations quibble about raising automobile mileage standards a paltry few miles per gallon. Let's get real! Let's instead now begin this ultimate environmental crusade with millions of bumper stickers, meetings, state legislative resolutions, demonstrations, emails, yard signs, labor union boycotts, T-shirts, energy inventor adoptions, movies, live concerts, crusades, letters and phone calls to the U.S. Congress, web sites, television documentaries, sit-ins, college lectures, protests, and banners in the streets and on vehicles blowing in the wind…

End Energy Invention Suppression Now!

DISCLAIMER: Inclusion of any invention or technology described in this compilation of energy invention suppression cases does not in any way imply its suitability for investment of any kind. All investors contemplating any investments in these devices and technologies should first consult with a licensed financial professional. Prospective investors should exhaustively perform their own investigation of pertinent facts and allegations of facts. Investors should also ensure thorough compliance with regulations of the federal Securities and Exchange Commission and appropriate state securities divisions. For more information, see http://www.zpenergy.com/modules.php?name=News&file=article&sid=1655.

Gary Vesperman
Chief Operating Officer and Director of Research
Blue Energy Corporation
Henderson, Nevada
www.blue-energy.us
garyvesperman@yahoo.com
September 3, 2007

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10047.

Comment Date: February 20, 2011 23:24:18PM
Solar Energy Development PEIS
Comment ID: SolarD10047

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

Robert Nelson, Las Vegas, Nevada, has accumulated a very large inventory of energy inventions in his www.rexresearch.com.

The New Energy Congress, of which I am a co-founding member, has compiled "top 100 energy inventions" that could be added to the mix of energy inventions. See http://peswiki.com/index.php/Congress:Top_100_Technologies_--_RD.

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of some of these new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10048.

Comment Date: February 20, 2011 23:32:24PM
Solar Energy Development PEIS
Comment ID: SolarD10048

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: List of Inventions with Cost and Time to Market Guesses.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

Attached is my 10-page list of inventions that I know of. Approximately half of these inventions relate to energy.

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of some of these new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Gary Vesperman's List of Inventions

Energy

Gravitational Systems pumps in cattle runway use weight of cattle to pump water
Gravitational Systems piezoelectric crystals embedded in road pavement generate DC electricity
Snaper low-cost propellerless wind turbine
electronically shaded photo-voltaic glass
Casimer-effect self-charging battery – three versions
Borrowdale's motor/generator
Frank Richardson generator
plasma solar panel
hydro-magnetic dynamo
hydrosonic pump
Davis tidal turbine
colliding plasma toroid fusion
GeoExchange heat pump uses heat of earth or lake water to heat and cool a structure
metallurgical separation of hydrogen from water
high-density charge cluster device
hybrid cold fusion hydrogen reactor
electrino fusion power reactor
rotating and solid-state magneto-voltaic generators
Clem over-unity vegetable-oil engine
super-steam technology
uranium reactor in pail; available on E-Bay for $5,000,000
gas-phase catalytic fusion
wind-solar hemisphere power station
LUMELOID™ light-polarizing photovoltaic thin film
LEPCON™ femto diode photovoltaic glass sheet
POWR/MASTR™ is high-efficiency industrial engine fueled by natural gas, propane or butane
Tesla turbine combuster
buried contact multijunction thin film solar cell
fiber-based cold fusion power cell
solar hydrogen producer
Hawkings' generator of cold electricity
double-exposure flat-plate solar collector
low-temperature phase-change engine
Muller's magnetic motor/generator
hyper-cap E-converter
aluminum-water fueled hydrogen producer
converter of zero-point electromagnetic radiation energy to electrical energy
water-fueled internal combustion engine with Garrett electrolytic carburetor
metamatter for revolutionary energy sources and rocket engines,
motionless electromagnetic generator,
Q-cell
WIN zero point electrical energy converter
vortical energy, conversion of aluminum internal combustion engine to magnetic motor
motor/generator with electro-magnetically separated magnetic poles

Energy (Cont'd)

2-to-1 cylinder noble gas power plant
cold operating start technology for 100 miles/gallon automobiles
Boyce hydrogen carburetor
continuous charger for batteries – flux shifter
magnetically powered rotary unit
DiMatt Wankel closed-cycle freon/rotary turbine and generator
fluid thrust diode
Russian electrochemical energy source
high-voltage injection of rain water into cold fog
SPARTEC vacuum triode amplifier
portable power supply solar unit for hot water for Sterling engine
advanced Stirling cycle power unit
vapor generator
gas-generating BingoFuel Reactor
remediating nuclear waste with electron-captured protons with significant net energy gain
Brown nuclear battery
Brinsbury hydrogen steam rotary engine
gate impulse turbine
flux capacitor
pressurized vapor driven rotary engine
self-restoring mechanical oscillator engine
electric rocket
energy buoyancy source
pulsed capacitor discharge electric engine
zero point energy modules
Swiss M-L converter
"negative" resistance in carbon fibers
neutrino voltaics
plasma biomass gasification
orgone energy motor
Electrodynamic field generator
Stirling Energy Systems utility solar
ENECO solid-state chip converts heat to
W2 Energy Birthing Affordable, Renewable Petrol
SolarCube™ by Green and Gold Energy
Cool Earth Solar – inflatable solar concentrator
EEStor Ceramic "Battery" – "energy storage" ultra-capacitor device made from ceramics
Nanotube Super Capacitor Battery
DayStar Technologies' Silicon-Free Solar Cells – unique metal foil
Sines Reluctance Generator uses thin film superconductivity, vortices and magnetic flux gates.
Nelson Scientific's device captures free electrons in a vacuum for electricity
Solar Hydrogen Energy Corporation – process converts landfill methane into clean hydrogen
Enviromission Solar Towers are like an inverted funnel
bladeless turbine with wide range of waste-heat-harnessing applications; produces methanol
cadmium telluride thin film solar PV modules
radiation-free fusion process fuses boron-11 with a proton; results in carbon-12.
flexible very thin film photovoltaic solar panels consist of unique metal alloy

Energy (Cont'd)

very quiet O'Conner wind turbine can operate at low speeds while tolerating high wind speeds
offshore wind technology
Kokhala: Electricity from low-temperature heat 120+ degrees and storage
StarTech's waste-to-energy plasma arc technology
Rauen superclassical ambient heat engine based on Proell effect
StarRotor continuous-cycle engine could replace internal combustion engine
plasma focus fusion may be far more feasible and less expensive approach to hot fusion
Kanarev's electrolysis process enables water to be main power
hydrino process generates light, power, plasma, and a vast class of new compositions of matter
vanadium redox battery is low cost and environmental impact; superior deep cycling life and can be mechanically refueled in minutes
Blue Energy's highly efficient underwater vertical-axis windmill-like generator
Zotloterer gravitational vortex mini-power plant is simple to construct, has a turbine efficiency of 80% but is safe for fish due to low turbine speed. The gravitational vortex hydro technology can be applied in rivers with water drop as little as 0.7 meters.
Flynn Research magnet power motor/generators; flux fields within core increase motor output by 3.5x or more. Possible solid-state generator applications. Also in all future motors.
Verdant Power low-impact kinetic hydropower solutions harness energy from rivers and tides
Valentin Technologies 130 MPG car seats 5 passengers car, free-piston hydrostatic powertrain
vertical axis wind turbine creates pull on the back side for 40%+ efficiencies, doesn't kill birds
Correas' pulsed abnormal glow discharge reactor produces about 1 kW DC electricity
Skystream's is wind generator designed specifically for the grid-connected residential market
Cyclone Technologies Schoell Cycle Engine is external combustion engine; uses any fuel
Engineair's ultra-efficient rotary compressed-air motor
Hydristor converts vehicles into green hybrids with variable vane hydraulic pump/motor
permanent magnetic levitation wind power generator 20% more efficient wind turbines
MotorWind's plastic micro wind turbine brings generation cost down to around 1 cent/KWH
A123 Systems lithium-ion battery replaces cobalt oxide in lithium-ion cells with nanophosphate
gun engine is environmentally friendly and transmission-free; 92% efficient; based on fired bullets
massive yet tiny internal combustion engine features multiple firings in one cycle to give 40 times higher power-to-weight ratio, low parts count, low maintenance, high efficiency
Quasiturbine four-chamber Wankel-like engine burns fuel using photo-detonation
Plurion Systems zinc/cerium redox battery has highest power density; 250kW - 5MW
Steorn all-magnetic motor
sea wave power plants can generate electricity for 2 cents per kWh.
Nansulate Paint insulates and generates electricity from thermal difference between inside and outside temperatures
Laddermill generator is high-altitude series of wings or kites connected to ground via cable
MDI Air Car uses compressed air to push its engine's pistons, 68 mph tops, range 125 miles
AquaBuOY generator is competitive with onshore and offshore wind farms and fossil fuels
Ergenics metal hydride heat engine converts solar hot water into electricity for less than1¢/kwh
Manchester (UK) Bobber is patented new wave energy device
Papp's noble gas engine utilizes nuclear process to generate tremendous energy
Torbay's magnetic transgenerator uses repelling power of magnets
thermionic solar cells use amorphous diamond nanostructures; 50% efficiency; half cost of silicon
thermal hydraulic engine generates from low heat input 180°F; silent; solar, geothermal or waste heat
Norsk Hydro floating wind turbine captures off-shore winds in deep water; no footing needed

Energy (Cont'd)

Neo-AeroDynamic Wind/Water Turbine employs lift on the leeward edge, harnessing turbulence
low-impact hydrokinetic turbine harnesses tide and river flow without harming fish; no dam needed
Ecowatts Thermal Energy Cell is an electrolysis based energy cell that converts electrical power into heat at an efficiency significantly greater than that of a conventional immersion heater.
Tectane's Aquahol is made from sorghum; water-ethanol ups mileage by 20-40%
converting abandoned oil wells which contain hot water to geothermal plants
SkyBuilt uses shipping containers as foundation for renewable off-grid energy systems
Magenn's Floating Wind Generators use inflatable, rotating balloon
Matteran Energy produces electricity and refrigeration from 150 degrees F water
D2Fusion has cold fusion home heaters and electricity generators
Kanzius radio wave generator splits water into hydrogen and oxygen causing the oxygen to burn RF
Nanometer-scaled generator proeduces direct current with mechanical energy from ultrasonic waves
Australian process makes ultra-thin silicon solar cells
Milkovic two-stage mechanical oscillator leverages secondary oscillations for 12-to-1 power gain
closed loop ammonia turbine-powered generator uses solar and other forms of low-temperature heat
Searl effect generator cheaply and safely produces electricity without fuel, pollution, friction, or noise
RSI Silicon debuts a far more inexpensive method of producing solar grade silicon
low-cost inflatable electric car is announced as world's first crash-proof, long range, flat-pack vehicle
PowerPlus retrofit water overspray for gas turbines cuts emissions 40%, saves fuel and ups capacity
Crower's six-stroke engine adds two strokes to inject water which turns to steam and cools engine
MagneGas plasma arc flow reactors process liquid wastes into clean burning fuel known as magnegas
thermoacoustics converts heated gas into sound waves to cook, cool, and/or generate electricity
pump-less, hydraulically operated, super-high-pressure diesel injector - 30% more power with less fuel
Joe cell harnesses orgone energy to power a vehicle with no fuel line connected
Magnetronic motor uses small magnetic force to control large magnetic force; retrofit cars
BiosFuel directly uses water for fuel directly; bypasses hydrogen. Catalyst mixes water with waste oil
photosensor measures daylight to send signal to microcontroller that adjusts power for lights
Whisson vertical windmill cools air passing through whirling blades; then traps water from condensate
hydrogen boost technology improves vehicle fuel economy
bi-directional energy tower exploits differences in air density and earth density for passive solar power
two-piston combustion engine drives magnets by induction coils; generates electricity, not torque
Green steam engine runs on very low steam pressure and volume, low cost, lightweight, few parts
Revetec cam-drive engine uses pair of counter-rotating scissor cams, triples torque
Edwards heat pump is like solar hot water heater without collector panels, very efficient
WhalePower wind turbine has blades that mimic humpback whale's flipper, capturing more wind
pyramidal antenna transfers atmospheric electrostatic discharge impulses into circuit; converts to AC
thin, light, flexible polymer-based battery packs more power than standard alkaline battery
Tesla wireless power and free energy from ambient
Golka high-powered tesla-type energy tower
DePalma N-1 homopolar generator
Puharich method and apparatus for splitting water molecules
Schmidt hydraulic wind turbine
hydrogen fuel system kit
over 30 methods of producing hydrogen as fuel for automotive, home, industrial and scientific uses
novel aqueous electrolysis methods for converting water into hydrogen and oxygen
Dingel conversion of cars to run on water
Rasmussen water-to-energy electrolysis process

Energy (Cont'd)

Boyce brown's gas carburetor
Meyer water fuel cell-powered car
solar-produced hydrogen turned into liquid hy-fuel
engine runs on water
Joe cell-powered truck
motionless electromagnetic generator
Frank Richardson magnetic electrical generator
Frank Richardson bladeless steam turbine
advanced form of plasma-discharge energy
thorium powerpack
IPMS thorium-227 electricity generator
magnatron – light-activated cold fusion magnetic motor
Johnson permanent magnet motor
Hendershot magnetic motor
8-kilowatt battery-popper motor
Hitachi magnet motor
vacuum triode amplifier
'school girl' motor and battery energizer
Model T Ford generator with magnets added
Takahashi magnetic Wankel motor
Kawai motive power generating device
Grander magnetic motor
John Richardson 90+ mpg carburetor
John Richardson atomic isotope generator
Fish/Kendig variable venturi carburetor
Belland 100 mpg carburetor that runs on gasoline fumes
Brandt 90 mpg carburetor
Myers efficient carburetor
Wiseman fuel savers
Ogle 100+ mpg oglemobile
Pogue 200+ mpg carburetor
Caggiano 100+ mpg fuel implosion vaporization system
Bbolon automobile steam engine
magnetic vortex hyper-ionization device
vibrating energy source
Stewart cycle heat engine
flywheel/dual hydraulic cylinder
Christopher Bird/Walter has list of 48 suppressed energy inventions
Schauberger jet-turbine
standalone water-based electricity generator
Warwick's Ampliflaire efficient wood-burning stove
Idaho inventor's advanced zero-point energy device
Hudlow method of converting garbage and tires to gasoline, etc
Newman energy machine
Bill Jenkins knows of free energy machine
Volcheck engine powered by gas with unusual expansion properties
Dotto anti-gravity thermionic couple

Energy (Cont'd)

IPMS thermal electric cooling devices
Lantz water and power system
Timothy Trapp's 127 energy technologies
Diggs liquid electricity engine
hyper-cap e-converter
Moray radiant energy pump/electricity generator
small electrical power converter
Yater heat-to-electricity converter
Trombly-Kahn closed-path homopolar generator
Trombly-Farnsworth solid-state oscillating electromagnetic system
advanced solar photo-voltaic crystal lattice cell
Reich orgone energy motor
using low-grade heat, such as the heat from your hand to make electric power
ambient thermal energy "power" for single family home, excess power sold to local utility
H2HyPod producer of hydrogen for internal combustion engines

Advanced Self-Powered Electric Vehicle

solid-state Quantum High-Energy Density Storage or Retrieval (QUENSOR™) device
nickel-iron and new lead-acid battery
NiMH batteries; solid-state lithium-ion batteries
IPMS energy storage/battery devices
Ukrainian capacitor-like battery
Richardson blade-less tesla-type steam turbine
closed-cycle freon/rotary turbine
compressed air-driven air-conditioner/heater
monocoque (unibody) basalt/carbon fiber foam body/frame
advanced computer-controlled suspension system
low-temperature diamond or titanium nitride coating of vehicle parts
self-charging electric vehicle
electric vehicle power source

Materials

diamond semiconductor devices (spin-off from aforementioned low-temperature diamond coating)
IPMS micro-channels and filters
IPMS-Chernovitsky super ceramics
IPMS high-temperature gas plasma detonator
IPMS-Kiev and Arzamas-16 super magnets
electric field permanently trapped in material
manufacture of synthetic diamond
manufacture of synthetic sapphire and ruby
high-temperature material has low heat transfer, lightweight, insulates more than asbestos, less toxic
transparent polymer
ultrasonic energy blends and hardens gel of polyester resin and water into very hard and strong sheets
unusual single crystal structure oriented plastic 1.1 micron film
polarizing-analyzing filters

Materials (Cont'd)

low-cost Teflon [tm] coating on glass, metal and wood
ultra-purification of semiconductors such as silicon, germanium, copper, zinc, tin, etc
Novolac resin, used to "pot" or encapsulate integrated circuits
non-linear and linear optical crystals for optical communications, etc
edge-emitting luminescent crystals are new light sources, for communications, lighting, medical uses
method for "launching" soliton-like forms
non-linear crystals for opto electronics (optical transistors) for optical fiber communications switching
metalliding is hard coating in liquid bath on nearly all metals, silicides, diamonds, carbides, nitrides bearing coating ...basically doubles the price, minimum

"Diamonds... of several types made in the laboratory: a] diamonds and cubic boron nitride All of these are for industrial applications, not gems. We are talking about grit...small crystals. b] Diamond films... thin layers for "windows" in, on and for satellites, X-ray detectors, X-ray tubes and source tool emitters radioactivity detectors – many, many kinds. The big hit: Diamonds ...for heat sinks for electronics applications ... Diamonds to be used as the king of semiconductors and detectors. We are not talking about gems... or pretty and fat pieces... these are VERY thin films ... and fine dies, blades... tiny expensive pieces. Very precise and very pure metals, non metals, and compounds. NEW: there are several types of 'detectors' and diode materials that are "new" and unusual.... many come from the era of 1895 to1935 and out to 1957. But, today, no one even knows of them. Ask ANY electronics person if I came to him and handed a thing that looked like a resistor ... with a ceramic and glass hemetically sealed opaque package... and he or she hooks it to a meter or oscilloscope... no markings on this thing.... and I hold it up to a light bulb... and read FIVE VOLTS ..... or..... briefly hold a match or flame of a cigarette lighter under it... for less than $1/10^{th}$ second and get a pulse of slightly OVER five volts? What is it? I can produce these for you now. This is the very tip of the list. There is an entire ARRAY of very valuable devices that do nothing but switch, control and/or modulate light... the light used in communications. These are simply made of glasses, and clear minerals of various types. The last companies of these types... small ones have been being bought up by the IBMs and Ciscos for from 10 to 80 millions of dollars. Check the stories of businesses involved with the optical aspects of communications by light. Anything "fiber-optics". Fiber switchers, routers, cross-point switches... the list goes on. All of these types of signal path devices are in use now... but they are not anywhere near enough. The market is projected in the billions in the next 2 and 3 years. And it will go up."

Communications and Computers

torsion field communications
three-dimensional holographic television
wireless video conferencing
dialog language replacement system
astronomical methodologies for acquiring information from sun activity, sun spot activity, meteor activity, photosphere and magnetosphere activity, and ionosphere activity. These activities can and do cause disruption of electrical power. The methods can warn of power surges.
new method of producing miniature low-cost tagging RF transmitters for Bluetooth, etc
new method of making a length of cable a sensitive mechanical or microphonic transducer
method for making several types of novel antenna including but not limited to antenna at distance off the ground with no tower, active antennas, physically small yet electrically large antennas, and invisible antenna
methods of communications

Communications (Cont'd)

methods of light manipulation for communications, such as internet switches and similar
using water to make light from fluorescent lamp
magnetic mased systems
new methods of making light
US Patent 5842002: Computer virus trap
highly directional and inexpensive gravimetric sensor; detects objects in space and plots their position
computer chip cooling technology enabling the world's fastest personal computers

Security

low-cost ultra-low frequency accelerometer, used in many industries for different uses from detecting earthquakes to setting off air bags in automobiles.
sensing of interaction of near electric field evanescent waves with matter and other fields
methods of seeing properties of solid matter for many uses. Images of the insides of devices and packages can be made as in airport security and to detect explosives
sensing of concealed weapons such as hidden pistols
improved ballistic armor is new kind of "bullet proof vest" to stop rifle bullets and knife
3-D visualization of electronic waveforms is new method of "seeing" electronic signals. One application detecting buried non-metallic or "plastic" anti-personnel land mines. (Mike Windell also has a method of detecting metallic land mines and other metallic objects up to 60 feet deep.)
novel magnetic ultra-low frequency sensing and analysis of mechano and magneto seismic activity

Health

Genesis electromagnetic frequency generator
zappers
restoring an organism to match its genetic template
electronic brainwave tuner for permanent cure of substance addiction
bio-energetic spheres
electrolyzed oxidizing water
ultimate system modeling software with cardiology as one application
theory of an anti-proton source and/or anti-neutron source, and
reversal of the order to disorder arrow in the second law of thermodynamics
(Both of these methods require large, high-energy linear accelerator facilities. For 50 million dollars all aging, disease, and decay processes could be reversed in a one-mile radius)
Dotto ring for anti-aging
defibrillator technology which uses no batteries
novel method for side tone training of professional singers and for helping hearing impaired
acquisition of biological signals by means of optical methods as opposed to bio-potential methodologies, for methods of sensing brain waves and heart beat but needs no electrical wires. Can help in preventing sudden infant death and also can help doctors in many areas of health.
US Patent 5724982: Apparatus and method for measuring fluid flow (such as inside blood vessels)
US Patent 5439003: Apparatus and method for measuring fluid flow (such as inside blood vessels)
virtual telemedics system

Education

torsion field-linked network of computerized segmented courses

Agriculture

mineral fertilizer
aquaponic food factory
etheric weather engineering
vapor generator 1
snow vaporization
oil viscosity
soil decontamination
vapor generator 2
air well

Waste Treatment

Brac Systems recycles and filters gray water from showers and laundry for toilet flushing
high-temperature incinerator
Korell sewage treatment method
hydro-cavitator
soil remediation system
solid waste recovery

Radioactive Waste Treatment

theory of an anti-proton source and/or anti-neutron source
reversal of the order to disorder arrow in the second law of thermodynamics
Canadian method neutralizes radioactive waste using an esoteric technology
Purdue U patent describes relatively inexpensive way of getting rid of radioactive material
Hawkings' generator makes yard-long white spark of cold electricity several inches in diameter.
Substances inserted in spark sometimes transmute to heavier elements
collective ion accelerator treats both solid and liquid nuclear waste
dematerialization devices A, B, C and D using highest powered positive ions ever
photo-deactivation using gamma rays
implosion machine is electric arc welder modified to duplicate nature's ball lightning
Roy transmutation process
Barker invented easiest, most effective, and least messy method for remediation of radioactive waste
Dr. Ronald Gillembardo's method of neutralizing waste
Keller catalytic process which is also known as "volcano in a can"
Transmutation of low-level nuclear waste into glassy substance with super high voltage
96% reduction of radioactivity by welding with Brown's gas; further reduction is possible by utilizing liquefied Brown's gas
Combining Brown's gas with bucking magnetic fields inside a plasma ball
Joe Champion's transmutation method
Searl effect generator-powered anti-gravity spacecraft for one-way trip out of solar system
Hamel's gravito-magnetic device-powered anti-gravity spacecraft for one-way trip out of solar system

Radioactive Waste Treatment (Cont'd)

David Burns' anti-gravity spacecraft for one-way trip out of solar system
Russian process uses liquid lead bismuth to trigger transforming in the form of neutrons
accelerator-driven transmutation of waste
Brown's gas-metal matrix process
photoremediation:
ZIPP fusion process
RIPPLE fission process
Low-energy nuclear transmutation electrolytic cells
plasma induced/injected transmutation
Kervran reactions
Monti process
higher group symmetry electrodynamics
recovery of uranium from incinerated low-level radioactive waste using super-critical CO_2
plasma gasification melting converts radioactive waste into inert material and clean energy
E.coli cleans up nuclear waste cheaply, efficiently – Birmingham University
compact low-energy nuclear remediation with ultra-low momentum neutron generator
flame-free incineration in a catalyzer
geomelting can encase nuclear waste in glass that is harder than concrete and lasts 200,000 years
destroy radioactive waste with fusion-fission hybrid reactor

Urban Design

21st century city adjacent to Tonopah airport, includes architect Jorg Ostrowki's ideas
Foundation of New Society
New Zealand building
Resort/town on east coast of Guatemala
Roger Scherrer knows of clever urban designs
Zooid Mission is "a blueprint for the city of the future"
Belize government has express interest in rural and urban community design

DISCLAIMER: Inclusion of any invention or technology described in this list of inventions does not in any way imply its suitability for investment of any kind. All investors contemplating any investments in these devices and technologies should first consult with a licensed financial professional. Prospective investors should exhaustively perform their own investigation of pertinent facts and allegations of facts. Investors should also ensure thorough compliance with regulations of the federal Securities and Exchange Commission and appropriate state securities divisions. For more information, see http://www.zpenergy.com/modules.php?name=News&file=article&sid=1655.

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September 26, 2010

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10049.

Comment Date: February 20, 2011 23:47:13PM
Solar Energy Development PEIS
Comment ID: SolarD10049

First Name: Gary
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Advanced Technologies2.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

I am convinced that funding a massive energy invention development and manufacturing organization in the greater Las Vegas area will generate thousands of badly needed green jobs and fill dozens of vacant commercial buildings. Listed below are the various departments I am seeing of such an organization.

Boulder City Headquarters

Corporate Library

Teaching Institute

Technical Advisory Board

Group of Consultants

Incubator of Russian Inventions

Torsion Field Devices

Baseload Electricity Generators

Small Power Generators

Energy Storage Devices

Advanced Self-Powered Transportation Vehicles

Agriculture

Education

Radioactive Waste Treatment

Non-Radioactive Waste Treatment

Health

Security

Materials

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My Blue Energy Corporation business card shows a blue halo around an astronaut standing on the moon. For the original photograph, see the cover of James DeMeo's Orgone Energy Accumulator Handbook at
http://www.amazon.com/Orgone-Accumulator-Handbook-Construction-Experimental/dp/0962185507/ref=sr_1_1?s=books&ie=UTF8&qid=1291348835&sr=1-1 .

The astronaut's blue halo is apparently a visible manifestation of orgone energy.

In 2008 a spherical Moe-Joe energy cell was installed in a 1993 Saturn which operates as an orgone energy accumulator. It is a hollow metal sphere five inches in diameter filled with specially charged water. Three smaller hollow spheres of 4, 3 and 2 inches in diameter are nested inside. A hole in each of the inside spheres allow the special charged water to circulate. The outside sphere is wired to the battery.

Orgone energy is accumulated and fed from the sphere through a tube into the engine via its positive crankcase ventilation (PCV) valve intake. As the engine draws orgone energy, the Moe-Joe energy cell instantly replenishes itself by drawing additional energy from the universal orgone energy field.

The car's carefully measured mileage jumped from 30 MPG to nearly 50 MPG. The car’s exhaust has been measured to be approximately 90% cleaner. The car noticeably feels lighter as well as more powerful due to a possible anti-gravity effect.

Exactly how universal orgone energy replaces some of an engine’s gasoline consumption is a subject of scientific debate. One theory is implosion of orgone energy which enables the engine to run noticeably cooler. A detailed explanation of the Moe-Joe energy cell is in pages 34-37 of the attached "Advanced Technologies for Foreign Resort Project" under "Joe Energy Cell".

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Advanced Technologies

for a

FOREIGN RESORT PROJECT

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Introduction

I used to be associated with a resort complex to be built on a large tract of raw land which is located outside the United States. This project presented a rare opportunity to incorporate on a large scale current thinking and ideas prevailing among experts in urban planning, ecological sustainability, wildlife habitat preservation, etc. The project also provided an opportunity and the freedom to utilize advanced technologies which may lie outside the generally accepted theoretical constraints of mainstream science. The resort ended up being built by other people on an adjacent property. The exercise still was somewhat fruitful in stimulating some fresh ideas.

For the past few years, I have been accumulating knowledge of futuristic technologies not commonly known among mainstream scientists. I have personally had the pleasure to know some of the top scientists and inventors involved with what has been referred to as a mostly unpublicized international "underground" science research network. Disregarding the scientific dogma taught by academia, these people have chosen to follow their own independent paths of scientific discovery to whatever they feel the genuine scientific truth may be.

I have selected several advanced technologies which seem to be usable for the foreign resort project. Their selection was based on their being available for purchase and are definitely past the research and development stage. Implementation of most of these technologies could occur anytime before, during or after the construction phase of the project. However, it should be noted that the electric station car and photo-luminescent therapy technologies ought to be adopted as soon as possible as they happen to substantially impact architectural design and construction. The electrical power infrastructure could also be affected by adopting one or more small-scaled electrical generation technologies. Retrofitting at a later date could be costly.

I also have selected a few advanced technologies which are still under development but may have potential applications for the resort project.

Please be warned that investments and purchases in any of these advanced technologies should proceed only after a thorough and cautious exercise in due diligence. Yet their developers usually do deserve respect and fairness. In most cases, I can not personally take responsibility for the accuracy and validity of my descriptions; I am only editing other people's reports.

The literature on the devices which involve extracting energy from radioactive substances, the ether, hydrogen, etc. contains anecdotes of strangely behaving devices and explosions and, in some cases, of bodily injury and even death!

WARNING!

Before experimenting with such devices, protect yourself from harm! Please try to be well-informed of other experimenters' experience with these strange devices and beware of danger.

Gary C. Vesperman

TABLE OF CONTENTS

Davis Tidal Turbine

The worldwide electrical energy market has been estimated at $800 billion (US) per year and rising. “There are 2 billion people who still lack electricity today, and the world demand in developing countries is doubling every eight years." (World Watch Institute, May 1997)

The Institute for New Energy maintains a database of 127 new energy production devices which includes a list based on commercialization criteria ranging from 0 (found to be lies) to 10 (proven prototype – ready for commercialization). (I know of several such devices that don’t appear to be included in their database.) The Davis tidal turbine, invented by Canadian aerospace engineer Barry Davis, is one of only two new energy devices which have earned a ranking of 10. His company, Blue Energy Canada, Inc., owns one patent and has filed additional patent applications.

The Davis tidal turbine captures the power of ocean currents and tides to generate electric current in a module fitted with slowly rotating hydrofoils. The module does not emit gas of any kind, nor do the hydrofoils offer any threat to marine organisms swimming through them. With fixed rotor blades mounted in durable marine concrete caissons, the Davis tidal turbine’s mechanical simplicity is profound. The basic concept is the multiple vertical-axis hydro turbine. They are large marine structures of reinforced concrete and steel that provide the necessary economies of scale. They generally can be installed in areas with a tidal regime of about 1 meter or more, or where velocities exceed about 2 meters per second. Standardized tidal turbine modules can be grouped to meet any site application from ocean to river in sizes that range from 7.5 megawatts to 15 megawatts for ocean use, and 5 kilowatts to 500 kilowatts for river use.

The Davis tidal turbine is a low-cost, eco-benign energy alternative. Fueled by the free forces of rivers and ocean tides and currents, tidal power can provide a significant amount of the world's energy needs. Energy costs with the Davis tidal turbine will be around $0.06/kilowatt-hour and eventually should drop to $0.035/kilowatt-hour for tidal fences in the 1000-megawatt range. Power outputs from the larger units can be accurately predicted to within 2% accuracy.

In many instances, tidal fences can double up with transportation corridors, providing dual infrastructure use with essentially single infrastructure cost. Coupled with existing grid prices and mounting social and environmental costs associated with conventional power generation (health care, climate change, etc.) tidal power is an outstanding and sustainable energy choice. Remote sites can also produce hydrogen, hydrogen peroxide, methane and other valuable energy intensive products for widespread distribution, as well as provide irrigation and desalination facilities.

Tidal energy sites in the world's oceans can provide a significant, viable and cost-effective source of reliable, inexhaustible energy. Many are strategically located close to populated areas where they can be economically harnessed using an ecologically benign, low-head technology. For example, British Columbia may have up to 50,000 megawatts of potential tidal power resource.

The Philippines Presidential Office had announced on December 20, 1997 a $136,000,000 (US) order for a pilot tidal power generation facility which is likely to be in the Hinatuan Passage area just north of Mindanao. Its average power output will be 30 megawatts, and its peak power will be 55 megawatts. The pilot project is performance-coupled to the future development rights of a 1000-megawatt commercial project. The Philippines hope to become energy exporters.

Electric Station Cars

The Las Vegas Chapter of the Electric Auto Association appears to be one of the association's stronger chapters. I have attended over 80% of their monthly meetings for the past several years. I myself have written an Advanced Self-Powered Electric Vehicle concept (see end of this paper). The "super car" concept is a proposal for combining advanced technologies I have collected over the past few years into a futuristic self-powered car superior to conventional cars.

On November 20, 1997, at their November meeting, Martin J. Bernard III, Ph.D., Executive Director of the National Station Car Association, spoke on "Station Car Potential in Las Vegas". Of all the meetings I have attended, his talk was the most practical application of electric vehicles I have heard. Because I could see an obvious application of the station car concept to the foreign resort project, I thought I would list a few key points for further discussion:

Many pages of additional information and diagrams concerning electric station cars are available on the National Station Car Association's Web site (www.stncar.com). The Web site includes a photograph which shows some of the 40 electric station cars currently being used in conjunction with the Bay Area Transit District in the San Francisco Bay Area. There are a total of 60 other station cars in several other cities around the United States.

The resort project as presently planned probably allows for lots of parking space for gasoline-powered cars, gas stations, auto repair facilities, etc. Because the project is still in the planning stages, there is a high probability that it can be easily converted to emphasis on electric station cars. Only three simple changes would have to be made to the plans:

- A substantial reduction in paved parking space in exchange for a substantial increase in landscaping and preserved wildlife habitat. (I think Martin said up to 90% reduction.)
- Reductions in gasoline refueling stations and auto repair facilities.
- Installation of electric vehicle charging stations in the remaining parking lots.

In return, the resort would gain the following benefits:

- A more pleasant environment in the immediate vicinity of the resort's buildings, featuring silence (except noise from an occasional diesel or gasoline-powered truck), less dust and particles from vehicle exhaust, and zero runoff from oil dripping on pavement.
- More efficient use of the small country's electric power plants which otherwise can not be operated as efficiently in a small market as compared to huge markets such as the United States. When I looked up the country's power information on the Internet, I noticed that a new coal-fired power plant enters operation in mid-1999. It happens to be impractical to reduce power output in a coal plant during the middle of the night.
- Lower vehicular operating costs.
- Less pavement, more landscaping, and increased preservation of the resort's natural features and greenery.

Electric station cars are *not* owned by the drivers. Instead they are owned by an operator such as a municipality or transportation authority. They are intended for use at places featuring frequent usage and regular access such as train stations, airports, hotels, convention halls, and downtown areas.

A driver who has previously bought a smart card (similar to a credit card) swipes the card through a card reader which allows him access to the station car. He or she then unplugs the car from the charger, drives off, and leaves it either at the same charging station or a different charging station, which is then available for the next driver to drive. Arrangements can be made to leave it at home overnight providing it is driven again the following morning.

The cars are manufactured in Norway by a family-owned plastic manufacturer. The car body is a simple lightweight one-piece plastic shell framed with extruded rods made of recycled aluminum. It is surprisingly sturdy and can carry two passengers. The pack of nickel-cadmium batteries is hung underneath the body and range up to 65 miles.

It is reasonable to anticipate that a variety of sizes and improved models of electric vehicles will become available in a few short years. For instance, on October 23, 1997, a pre-production Sunrise prototype built by Solectria Corporation, Wilmington, Massachusetts, was driven from Boston to New York City on a single charge of its Ovonic nickel/metal-hydride battery with enough electricity left over to drive an additional 66 kilometers to Atlantic City for a total range of 405 kilometers (IEEE Spectrum December 1997). Power Technology, Inc., has a brand new battery, compared to lead-acid batteries, that is 30% to 50% lighter, insensitive to temperature, long-lived, cheaper, environmentally friendly, quickly rechargeable, and quadruples the range.

Blacklight Power, Inc., is developing a battery which weighs only 10 kilograms but can supply 150 horsepower for 1,000 miles. Blacklight compresses hydrogen atoms into lower-energy-state hydrogen atoms called “hydrinos”. When the hydrinos are formed, energy is released which is considerably more than the energy from chemical reactions but less than from nuclear reactions.

Each car is equipped with a commercially available electronic tracking device. The San Francisco Bay Area is ringed with 15 transmitting towers. Each car can be located with an accuracy of 4 feet in case it is stolen.

At each station, a driver returning a car is responsible for cleaning the car and plugging the car into a battery charger before leaving it.

Crime, Substance Abuse, and Birth Defects

In 1996, 10,510 crimes in Atlantic City, New Jersey were reported. Of that total, the number of crimes that had occurred on the floors of the city’s 12 casino hotels was 5,705 (Las Vegas Review-Journal December 22, 1997).

One unpleasant memory I have of my stay in Honolulu, Hawaii about 15 years ago was the necessity to leave unessential valuables in a hotel lock box before venturing on to the streets and beaches.

Fortunately, once the root cause of crime and substance abuse is understood, a substantial reduction in social misbehavior could be surprisingly simple and inexpensive to achieve and require only moderate organizing. A relatively crime-free resort area should offer competitive advantages.

I own an interesting book "RARE EARTHS: Forbidden Cures" which substantiates the thesis that mineral deficiencies in food causes crime and substance abuse in addition to medical problems. The book's authors are Joel D. Wallach, BS, DVM, ND, and Ma Lan, MD, MS, and it can be ordered at 800-755-4656. One of their more authoritative sources of information and data was the U.S. Department of Agriculture (USDA). The USDA has been noticing with dismay statistical correlations between mineral depletion in soils and the combination of increased crime and declining mental and physical health among the U.S. population since at least the 1930's.

Veterinarians ensure nearly 100% healthy and strong livestock by adding trace elements to their feed. Research has found that people also equally need trace elements. The tally so far is 60 minerals including many obscure elements such as gallium, 16 vitamins, 12 amino acids, and 3 essential fatty acids. Furthermore, to be usable by the human body, the minerals in particular must be in a plant-derived colloidal suspension. Evidently, combination vitamin/mineral pills taken by many people are mostly useless as well as incomplete.

Decades of application of synthetic fertilizers have severely depleted agricultural soils of trace elements. One result of mineral deficiencies in food is increased disease such as cancer and heart disease. Not so obvious but proven are substantial increases in alcoholism, narcotic addition, and violently anti-social behavior.

Studies have also proven that nutritionally complete diets from conception through college age ensure the raising of children who are taller, stronger, brainier, well-behaved, more energetic, longer-lived, and relatively free of birth defects and disease. 98% of birth defects are caused by nutritional deficiencies.

Some health food stores sell colloidal mineral dietary supplements. Mineral supplements could be added to the lunches that are served children in schools and colleges. Prisons and mental hospitals could easily add minerals to the diets of their inmates. Government-sponsored educational campaigns would be required to educate general populations.

Another Las Vegas company sells an inexpensive mineral fertilizer from the world's most complete deposit of trace elements. Enriching agricultural soils with their mineral fertilizer so as to add trace elements to foodstuffs would also help alleviate crime and substance abuse.

(Since the foregoing was written, questions have been raised concerning the effectiveness of colloidal mineral dietary supplements. The human body's need for trace elements remains undisputed; it's the delivery system using colloidal mineral suspensions that is being questioned. Some experts claim that chelated minerals offer more thorough absorption by the body, and that with chelated minerals, manufacturers are able to control which minerals are placed in their dietary supplements.)

Photo-Luminescent Therapy

For a couple of years, I have been accumulating information on alternatives to the unsatisfactory and expensive conventional cancer treatment methods of radiation, surgery, and chemotherapy. The following is a list of about two dozen cancer treatments that I sometimes provide in private to friends and relatives. To my knowledge, none of them have been legally approved for cancer treatment by the Food and Drug Administration. Please note that I am not a licensed medical practitioner. I can not legally recommend any of them for treating cancer.

- Induced remission therapy. Cancer practically never occurs in the small intestine even in very advanced cancer cases. The small intestine has its own fast-acting immune protection in the form of lymphocytes. They are necessary for destroying hostile organisms in food coming through from the stomach and also stopping bacteria from migrating up from the large bowel. Not surprisingly, they are extremely fast and thoroughly effective in killing cancer cells.
- Some diseases such as syphilis attack cancer tumors and cause them to disappear. After introducing syphilis, for example, antibiotics can then be administered to cure syphilis.
- Micro-colloidal silver. Kills 650 species of viruses and bacteria. The FDA has partially banned micro-colloidal silver because it was impacting veterinarian profits from antibiotics.
- White powder gold (also known as orbitally rearranged mono-atomic gold). Strangest material I ever heard of. For example, in its mono-atomic white powder state, gold loses 46% of its weight. When reheated, the gold gains back all its weight. Ingesting white powder gold corrects the body's implementation of its DNA coding and is apparently the secret of the long lives of Biblical figures such as Noah.
- Nature's Tea (sold by Enrich) and other herbs such as pau d'arco. It's a complicated subject.
- Powdered dried rattlesnake. Mexico's Yaqui Indian tribe use dried rattlesnake powder as a seasoning like salt and pepper and don't get cancer.
- Essiac tea. Also known as Ojibwa tea.
- Dimethyl sulfoxide (DMSO). I have heard that there is another version called MMS which offers the same potency as DMSO but without the negative side effects.
- Noni fruit juice. Used for its healing properties by the Polynesian Islanders for 2,000 years, I became a distributor of Tahitian Noni Juice™ for Morinda, Inc. I understand noni juice is also beneficial for numerous other ailments. I am currently circulating a handout comprising of my own one-page article on noni juice, Morinda's three-page article on scientific research studies of noni, and Morinda's four pages of testimonials. Noni may have been responsible for the shrinkage of my brother's lemon-sized lung tumor.
- Shark cartilage. According to a promotion for the monthly newsletter ALTERNATIVES, "… it is being used to totally eliminate cancer in thousands of cases once thought to be hopeless". However, some shark cartilage products are supposedly better than others.
- A local Las Vegas company told me April 1, 1997 that they know of a substance that can cure cancer in 10 days. It was undergoing testing, and they expected to be selling it late in 1997.
- Dr. William Koch's treatment for cancer and allied allergies focuses on blood purifying remedies.
- Dr. Jerry Jacobson's electromagnetic/relativistic cancer cure. An extremely weak but precisely calibrated electromagnetic field provokes oncogenes to revert to normal genes.
- Wilhelm Reich's orgone therapy.
- Helga Clark's intestinal parasite killer.
- Hydrogen peroxide. Hydrogen peroxide kills disease organisms as it spreads though tissue.

- Ozone blood treatment. Ozone infused into blood simply oxidizes molecules in virus shells.
- Vitamin C megadoses. Vitamin C creates extra hydrogen peroxide in the body.
- Rudolph Steiner's therapy.
- Dehydrepiandrosterone (DHEA). However, the April 1997 AARP Bulletin claims that "women who take DHEA have suffered hair loss, deepening of the voice and hair growth on the body, which may be irreversible. In men, DHEA may stimulate the growth of prostate cancer."
- Dr. Max Gerson's vegetable/fruit juice diet. I read a book on his apparently successful cancer treatments 20 years ago.
- Reikki. I almost cured someone terminally ill with cancer doing this a couple of years ago. I had a feeling I should go back and try again with another session, but didn't because I didn't know him (he was a friend of a friend), and a few days later he died from a pulmonary blood clot. But he did make an immediate and impressive short-term recovery.

  All I do is rub my hands together for a few seconds, close my eyes, mentally say to myself "The mind has no providence for limitations", open my eyes, and then lay my hands on the patient's problem area. If I can feel heat flowing through my hands, I know it is working. When the heat stops, I either quit or move to another spot on the patient's body. I have cured elbow pain, headaches, and even my brother's shortness of breath for a short while.

  Since 1989 when I learned Reikki, I have struggled to understand the underlying mechanism. I have repeatedly seen it work, but it's obvious Reikki's effects are hardly explainable by conventional science. Recently I finally picked up a clue from a French acupuncturist's report in www.keelynet.com/keely/belizal.text. The ancient Egyptians were able to correlate different wave forms with different geometric shapes. There is an implication that objects can store and transfer between them, when touching, subtle forms of information. So possibly when an ill or injured person is touched by healthy people with positive minds, information is somehow transferred to be used for correcting damaged tissue.

  Monarch butterflies are unique in that migratory information is passed from generation to generation. They are somehow able to fly north for the summer from their winter homes in Mexico and certain Central California coastal areas such as Monterey and Santa Cruz and then able to fly back to their winter homes, passing along *precise* migratory information from generation to generation. It has been suggested that their migratory information is somehow embedded in their genetic code. Another possibility is that their migratory information is accurately retained by their physical bodies in more subtle form, possibly in the halo which appears in Kirlian photography, as the Monarch butterflies reproduce again, again, and again for thousands of generations with absolutely no loss of migratory information.

  If true, an even more startling speculation arises: Many of the ancient peoples have acquired beliefs (colored by various religious symbols and rituals) that people don't just die and that's the end of them. Instead, the information and memories accumulated within each person as a result of genetic heritage and his or her living a life is retained in a very subtle form not normally perceivable by people still living. Their information packages are sometimes called "spirits", "ghosts", or "souls".

If the progression from Reikki healing and the association between waveforms and the shapes of objects to Monarch butterflies to a conscious being surviving the dying process is accepted, then perhaps we have physical evidence, however flimsy, of the existence of the soul.

- Lactoferrin. It's an immune stimulant - a protein in mother's milk.
- North poles of strong permanent magnets (for localized cancerous tumors only, I believe).
- Antineoplastins. Instead of being treated as a hero, the researcher was jailed by the FDA. However, he was later acquitted of all charges. Disgusting.
- Bob Beck's electronic pulse generator. Battery-operated, it is strapped on the wrists for minutes per day. Seems to kill a variety of parasites such as most viruses, infectious bacteria, etc. Information on three commercially available devices can be found at www.sota-inc.com, http://www.action-electronics.com/ps.htm, and http://www.ioa.com/~dragonfly/vrs.html.
- Royal Rife's electronic frequency instrument. The basic premise of the instrument is that each pathogen has a particular crystalline structure. When exposed to an electromagnetic frequency of the correct frequency and waveshape, the pathogen's crystalline structure will resonant and shatter in a manner similar to an opera singer shattering a glass crystal. The July 14, 1997 issue of Business Week has an article on how pathogens can trigger cancer. A business associate used one on her son several years ago and cured him of an otherwise untreatable virus-caused disease.
- Germanium. Organic germanium (bis-carboxyethyl germanium sesquixoide) increases the oxygen level in the body. Germanium is known to enhance the immune system by stimulating production of natural killer cells, lymphoklines, interferon, macrophages and T-suppressor cells. Germanium deficiencies can result in immunity reductions, arthritis, osteoporosis, low energy as well as cancer.
- Non-invasive photo-luminescent therapy combined with a multiple range of frequencies. It is assumed with this therapy that cancer is a group of mutated cells that lack proper DNA programming. Includes use of super magnets, herbs, and cleaning of bowel, liver, gall bladder, and kidneys and also re-tuning the brain which organizes the immune system. The process is to hyper-oxygenate the entire body and create an alkaline environment in which pathogens can not survive.
- Grapes. Johanna Brandt's book "The Grape Cure" recommends starting with fasting to starve cancer. Then grapes or grape juice only. Then a very restricted diet.

I have been told that there are a total of 28 alternative cancer treatments worldwide. It has been predicted to me that in five to ten years, radiation and chemotherapy will be banned, and surgery greatly reduced because they are so brutal and ineffective as well as being excessively expensive.

It also has been explained to me that cancer must have two conditions in tissue to thrive — acidity and lack of oxygen. It does appear that the basis for some of these alternative cancer treatments is increasing the flow of oxygen through the body and increasing alkalinity. But it is not readily apparent what *all* of these cancer treatments may have in common.

I have some articles on the negative health effects of fluoridation of drinking water. Among them is "couch potato syndrome" which is the cute name for a not so cute physical condition induced by ingesting too much fluoride. One of the characteristics of couch potato syndrome is an overly docile personality. Because fluorine is a proven excitotoxin, there is a hypothesis that the fluoride which is part of poisonous chemotherapy compounds may reduce the will to live among cancer patients by destroying some of their brain cells.

It has been suggested that the machine also generates a strong Reikki-like healing effect which includes correcting the body's implementation of its DNA coding. (See Reikki discussion above.) It appears that only half an organism's blueprint is stored in its genes. The other half is stored in the organism's electromagnetic aura. Perhaps the machine tunes the body to match its electromagnetic design specifications.

The reality and effectiveness of photo-luminescent therapy is backed by many years of research and thorough documentation. More information can be found in the December 1997 issue of Nexus, www.kalamark.com/rife_conference, www.genesistherapy.com/index.html, www.rt66.com/~rifetech/, www.wj.net/dimshah, and www.cseti.org/bearden/aids/priore.htm. I have listened to a demonstration and lecture on the similar "resonant frequency therapy" by James E. Bare, D.C., at the 1995 International Tesla Society Symposium. Dr. Bare later authored an article on the therapy in the Jan/Feb/Mar 1996 issue of the society's Extraordinary Science.

One way to provide photo-luminescent therapy in the proposed resort complex would be to equip each hotel room with a photo-luminescent therapy unit. The electronics could be hidden inside a wall behind a keyed panel. A wall switch would be wired to the electronics. Guests would have the option, by simply flipping a wall switch, of using photo-luminescent therapy for attempting to treat any diseases they may have or just to feel energetic and healthy during their vacation.

A side benefit of installing photo-luminescent therapy machines in hotel rooms is that insects and spiders are irritated by the frequencies and leave the premises. The effective radius of insect control for each power level such as 250 watts or 500 watts was not known at the time of writing.

One variation would be to substitute a credit card reader and a timer for the wall switch. Then additional revenue could be earned from selling photo-luminescent therapy time which would also help pay for the equipment. A coin-operated timer could also be used but probably not without problems of currency convertibility and the extra expense of collection.

The easier to implement but less convenient way to make available photo-luminescent therapy would be to rent portable machines at the hotel's front desk.

Some of the guests could be so impressed with the results of their using photo-luminescent therapy that additional revenues could be earned by selling photo-luminescent machines. However, the machines may need to be disassembled before shipment to certain countries such as the USA for legal reasons.

Because the resort is located in a small, independent country, realistic claims could be made about curing various diseases without offending the U.S. Government's Food and Drug Administration. Thus the resort complex could gain an enormous competitive advantage.

Currently, photo-luminescent therapy in its various forms has not received serious study from medical scientists that it appears to deserve. People staying at the resort may be invited to participate in studies of the effects and possible benefits of photo-luminescent therapy. When they first check in, volunteers would be provided a free medical checkup to document ailments. When they leave, they would be tested again as part of a second free medical checkup. As time goes on, a data base on the medical effects, if any, of photo-luminescent therapy could be accumulated.

Virtual Telemedics

A demonstration virtual telemedics system to be show cased at the March 1999 annual convention of the American Telemedicine Association has been completed and funding is now being sought to support this initiative. The presentation budget has been set at $100,000, with full build out of the prototypes expected to require upwards of $250,000 over a period of six-nine months. This is the system which incorporates wireless broadband digital transceiver technology [802.11], Intel-based computer platforms, 10Base-T LAN systems, video conferencing software [H.320/ 323], digitized optical examination instruments [American Medical Devices] and a variety of FDA-certified pharmaceutical evaluation software into a single operating system. The system qualifies for Telemedicine billing under all five codifications and billing systems and has been pre-approved by Utah's Dept of Health and Family Services Division for use in remote and rural areas.

POWR/MASTR™ Industrial Engine

The commercially available POWR/MASTR™ is a high-efficiency, long-life industrial engine which is fueled by natural gas, propane or butane. A POWR/MASTR™ can be directly connected to gas company pipelines and so never needs refueling. Each POWR/MASTR™ unit can generate over 145 horsepower for mechanical power needs, or 100 kilowatts of electricity for electric power needs. POWR/MASTR™ units can be linked together in parallel and/or linked to utility company electricity to satisfy energy requirements of any size.

POWR/MASTR™ offers savings of up to 50% over other mechanical power costs, or up to 70% over utility company charges for electricity. A San Diego shopping center saves $125,000 per year in electricity costs.

POWR/MASTR™ is environmentally friendly, using only clean burning gases at a maximum rate of 9 therms/900,000 Btu/900 cubic feet per hour of natural gas. When less power is needed than 100 kilowatts or 145 horsepower, POWR/MASTR™ automatically self-adjusts to use less fuel. Operating at less than a quiet 60 dB at 20 feet, POWR/MASTR™ sounds no louder than a new car engine at idle. It also produces far less harmful exhaust emissions than a typical gasoline-fueled automotive engine. POWR/MASTR™ is fully automated and designed for 60 months of continuous use with maintenance regularly scheduled every 1,500 hours.

Each POWR/MASTR™ unit weighs 3,200 lb., and its size is 8 feet long by 5 feet wide by 6 feet high. A POWR/MASTR™ unit can be transported on its own delivery trailer and installed by one person in about four hours after site preparation. No cranes, work crews, nor special foundations are necessary. An adjustable level platform system is built-in so that no poured nor perfectly level pad is required. Controls are included at no charge to allow more than one POWR/MASTR™ unit to deliver electricity with other power generation units or in conjunction with utility company power.

Hydrosonic Pump

The hydrosonic pump seems destined to become a billion-dollar invention with many applications. It is really a zero-pressure boiler, not a pump. The inventor has been calling it a pump so as to avoid entanglement with strict American Society of Mechanical Engineers boiler codes.

Mechanical input power rotates the shaft, and plain water is converted to steam without the need for hot surfaces. The process seems to be actually a form of fusion where collapsing microscopic bubbles momentarily create extremely high pressures and temperatures. The technical term for this phenomenon is “sono-luminescence”. The energy conversion efficiency is around 130%. (To prevent confusion, it should be clearly understood that the hydrosonic pump on the macro scale does *not* operate at high temperatures and pressures as is the case with nuclear or fossil-fueled boilers.)

One application is to use a windmill to turn the shaft. Out of the nozzle comes steam which drives a steam turbine to produce electricity. The steam then enters a condenser from which can be obtained potable water and hot water for space heating. For remote islands, for example, the hydrosonic pump would be very useful. One utility is reportedly already looking at increasing the efficiencies of its nuclear and fossil-fueled power plants by 3 - 5 percentage points.

Nevada has large underground reservoirs of useless mineralized water. The hydrosonic pump could be the centerpiece of a large-scale scheme to generate electricity, heat and potable water.

The hydrosonic pump is actually being commercially manufactured and sold. The inventor definitely is using the correct approach in that since the pump is such a new technology, for some time he has been simply building one unit at a time in various sizes and configurations. He has been purposely restricting their sale to local installations so he can closely monitor their performance and incorporate improvements and changes into future units.

As of May 1996, he had 14 units actually installed and operating. One application is for producing clean steam on demand for a commercial laundry. Based on feedback from customers’ experience with them, he is evolving step-by-step in an organized manner towards eventual mass production of *fully validated* units. It seems to be much easier to obtain expansion capital for actual commercial units than “laboratory queens”.

Pulsed Abnormal Glow Discharge Reactor

A typical flashlight’s light bulb is a glass vacuum tube where the flashlight’s batteries force current through the bulb’s filament, resulting in a power loss equal to the square of the current times the positive resistance of the filament. The power is then radiated out of the light bulb as light and heat.

Physicists have known for many years that the pulsed abnormal glow of a discharge tube has a negative resistance characteristic. What physicists have not appreciated, until the development of the PAGD reactor, was the real possibility or the knowledge of precisely how to go about extracting 'free' energy by exciting self-sustaining oscillations in the plasma discharge.

The pulsed abnormal glow discharge (PAGD) reactor (U.S. Patents 5,416,391, 5,449,989, and 5,502,354) is an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode over-heating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of those tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing are currently under development. The inventors hope that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits. The inventors are presently engaged in negotiating licensing agreements with a view to development of the applications.

Etheric Weather Engineering

Etheric weather engineering is certainly one of the more spectacular products of the international "underground" science network. Unbelievable as it may seem, what looks like an ordinary tin can or handleless frying pan slowly being turned by an electric motor, in less than a half-hour, can cause heavy rain within 10 miles under conditions of high barometric pressure. (I have a video which shows about 20 demonstrations of etheric rain making.) I personally have seen etheric weather engineering effects at least twice in Las Vegas and twice in the Midwest.

So what is the secret of this crazy thing called "etheric weather engineering"? To begin understanding this most remarkable phenomena, we first take a look at just what is the "ether":

Sound comprises of oscillating waves traveling through water, air, and solid matter. Light propagates through space also as a wavelike phenomenon having frequency and wavelength. Over a century ago, some physicists postulated that light is a form of electromagnetism which travels as an oscillating wave through a medium they termed "ether". The famous Morley-Michelson experiment around that time determined that the speed of light is constant. So therefore, it was thought, there can not be an ether.

Subsequently, physics was led on a wild goose chase. For example, the mathematics of Einstein's famous theories of relativity are mostly based on the assumption that the speed of light is constant. Astronomers commonly believe that the universe started with a big bang and is still expanding because the speed of light is thought to be constant.

It has been claimed that the physics of electromagnetism and gravity as presently taught in academia has over 20 serious flaws. Actual measurements with modern instruments have shown that the speed of light varies with both direction and time. (Morley and Michelson erred in measuring the speed of light with both interferometers in the horizontal plane. They should have instead placed one interferometer in the horizontal plane, i.e., orthogonal to gravity, and the other interferometer in the vertical plane, i.e., parallel to gravity.) Actual measurements of the speed of light as it varies by as much as 5 miles per second over time show that the ether is not static but, as the earth travels through space, seems to surge and ebb with both time and orientation with respect to the stars.

Contemporary physics does not answer some of the fundamental questions of magnetism and gravity. For example, just how do magnets attract and repel? What is gravity? How can magnets under specialized conditions produce anti-gravity? What is inertia?

The consensus of some physicists is that two basic changes need to be made to the theory of physics. The speed of light is no longer to be assumed constant. The other change is that admitting the existence of the ether helps to explain many physical phenomena not otherwise satisfactorily explainable by conventional mainstream physics. For example, some physicists are now claiming that the earth's relatively weak gravitational "pull" is actually the ether pushing objects such as the moon, satellites, and people into the shadow formed by the earth on the ether.

Etheric energy, also sometimes called "zero point electromagnetic radiation" and "vacuum field energy", is known as an energy that fills the fabric of all space. Technically, the etheric energy results from an electric flux which flows orthogonally to our perceived dimension or reality.

The energy density of the ether is essentially incomprehensible. The mass equivalence of etheric energy has been calculated by physicists to be on the order of 10^{93} (may not be correct) grams per cubic centimeter using Einstein's famous equation $E = mc^2$. To put etheric energy density in perspective, Nobel Laureate Richard Feynman and one of Einstein's protégés, John Wheeler, have calculated that there is more than enough energy in the volume of a coffee cup to evaporate all the world's oceans! We fail to easily recognize this immense energy source as it is analogous to trying to weigh a beaker of water underneath the ocean's surface.

Dan A. Davidson recently published a book "Shape Power: A Treatise on How Form Converts Universal Aether into Electromagnetic and Gravitic Forces and Related Discoveries in Gravitational Physics" reporting on his many years of measuring and studying the effects of the geometry of objects on the ether. In his book he explains how geometric forms, for example the famous "pyramid power", convert etheric energy into electromagnetic and gravitic forces.

Etheric weather engineering researchers not only claim but have demonstrated many times that precisely machined metal objects similar in shape to cones, tin cans, handle-less frying pans, etc., when slowly turned by an electric motor (but not simply rotated on the axis of their hollow interiors), bore holes in the ether and cause weather upsets and changes. Only by linking the enormously high energy density of the ether with etheric hole boring can the disproportionately immense leverage of small objects upon the weather be understood.

The foregoing is referred to as "active" etheric weather engineering. There is also a "passive" version which generally comprises of a box about two feet high, wide, and deep. The tops, bottoms, and sides are about an inch or so thick and comprise of a thick layer of electrical insulation sandwiched between two thin layers of an electrically conductive material such as aluminum foil. Pieces of a wrecked RV camper's shell sometimes have been used.

Along the four inside edges around the bottom of the box are four magnets. Each magnet is placed in the center of each inside edge. To make rain, the polarities of the magnets are set one way, and to cause fair weather, the magnets are reversed. (I have actually seen this demonstrated in the Midwest.) On the center of the bottom of the box is set a truncated concrete cone about a foot high and a little over a half-foot in diameter. The concrete contains some special materials including mono-atomic gold and is sometimes wetted.

I stuck my head inside the box and could detect a faint mustiness. The experimenter thinks there is something like 20 megawatts of etheric power vertically streaming through the box.

The weather control box is termed “passive” because it takes about a half-day for the weather to react in a large circle of several miles in radius as compared to the half-hour for several miles in radius of weather to react to the rotating metal objects. In the awesome demonstration of the weather control box I saw in the Midwest, an otherwise cloudless day went completely cloudy from horizon to horizon in about an hour, after a buildup of several hours in the morning. I could even see lines or bands in the clouds that were possibly caused by the horizontal aluminum sidings of the garage inside of which the weather control box was located. Then the magnets were reversed, and the clouds had dissipated by the end of the afternoon. I was overwhelmed by seeing, for the first time, etheric weather engineering. It was simply magnificent.

It has been suggested that the precision of etheric weather engineering could possibly be increased by using both passive and active forms of etheric weather control in a mode of operation similar to alternately pressing the gas and brake pedals of a vehicle.

Some of America’s Indian tribes were able to break up droughts by dancing counter-clockwise around a circle, or to stop rain by dancing clockwise around a circle. To illustrate, the summer of 1931 Nevada was suffering through a drought. An elderly Shoshone Indian, Wagon Jack, suggested to the tribal members living in the vicinity of Austin, Nevada that they devote some time to a rain dance. With considerable skepticism, Indians from all over central Nevada showed up beginning August 14 for continuous rain dancing plus of course feasting and political meetings. On August 19, the skies clouded over and rain began coming down in torrents. After four days of heavy rainfall, flooding caused extensive damage. (Nevada Historical Society)

I remember reading another story when during a severe two-year California drought during the mid-1970’s, an environmental group in San Francisco just for fun decided to hold a rain dance in nearby Marin County. They had to cut it short because it started raining! Of course, I didn’t understood then what was really happening and why.

Etheric weather engineering research Trevor James Constable has produced a video “Etheric Weather Engineering” on his weather engineering experiments. Thomas J. Brown has authored a book on etheric weather engineering titled “Loom of the Future: The Weather Engineering Work of Trevor James Constable”.

It was reported in Brown’s book that in September 1994, Hurricane Iniki was bearing down on Honolulu. Constable’s ship happened to be located between the hurricane and Honolulu so he was able to divert Iniki. Unfortunately, the hurricane ended up damaging the island of Kauai instead.

Installing local etheric weather engineering capabilities, probably under contract to an etheric weather engineering researcher, should be a relatively trivial expense. One weather control machine or box should be able to cover the entire resort area. By being able to cause rain or sun on demand, the resort project could achieve a competitive advantage.

I do not know whether local weather control, set to sun, would be sufficient to break up a hurricane should one approach the resort complex. It is possible that weather control machines would have to be installed on ships or planes and located in the path of the hurricane such as happened with Iniki. Being able to break up or at least divert hurricanes should noticeably reduce insurance costs.

Testatika Free Energy Machine

The Testatika free energy machine was developed over a 20-year research period in Switzerland. It resembles a Wimshurst electrostatic generator commonly seen in high school physics labs. Other documents may refer to it as the "Swiss M-L converter" or "Thesta-Distatica." The inventor of this superb machine, Paul Baumann, claims its running principle was found by studying the effects of lightning.

Testatika not only runs on its own energy but produces also a huge amount of excess power. A video shows a demonstrator unit producing at least 3 kilowatts of power. Yet the machine is only about 70 cm wide, 40 cm deep, and about 60 cm tall. It delivers DC voltage ranging from 270 to 320 volts, only depending on the dryness of the air. At this voltage it can supply at least 10 amperes of DC current.

Testatika is not a perpetuum mobile, but an energy machine that collects its "free" energy from the charged and ionized air particles. Some technological tricks are implemented to overcome the normal drag-resistance of a conventional Wimshurst machine, which is still the secret of the Swiss group. However, progress is being made by several researchers in the underground science network in deducing and explaining the basic mechanisms of this remarkable machine.

The initial high voltage, at high frequency, is produced by twin counter-revolving electrostatic disks made from magnetic stainless steel. The magnetic disk segments provide an electromagnetic speed control for the disks, while functioning as electrostatic elements to provide the very high voltage.

The solid-state amplification subsystem consists of polarized sections of barium-iron permanent magnets with multiple coil arrays, as first introduced by Hans Coler in Germany during the 1940's. This subsystem increases the amperage level about 20 times from the 150 watts from the twin electrostatic disks up to about 3000 watts at the output terminals.

An independent feedback subsystem provides the electromagnetic force to power a small DC motor to revolve the twin electrostatic disks continuously. This arrangement consists of two horseshoe magnets with coil sets wound fully around each magnet leg. This feedback method provides that the Testatika free-energy machine is a fully standalone system, with no external power input. Once the two disks are turned by hand, they continue to revolve on their own, producing free energy.

The Testatika machines (some smaller units also exist which only deliver about 200-300 watts) are not yet mass-production type models. They are still laboratory prototype units, although they are built with a very good craftsmanship. No maintenance is required with these units.

GeoExchange Heat Pump

A refrigerator is a one-way heat pump that cools the inside of the box by removing heat, which is then pumped someplace else. Cold air is not pumped into refrigerators.

Conventional air conditioners pump hot air from the inside of a home into the outside air. Because the outside air is already so hot in the summer, the difficulty of pumping hot air into air that is already hot results in low efficiency and high energy costs.

GeoExchange Heat Pumps are electrically-powered devices that use the natural heat storage ability of the earth or the earth's ground water to heat and cool a structure. They are being promoted by the Geothermal Heat Pump Consortium which claims that they can reduce greenhouse gas emissions by 40% or more over traditional air conditioners.

At the Bella Vivente subdivision of Lake Las Vegas, Henderson, Nevada, their GeoExchange system pumps heat into and out of homes with one loop of pipe which is connected to the lake. Residents save an average of $150 per month in heating and air conditioning bills. Other advantages include eliminating noisy and unattractive outdoor condensers and cooling towers.

The following technologies may <u>not</u> be commercially available at this time. However, they may have potential applications for the resort project.

Sewage Treatment

A new method of treating sewage has been patented by a retired federal government employee.

High-Temperature Incinerator

This simple process reportedly incinerates garbage, sawdust, and wood chips at such an unbelievably high temperature that even thermocouples at 3200 degrees burn up. So little odor and smoke is produced that a prototype was tested indoors. Very little waste is left behind which needs to be trucked away. The high-grade heat from this type of incinerator can be used for generating electricity and producing process heat.

Food

About 20 years ago, I read an unforgettable article on Hong Kong's comprehensive and efficient food system. I tried in vain a couple of years ago to find the article or similar information.

As I remember it, the restaurants and institutions in Hong Kong carefully scrape waste food off plates and bowls into bins. The bins are trucked to pig farms. The waste from the pigs is dumped into fish ponds. I think there was another step or two involved in all this. It was impressive how so much additional food could be raised in Hong Kong rather than allowed to go to waste.

I propose that a similar scheme be implemented in the resort complex. In addition, there are refinements that could possibly be made as a result of some research I conducted some time ago on an "aquaponic food factory". Below is the original write-up of the aquaponic food factory:

Merger of tilapia culture with soil-less culture for plants. 220-foot long, 16-foot wide polyethylene sheet-enclosed building with round fish tank in one end. Plants are grown in 2-foot-square plastic foam pads floating in long shallow water tank. The plants start as seedlings at one end of the tank, moved along as they grow, and harvested 3-4 times per week at the other end when mature.

What was difficult to perfect was balancing the chemistry of both tanks as nutrients and water cycle between the tanks. Unskilled labor maintain and harvest several times per week consistently high quality, clean, undamaged, organically-grown produce and tilapia.

No weeding, hoeing, tilling, spraying, hail insurance, etc., are necessary. Water consumption is 50 times less than required by dirt farms. Productivity per acre is about 10 times per acre of dirt farming. A head of lettuce, for example, costs about 5 to 9 cents to produce and brings a higher price than dirt-raised lettuce.

(End of write-up.)

Some of the claims of the above aquaponic food factory write-up may have to be adjusted, particularly in regards to production cost and insect control.

For a while, a group of us were considering installing a similar system in central Nevada except that the project was to be expanded in three respects: One change was to take advantage of the plentiful pure cold water at the site and begin with raising trout and salmon. The overflow from the trout and salmon tanks was then to be piped to tanks of tilapia and shrimp which are not as fussy about water quality and require warmer temperatures.

The second change was to increase productivity and lower costs by taking advantage of the cheap energy to be provided by plasma-injected transmutation thermal reactors and other new sources of energy. Also, a company we are associated with would supply mineral fertilizer from the world's richest mineral deposit of trace elements.

The third change was, in conjunction with the aquaponic food factory, to build a prototype 21st century city for the workers, taking advantage of our access to a long list of advanced technologies. An eminently qualified architect had been selected as the architectural consultant for this unique real estate development. The architect in turn was understood to have access to an extensive network of technologists and financiers. New ideas in construction, community layout, sewage treatment, transportation, communication, alternative medicine, entertainment, recreation, education, landscaping, and home gardening were to be explored.

The site was considered to be ideally suited for the world's first large-scale aquaponic food-production facility with ultimately thousands of acres of greenhouses and fish tanks capable of supplying several western states, western Canada, and Japan with fish and fresh produce.

Some of these ideas and plans could be adopted to help supply the resort complex with locally raised fresh produce and fish. There are islands in the east Caribbean which already have greenhouses supplying fresh produce to passing cruise ships as well as local markets.

Installing photo-luminescent therapy machines in the greenhouses offers two potential benefits of improved plant growth and insect control. There has been some indication of improved plant growth in the presence of the machines. Insects and spiders are irritated by the frequencies and so therefore would be repelled some unknown effective radius. Paybacks are elimination of insect damage, eliminating the cost of insecticide spraying, and easier certification as organically grown produce which in turn usually brings higher prices. One potential problem is the repelling of pollinating bees.

Microporous Solid Gel

Ultrasonic energy blends and hardens gel of polyester resin and water into very hard and strong sheets. Water content varies from 5% to 95%. Markets include on-site fabricated wall panels, plastic pallets, boat flotation inserts, insulation, and packaging.

Computerized Fiber Optic School Network

One dozen to four dozen junior and senior high schools in each large metropolitan area were to be linked with fiber-optic cables into a single network with an average cost of $100,000,000. The recent advent of the Internet possibly offers drastic cost reductions.

The network's three-layer computer system would comprise of a network coordinating and scheduling computer as the top layer, an administrative computer in each school as the middle layer, and personal computers as the bottom layer. The network's customized software would include network management and coordinating functions for the system manager, two layers of software for the teachers to support 100 different functions, and 25 different functions for the students, only one of which is computer-assisted instruction. Each personal computer would have a monitor capable of also displaying telecast or recorded classes.

The typically huge scale of a school network would economically justify the simultaneous teaching in parallel of all week-long segments of each course year round with no seasonal constraints. Segmented courses would still include the standard features of conventional courses such as classes, graded examinations, and academic load standards. Short quizzes on each segment with pass/fail grading would provide quality control. Other nonstandard features of segmented courses include modified versions of the project management tools PERT and CPM, unique statistical techniques for selecting series of two or three local/televised classes for weekly scheduling, nearly unlimited self-pacing, student interest groups, and optimum utilization of the superlearning technique.

The computerized fiber optic school network is my own design. The proposal contains approximately 180 pages and describes several small-scale research projects which should be funded in varying amounts to gain additional information on its workability. Marketing such a radical and complicated program to bureaucratic metropolitan school districts presents an unusually difficult marketing challenge.

The country has a large city near the resort complex which could be a good place to build a prototype network. Its schools may be much more flexible and open-minded than American schools. A multipurpose optic fiber cable could be laid between this large city and the resort complex. Then a satellite campus in the resort complex could be a part of the school network and provide high-technology education to the children of the people working and living at the resort complex.

An optional feature of the school network would be a "virtual reality occupation simulator". There ought to be a huge market, but the technical requirements for such a machine appear almost impossible to meet. The same machine would have to simulate for example a dentist pulling a tooth, laying an oil pipeline across Siberia, welding, carpentry, drafting, the mechanics of a stockbroker buying and selling stock, golf course maintenance, valet parking, etc.

After a person is wired up and fitted with position sensors, pressure actuators, etc., the computer would then have to generate an initial mathematical model of the person's geometry and coordinates. As the person moves and reacts to pressure, sounds, and visual images, the computer would have to instantaneously respond accordingly with signals to the pressure actuators, earphones, goggles, etc.

So a student "drilling" a virtual reality tooth in a virtual reality dentist's office would feel and hear the vibration as he or she moves the drill around the virtual reality patient's tooth. There would have to be safety limits built into the software so that the student doesn't receive unvirtual reality injuries from, for example, getting bit in the fingers by a virtual reality patient who suffers an unexpected virtual reality epileptic seizure!

The required computer would have to be cheap and yet be in the supercomputer class with an enormous instant access data storage device. No such machine now exists. However, ACC Labs expects to commercialize within a few years several computer technologies which together should be able to comfortably meet the extreme requirements of the virtual reality occupation simulator.

Twelve of its 90-gigabit transcapacitor (T-CAP) storage devices will be able to store over one trillion characters (bytes) in a space the size of a flashlight battery. One variation would be a "neural network array" based on 24 billion software configurable nodes.

ACC Labs' liquid addressable memory device (LQ-RAM) would have a capacity of about 10,000 to 100,000 times the density of today's S-DRAM DIMM memory, with longer refresh rates, lower power consumption, and a much higher speed - on an order of 3-800 gigahertz cycle times and even faster. Using both T-CAPs and LQ-RAMs, the entire contents of the Internet's World Wide Web can be stored in a desk-sized storage device, and then retransmitted in a few moments.

Torsion Field-Based Communications

Practically unknown to Western science, several groups of Russian scientists have been developing torsion field physics and apparatus in secret for over three decades. A torsion field is a scalar product of two electromagnetic fields under special conditions. For example, a torsion field can be generated at the interface between two magnetic fields sweeping past each other. Torsion fields come in at least three different types – E fields, S fields, and G fields.

Russian astronomers have determined that torsion fields are transmitted at a speed of one billion times the speed of light. Physicists at Los Alamos National Laboratory have transmitted Mozart's 40th Symphony at 4.7 times the speed of light using torsion field generators and torsion field sensors. The European physics laboratory CERN has determined that torsion field information can be transmitted through 20 miles of mountain without attenuation.

Several first-ever torsion field patent applications have been submitted. A unique design has been developed for a counter-rotating torsion field generator based on a newly patented micro-solenoid technology, counter-rotating mono-polar magnetic plates, mono-chromatic standing wave lasers, and some scalar parallel processor technologies from the Swiss Institute of Technology in Zurich. A commercial version is scheduled for demonstration by late 2000 which will be able to universally transmit information through the entire earth at many times the speed of light with a bandwidth wide enough to allow transmission of three-dimensional holographic video on 16.7 million separate channels.

Gravimetric Sensors

The grand design for a working model of a highly directional and very inexpensive gravimetric sensor device has been developed. Its purpose will be to provide people with a way to detect large objects in space and plot their position in real time. This will make it possible to develop a baseline from which we can then extrapolate the rate at which this information is conveyed via transverse gravitational waves - expected to be greater than 1,000,000,000 times the speed of light. This will provide a cogent baseline to support the concept of superluminal velocities in data transmission via torsion field devices. This project could use some capital - probably in the $75-100K range and has the potential to set a whole new standard for astronomical observation techniques.

Small-Scaled Energy Production

Large-scaled centralized electrical generation facilities typically require costly fuel, pollute, use up large areas of land for generators and power lines, are unsafe in the case of nuclear, have limited operating lifetimes of a few decades, and inherently subject large regions to blackouts. The country where the resort complex is to be located currently is expanding its electricity generating capacity by building large-scaled fossil-fueled power plants.

Small-scaled decentralized electrical generating units ideally do not require any costly fuel, do not pollute, only require a square meter or two of floor space, are standalone and do not interlock with a power grid, and are dependable.

What are referred to as "renewable" energy sources are receiving much attention and R&D support. They include producing and using hydrogen as a fuel, fuel cells, solar, and wind. Some types are already in use such as windmills, solar water heaters, and solar box ovens for cooking. (I myself own and use a solar box oven with excellent results, particularly with baking delicious potatoes.) While the intent is laudable and much clever engineering has been accomplished, solar and wind, for example, are inherently not completely satisfactory sources of energy.

The international science network seems to focus mostly on developing unconventional new sources of energy. The basis of many of their devices is extracting energy in some fashion from the ether (see Etheric Weather Engineering above).

The hydrosonic pump (see above) is a rare example of an unconventional new source of energy which is actually being commercially manufactured and sold. The pulsed abnormal glow discharge reactor is one of many examples of unconventional new sources of energy that, to my knowledge, are not currently being commercialized.

The country's people may be interested in starting up a massive new industry specializing in researching and commercializing new sources of energy, particularly etheric energy. They could follow a path similar to Taiwan becoming a strong computer manufacturer, for example, even though Taiwan is merely an out-of-the-way island.

Since such an organization is a new concept with me, what follows are some thoughts I have come up with:

Our first task should be to try to define somewhat just what is it the new organization is supposed to research and commercialize. The mission of Ether and Charge Cluster Engineering, Inc., (which seems as good a name as any other) would be to take advantage of this small country's freedom from scientific dogma and pioneering entrepreneurial spirit in researching and commercializing applications of etheric energy, the existence of which is pooh-poohed by practically all physicists.

The potential applications of etheric energy are diverse. Major categories I can think of are:

Over-unity gain energy conversion by rotating magnets and electronic circuits
Plasma-injected transmutation for radioactivity amelioration, thermal energy production, and manufacture of scarce elements out of more plentiful elements
High-density charge clusters
Radiovoltaic, petrovoltaic, and super-capacitor batteries
Self-powered electric vehicles
Niches in agricultural technology
Medical treatment devices
Self-powered heating, air conditioning, and ventilation equipment
Stand-alone power supplies for appliances, office equipment, instruments, etc.
Anti-gravity

Weather control
Shape power
Space flight
Archaeology
Machine tools
Electrical power generation

Ether and Charge Cluster Engineering, Inc., should establish a close relationship with the local university's engineering departments for two reasons: One would be to build up, organize, and document the theoretical underpinnings of ether engineering. The other would be to train and inspire young engineers in the exciting new field of ether engineering.

There was a similar situation during the 1950's and 1960's where Stanford University's electrical engineering faculty helped start the computer and semiconductor companies of the now fabulously successful Silicon Valley. I see a similarly wealthy "Ether Valley" starting up in the country's capital city. It could be a sound business decision for several reasons:

- The country could get rid of its coal-fired power plants.
- The country could ensure its long-term financial and energy survival by commercializing new sources of energy and other applications of etheric energy while its primary electrical energy generation and distribution business gradually disappears.
- Ether and Charge Cluster Engineering, Inc., could greatly enhance the livability of employees, customers, friends, relatives, and shareholders who live in the country by eliminating smog, reducing living costs, improving health standards, controlling the weather, and removing unsightly power lines and transformers.

PacifiCorp Holdings, Inc., an Oregon public utility holding company and the third largest power utility west of the Mississippi River, has already set a precedent by investing $1,000,000 in Blacklight Power, Inc., of Malvern, Pennsylvania. Blacklight Power is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. Blacklight has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

Blacklight is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. Blacklight Power, Inc., also claims on its Web site that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles. Parked in a garage, it would seem that the car's battery charger could feed electricity back into the electric power grid and help pay for the car. However, generators in homes and small businesses pose a safety problem for power company workers who normally assume the power is off from the central generating stations when there is a blackout.

The price of Blacklight Power's stock in private offerings has increased from $.75/share in 1991 to $1,500/share in 1996 (not publicly listed). A recent stock offering sold $5,000,000 in one week and may close at $10,000,000. Because energy is one of the world's largest industries, Blacklight Power offers an example of how lucrative a validated new source of energy can be.

As a public service, I would be happy to work part-time as an advisor to Ether and Charge Cluster Engineering, Inc. Film Funding, Inc., for whom I consult, is experienced at incorporating new Nevada corporations and has worked with many startup companies.

I am acquainted with many of the key scientists and inventors who have done so much to create physical etheric devices as well as develop ether physics. I think I can easily line up an advisory board of highly qualified technical consultants.

There seems to be a high likelihood of productive ether engineering research that could be accomplished for two or three more decades. The initial emphasis of Ether and Charge Cluster Engineering, Inc., should be to commercialize an existing inventory of devices and technologies that are at least close to being ready to market and to which Ether and Charge Cluster Engineering, Inc., could acquire licenses and rights. It should be reminded that commercialization of any inventions is contingent upon acquisition to patents, licenses, rights, territories, application fields, etc.

I am certain that a modest amount of advertising in publications which cover the ether and charge cluster engineering fields such as New Energy News, Electrifying Times, Journal of New Energy, Exotic Research, Planetary Association of Clean Energy, Space Energy Journal, Nexus, and Infinite Energy - Cold Fusion and New Energy Technology would attract additional inventors.

However, it is crucial that Ether and Charge Cluster Engineering, Inc., first establishes a reputation for being fair and responsible when negotiating with inventors for the rights to their inventions. It is also crucial that Ether and Charge Cluster Engineering, Inc., recruits competent staff not only for engineering and management, but also for evaluating the reality and economic worth of ether-related inventions.

The human species has laboriously pulled an impressively diverse mix of new energy technologies out of the dark hole of its ignorance. (I have counted about 50 new sources of energy in this report.) Sometime in the future, Ether and Charge Cluster Engineering, Inc., could conceivably find a particular energy technology it has commercialized in competition with some other energy technology. By simultaneously commercializing a variety of ether-related energy technologies, I am confident that profitable niches in the immense energy business as well as applications of etheric energy to industries unrelated to energy production can be found for many years to come.

What follows is a sampling of energy inventions - at least nearly all of which could be candidates as small-scaled energy production units and, in some cases, even as off-grid electricity generators. Please keep in mind that some may require additional development and/or verification.

High-Density Charge Cluster Technology. Nearly solid-state electrical energy converter (U.S. Patent 5,018,180) with a stable over-unity power conversion gain of approximately 5. The gain can be cranked up to a maximum of approximately 30 but then loses stability. A fax sent August 1996 reported that it now "appears capable of providing 1 kilowatt of thermal energy plus 1 kilowatt of electrical output per cubic inch with a power supply (small) and heat exchanger". The high-density charge cluster device also offers ease of manufacture as well as compactness. It is thought that this new technology is so fundamental that ultimately 1,000 doctorate theses could be researched and written by academia. For example, one university is researching flat-panel displays based on high-density charge cluster technology. High-density charge cluster technology

appears to be a credible candidate for an advanced self-powered electric vehicle's on-board battery charger.

Low-Energy Nuclear Transmutation - A Primer for Non-Physicists. The physics of high-density charge cluster technology can be explained somewhat by the following which was written primarily for non-scientists. Low-energy nuclear transmutation is thought by some to be the basis for these technologies mentioned elsewhere in this compilation of advanced technologies: pulsed abnormal glow discharge reactor, cold fusion reactor with thermal-to-electric conversion, fiber-based cold fusion power cell, hybrid cold-fusion hydrogen reactor, and gas-phase catalytic fusion.

Atoms comprise of negatively charged electrons whirling around a relatively small nucleus of neutrons and positively charged protons. Protons have a mass 1836 times the mass of electrons. A neutron is a combination of an electron and a proton with zero net electrostatic charge. An atom's number of protons and its equal number of electrons determine its type of element. Only when a positive ion (such as a proton or nucleus of a helium atom) penetrates an atom's nucleus does the atomic nucleus become another element (or another isotope of the same element) or becomes unstable and splits (fissions) into two or more elements.

For decades, physicists have assumed that changing (transmuting) elements always requires high energies. Elaborately expensive machinery was required to accelerate a positively charged particle of less than atomic size to a high enough energy to overcome the electrostatic repulsion of an atom's nucleus and penetrate its interior.

The inaccurately named "cold fusion" is only one of several types of physical phenomena which indicate the existence of a mechanism by which elements could be changed to other elements without seemingly requiring very high energies. However, the secret of cold fusion's excess heat had remained a mystery until September 13, 1996 when Kenneth Shoulders explained how the fracturing of palladium loaded with hydrogen (deuterons) could produce high-density charge clusters and cause nuclear reactions. Based on this evidence and on the pioneering work of Rod Neal and Stan Gleeson, a trio of physicists, Hal Fox, Robert W. Bass, and Shang-Xian Jin, finally deduced a more complete theory of the nature of the mechanism which extends beyond the discovery of cold fusion. The magnitude of their fundamental scientific discovery can best be appreciated by considering that Hal Fox's Fusion Information Center, Inc., has collected over 3,000 papers on cold fusion since its discovery in 1989 without anyone being able to offer a complete understanding of just how cold fusion works.

What follows is a simplified explanation of their remarkable concept using an analogy of electrons as ping pong balls and protons as bowling balls. Visualize a room with one wall as the positive plate connected to the positive terminal of a battery, and the opposite wall as the negative plate connected to the battery's negative terminal. Each ping pong ball is negatively charged and when released at the negative wall, electrostatic repulsion/attraction will cause the ping pong ball to fly across the room to the positive wall. Each bowling ball is positively charged and when released at the positive wall, it will roll slowly in the opposite direction across the room to the negative wall.

Both the ping pong ball and the bowling ball have an equal but opposite electrostatic charge. So therefore they both draw the same amount of electrical energy from the battery as they fly or roll from one wall to the opposite wall. But because the ping pong ball is so much lighter than the bowling ball, the ping pong ball will strike the opposite wall at a much greater speed than the bowling ball.

Now assume that 1,000,000 ping pong balls are released as a cluster at the negative wall. (At a high enough density, electrons will forget their mutual electrostatic repulsion and cluster in the same manner as ball lightning. Mother Nature sometimes pulls weird tricks.) Embedded in the ping pong ball cluster are 10 bowling balls. Because there are so many more negatively charged ping pong balls, the positively charged bowling balls are going to stick with the ping pong balls and ignore the attraction of the negative wall and the repulsion of the positive wall. So therefore the bowling balls hitch a free ride along with the ping pong balls. When the bowling balls hit the positive wall along with the ping pong balls at the same speed as the ping pong balls, the bowling balls will hit the positive wall with enormously greater energies than if they had hit the negative wall, rolling slowly alone, in the opposite direction.

In the same manner, protons (and other types of positive ions) in "low-energy" nuclear reactions are hurled into the nucleus of atoms by their "piggy-back" ride on high-density electron charge clusters with sufficient energy to split or transmute atoms. This mechanism apparently is the secret of cold fusion's excess heat, eliminating radioactivity, transmutation of common elements into scarce elements, and powerful new atom smashers small enough for college physics laboratories. If the new theory holds up to scrutiny by other physicists, it might win a Nobel prize in physics.

Cold Fusion Reactor with Thermal-to-Electric Conversion. These are small reactors similar to electrolytic cells which produce more thermal energy than their electrical energy input. Power gains have reportedly been measured as high as several hundred. When atoms are being transmuted under specialized low-energy conditions, thermal energy is released. The heat can be directly converted to electricity. The electricity could then be transmitted to another geographically separate site and used to power two or more reactors. Reactors could in theory be cascaded indefinitely. Two drawbacks of cold fusion are the requirement for water and the need to occasionally replace electrodes. Some cold fusion researchers have changed the terminology to "low-energy nuclear transmutation".

Hybrid Cold-Fusion Hydrogen Reactor. This reactor is intended to be an economical super-efficient heater for homes and as a hot water heater. The device is so new that its potential ultimate electrical input-to-thermal output conversion gain is yet to be experimentally determined. Applications could include heating homes and other buildings, greenhouses, and fish tanks. The electrodes are made of nickel. Because the country has nickel deposits, it could manufacture its own hybrid cold fusion hydrogen reactors.

Gas-Phase Catalytic Fusion. Activated carbon catalysts are loaded with various precious metals (by weight, in the range of 0.1% to 0.5%). Palladium works best so far. When these catalysts are heated, considerable excess heat is produced reliably when such catalysts are exposed to several atmospheres of heavy hydrogen gas (deuterium gas). Pairs of deuterium atoms are fused to produce waste helium-4 atoms plus abundant clean heat. No lethal radiation is released. One cubic kilometer of ocean water contains enough deuterium that when catalytically fused, the energy released equals the chemical combustion energy in all of the earth's known oil reserves. With suitable insulation, the process, once started, is self-heating. Temperatures can rise well above the boiling temperature of water. Engineered with efficient heat exchangers, thermal/electrical energy generators can be built in sizes for applications ranging from mobile homes to large centralized generating stations. No electrolysis is involved nor are finicky electrodes required as with some other types of low-energy nuclear transmutation devices. However, the device's requirement for rare precious metals such as palladium could hinder widespread use.

Fiber-Based Cold Fusion Power Cell. This is a cold fusion reactor which is highly competitive with the Patterson Power Cell™. Patents have been applied for. Demonstration products could be manufactured and prototypes readied for distribution within six months after funding. International Nickel Company is considered a strong strategic partner. (The resort's country has nickel deposits.)

Light-Polarizing Photovoltaic Film. The light-polarizing photovoltaic film known as LUMELOID™ is a stretch-oriented polymer film about 0.3 microns thick which mimics photosynthesis. Light energy is absorbed in a molecular antenna which converts it to electron energy. The electron energy is then rectified by a molecular tunnel diode comprising an electron donor, an insulating space and an electron acceptor. Voltage and current is generated in the plane of the film parallel to the stretch axis.

Conventional silicon photocells are 25% efficient in theory, but in practice attain only 4-10%. The silicon concentrator cell theoretically has a 32% efficiency, but in practice has reached only 15%, and is too expensive.

LUMELOID™ has a theoretical efficiency of 72%. Initially its efficiency is expected to be comparable to existing photocells. However, because of the film's high theoretical efficiency, with further R & D, LUMELOID™ is expected to soon surpass conventional photocell efficiency. More importantly, the low cost per watt of LUMELOID™ represents a tremendous cost decrease over presently available sources of solar energy and would facilitate its early acceptance in the energy market.

The projected cost of the basic LUMELOID™ thin film is $1.00 per square meter, and the assembly which comprises a LUMELOID™ film on a substrate with microelectronics circuitry, is about $5.00 per square meter. Its capital investment cost is about 30¢ per watt. This is a fraction of all conventional electric energy producing technologies. The capital cost of fossil fuel generation from large power plants is over $1.50 per watt, nuclear energy is more than $6.00 per watt, and present semiconductor photovoltaic devices are more than $4.00 per watt.

LUMELOID™ will be available in rolls at low cost, affording easy transportation, and any amount of power during sunlight hours by just rolling it out flat on any surface. Eventually with the development of QUENSOR™, which is like a very thin battery (see below), a combined LUMELOID™-QUENSOR™ sheet may be spread out on a roof or on the ground, and will provide electric power day and night, available on demand.

"Diad" is an acronym for donor-insulator-acceptor-device which acts as a diode. Molecular diads have been chemically synthesized. LUMELOID™ incorporates diads in a stretch-oriented electrically conductive polarized film. The linear polarizing molecule in the film acts as antennae to absorb a resolved component of the energy of the light photons in the plane of the film. Diads are essential in LUMELOID™ to convert the energized electrons to unidirectional (DC) electric power.

When two polarized films are positioned with their stretch axes perpendicular, light is almost completely absorbed. Using two crossed films with electrodes connected in series or parallel, ordered diads in LUMELOID™ enable the conversion of light to electric power at 72% theoretical efficiency. This principle was demonstrated at the Jet Propulsion Laboratory by converting microwave to DC electric power using rectifying antennae at 82% efficiency.

Femto Diode Photovoltaic Glass Sheet. The LEPCON™ femto diode concept is similar in principle to LUMELOID™, which provides a technology mimicking photosynthesis, absorbing light energy with a molecular antennae structure, and rectifying the electron energy by the known phenomena called electron tunneling. In contrast to LUMELOID™, however, LEPCON™ comprises the durable materials of sub-micron metal on a glass substrate sheet. (A “femto” is one quadrillionth (10^{-15}).)

A device for fabricating LEPCON™ photovoltaic sheets in commercial production is called “Supersebter”, an acronym for Super Submicron Electron Beamwriter. The Supersebter utilizes 100,000 rows and 100,000 columns to position 10 billion electron emitters on a square meter sheet by a lithographic process. This process produces 10 billion electron beams simultaneously to write the nanostructure patterns of femto diodes on the sheet. A square-meter LEPCON™ photovoltaic sheet could be produced in twenty seconds at a cost of about 50¢ per watt and a lifetime expectancy of over 50 years.

LEPCON™ panels could be utilized by utility companies in solar farms. It has been calculated that LEPCON™ panels covering a 150-kilometer x 150-kilometer area in a desert region could produce over 250,000 MW of electric power, enough for most of the United States.

This successful commercial fabrication of the LEPCON™ femto diode structure should lead to many other advanced nanostructure devices. For example, computer circuitry could be miniaturized 100-fold, efficient laser lighting devices could be produced, and vast improvements could be made on high-definition 2D to 3D TV flat-panel displays. (The 1993 Alvin Marks patent on a monomolecular resist significantly increases the resolution of the nanostructures.)

Quantum High Energy Density Storage or Retrieval Device. Essentially a very thin battery, the solid-state Quantum High Energy Density Storage or Retrieval Device (QUENSOR™) has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

A composite photovoltaic LUMELOID™ and QUENSOR™ panel may be used for the storage or retrieval of solar-electric energy day or night on demand.

Eight patents protecting the LUMELOID™, LEPCON™, and QUENSOR™ technologies have been issued, and additional patent applications have been filed.

Buried Contact Multijunction Thin Film Solar Cell. In the past, to produce high-performance solar cells, expensive high-quality solar cell material were required. This new solar cell approach produces high efficiency cells but with the use of much lower quality material than previously possible; material 100-1,000 times lower in quality than the worst presently used in commercial silicon cells. Using this approach, the major material costs in making the modules becomes the cost of the glass used in the modules.

The approach involves the deposition of a very thin layer of silicon upon the glass cover. During deposition, fluctuations are introduced in the properties of these layers to produce a multilayer structure. Three separate ideas are combined:

The first new idea is to use a multilayer structure, which provides the tolerance to the use of low quality material; material 100-1,000 times poorer than the worst used in present commercial cells. The second is using a laser grooved approach which allows correct contacting to each of the layers in the cell. The third is the automatic series interconnection of the cells which results from the laser grooving approach and greatly simplifies module fabrication, contributing to low processing costs.

High efficiency can still be obtained by this approach but with material costs not appreciably higher than the glass used in the modules. In the normal approach, material costs alone are over $2 per watt of electrical output. In the new approach, material costs are only about 10 cents per watt, about 20 times smaller. Total solar power costs are expected to be cheaper than fossil or nuclear power.

Solar Hydrogen Producer. This simple device efficiently uses all solar wavelengths to make hydrogen in abundance. The hydrogen could replace natural gas in pipelines, and be a base for the so-called “hydrogen economy”.

Hydrogen Tank. A hydrogen tank was developed by the same inventor (now dead) of the above solar hydrogen producer that is so safe it can be punctured with rifle bullets.

Super-Steam Technology. This machine combines compressed air, untreated or even polluted water, and almost any combustible fuel to produce steam at any pressure or temperature. The response is instant compared with a conventional boiler taking hours to reach operating pressure and temperature. The efficiency is over 90%, which compares favorably with a conventional boiler’s efficiency of 40%. Maintenance costs, fuel consumption, and air pollution all go way down. 3500 applications have been found for super-steam technology. Electricity can be generated for 1 cent per kilowatt-hour. Super-steam technology can be scaled from the size of a one-pound coffee can to a house.

Super-steam technology could be combined with the aforementioned solar hydrogen producer and hydrogen tank for on-site renewable energy uses.

Double-Exposure Flat-Plate Solar Collector. Apparently combines photo-voltaic and solar thermal collecting.

Environmental Heat Engine. Has some similarity to refrigerator or heat pump. Working fluid of ammonia or carbon dioxide is expanded by propane heater, cold fusion thermal reactor, or environmental heat to move pistons. Applications include vehicle engines, small-scale on-site electrical generators, and large-scale water lifters for dams and canals. (Could double electrical output of Hoover Dam.) This is a variation of Dennis Lee’s low-temperature phase-change engine which the inventor (now dead) claimed is superior to Lee’s engine.

Brown Nuclear Battery. Small "nuclear" battery uses tritium to power small circuits and electrical devices for several years. Tritium is a radioactive isotope of hydrogen with a half-life of 12 years. These nuclear batteries use beta emitters which are similar to devices used in smoke detectors and to illuminate wrist watches. The key approach is the methods used by the inventor to "funnel" the emitted beta particles (electrons) into the affiliated circuits so that a useable voltage is produced.

The Brown nuclear battery has many uses, especially for computer-chip applications. A very small "nuclear" battery can be used to power a computer chip or computer chip set for several years. The battery could be about the same size as the packaged chip and be mounted directly on or adjacent to the chip. Many other applications are available. The nuclear radiation consists of beta particles which are electrons and can do no harm unless the battery material is ground up and swallowed.

Perpetual Battery. The hyper-cap E-converter is a thick quarter-sized battery which would put out .001 watt "forever" for such applications as critical components inside fail-safe computers, cellular telephones, etc. The energy comes from tapping ether fluctuations.

Clem Over-Unity Vegetable-Oil Engine. Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine's durability, the only working model of the Clem engine has been continually running on his son's farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump at the resort area could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop in the resort's country for manufacturing hollow shafts and cones. Off-the-shelf components could be shipped in for subsequent commercial assembly and sale of Clem over-unity engines. Hydrosonic pumps could be either shipped in or locally manufactured under license and then combined with Clem engines into desalination units. The market for efficient self-powered desalination units ought to be enormous. Unfortunately, I have no idea as to the maximum practical size that self-powered desalination units could be built.

Water Engine. Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank's pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. The existence of zero-point electromagnetic radiation was discovered in 1958 by Dutch physicist M. J. Sparnaay. Zero-point electromagnetic radiation is the same as the electromagnetic waves radiated from radio and television antennas except that the frequencies are random, incoherent, are present everywhere in the universe, and vary from zero cycles per second to infinity. Other names include "zero-point energy field", "vacuum field energy", "etheric energy field", and "ether".

Mr. Sparnaay had continued the experiments carried out by Hendrik B. G. Casimir in 1948 which showed the existence of a force between two uncharged parallel plates which arose from electromagnetic radiation surrounding the plates in a vacuum. This force has since been named the "Casimir effect" to honor the discoverer. (See "Casimer Effect Self-Charging Energy Cell" below.)

Mr. Sparnaay discovered that the forces acting on the plates arose from not only thermal radiation but also from another type of radiation now known as classical electromagnetic zero-point radiation. Mr. Sparnaay determined that not only did the zero point electromagnetic radiation exists in a vacuum, but also that it persisted even at a temperature of absolute zero. Because it exists in a vacuum, zero-point electromagnetic radiation is homogeneous and isotropic as well as ubiquitous.

In addition, since zero-point electromagnetic radiation does not vary, the intensity of the radiation at any frequency is proportional to the cube of that frequency. Consequently the intensity of the radiation increases without limit as the frequency increases. The result is an infinite energy density for the radiation spectrum. (See "Etheric Weather Engineering" above for additional discussion.)

The special characteristics of the zero-point electromagnetic radiation of having a virtually infinite energy density and that it is omnipresent even in outer space make it very desirable as an energy source. However, the high energy densities only exist at very high frequencies. These large energies can be collected with small antenna-like structures (frequency is inversely proportional to size). But the frequencies are so high that they are unusable for practical energy uses.

With two antennas of very slightly different sizes, the converter collects zero-point electromagnetic radiation of two very slightly different frequencies. The converter then superimposes the two frequencies which results in a far lower beat frequency. The energy contained in the beat frequency is then transformed to practical electrical power which can be made available in any location on earth or in space. Applications include transportation, heating, cooling as well as many others.

Water-Fueled Internal Combustion Engine with Garrett Electrolytic Carburetor. Henry "Dad" Garrett and his son, Charles H. Garrett, in 1935 patented and exhibited an automobile that ran on water substituted for gasoline. Actually, the fuel was hydrogen after the water was broken down by electrolysis. The only items needed to convert a gasoline-powered auto to a water burner was an electrolytic carburetor and installation of a generator of double normal capacity for the breaking down of the water. Instant starts in any weather, no fire hazards, cooler operation and plenty of power and speed were claimed.

Rather than store the inflammable hydrogen, the same process makes the gas without a storage chamber in which the flames from the motor's cylinders might react. Water is broken down into its component gases by passage of an electric current through it from electrodes immersed in the water. Hydrogen collects at the negative pole, and oxygen collects at positive. The hydrogen is then mixed with air and introduced directly into the cylinders. For an ordinary automobile, an electrolysis chamber of about a quart in capacity is big enough.

In summary, this simple process can provide:

- Heat - through the burning of hydrogen/oxygen.
- Power for local energy generation - the explosive energy to drive a piston to drive a shaft to power a generator. The generator then charges a battery network which feeds an inverter (converts DC to AC) to run your house.
- Motive power for transport power - explosive energy drives the piston to drive your vehicle.
- Light - condoluminescence - hydrogen/oxygen exposed to phosphor-coated surfaces for light generation.
- Sound amplification - flame speakers where flame is electrostatically deflected at audio rates to produce sound. The hydrogen/oxygen mix is generated *locally* rather than using bottled gases such as propane, butane, etc.

Papp Engine. Joseph Papp was granted US Patent #3,670,494 for his "Noble Gas Plasma Engine". A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

A demonstration of the Papp engine to representatives of the Stanford Research Institute resulted in killing one person and injuring another. Papp himself is believed to have died from apparent neutron radiation from his engine.

Jim Kettner of the Space Energy Association recently stated in a letter to me that this is the best self-running device he knows of which can produce substantial amounts of power. A variation of the Papp engine is currently being built by Jim Sabori and, if sufficiently funded, was to have been ready by the end of 1998.

In a recent letter from Hal Fox of Trenergy, Inc., Fox states that he believes that the Papp engine works but hopes that much simpler ways of making energy can be developed. There are several groups working on versions of the Papp engine. It seems to keep recycling through the new-energy community.

Muller Motor/Generator. Electrical generators in common use require external torque from gas, hydroelectric, and steam turbines, for example, to overcome back electromotive force. Bill Muller's magnetic motor/generator eliminates back electromotive force. The coils are removed from the rotor and instead wrapped around powerful magnets equally spaced around the stator. Magnets are also equally spaced around the rotating disk. However, the number of rotor magnets is one more than the number of stator magnets.

A typical commercial motor involves pushing and pulling magnetically where in the Muller motor/generator only the magnetic pulling effect occurs. A perfectly balanced arrangement of the magnets results in a disk-like rotor that can be turned with no effort at all. The completely reversible result is if current is applied to the stator coils, the rotor turns. If the rotor is turned, the stator coils can generate current to be supplied to a load.

The stator coils are wrapped around cores made of inexpensive Muller-patented amorphous material which eliminates heat-producing hysteresis and eddy current losses. Because of instantaneous saturation and permeability, much less wire is needed for the stator coils which greatly reduces both ohmic resistance losses and inductance losses. No brushes are needed like in conventional direct current generators and motors which wear out. Bearing friction losses are greatly reduced by both weight reduction and using Muller's cone-shaped magnetic bearings (patent applied for).

Electrical Generator. Two pairs of electromagnets warp permanent bar magnet's magnetic fields across field coils to achieve over-unity electrical energy conversion gain, the magnitude of which is unknown. Requires additional resonant circuit components. Appears to be a potentially robust generator of electricity.

Self-Contained Power Supply. Uses tightly wound coil spring, flywheel, and magnets to achieve over-unity energy conversion gain. Potential market is as a battery pack replacement.

Motor/Generator. Incorporates permanent magnets which provide the drive torque by pulling rotor and stator poles together with an electromagnetic *opposed* excitation input pulsation used to weaken that magnetic pull to allow the poles to separate. Power output claimed to be 3 times power input.

WIN Zero Point Electrical Energy Converter. Extracts AC current with an output power over input power gain as high as 268.6%. It generates electricity by collecting electrons between E-dam cermets in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimer effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input.

Conversion of Aluminum Internal Combustion Engines to Magnetic Motor. Heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle. If the electric motor is replaced with a Muller magnetic motor (see above), the combined energy conversion gain is projected to be about 300.

Searl Effect Generator. The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don't touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a "governor", either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG's primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small "inverse gravity" vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue.

The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

A German power company is reportedly considering replacing a nuclear power station with eight fuel-less SEGs costing a total of about $4.5 million and generating a total of 240 megawatts with no pollution.

Gravito Magnetic Device. The gravito magnetic device (GMD), also known as the David Hamel machine, is a cheap version of the Searl effect generator (SEG) (see above) that can be built with off-the-shelf components. The GMD has magnets attached to radial spokes or arms that are jointed. These magnets are floated in a magnetic housing and when properly biased, continue to spin, gaining momentum and speed with each rotation and achieving the same tremendous electrostatic buildup on the outside rim as the SEG.

The parts inside the GMD are configured in such a way as to promote an enclosed constant variation of opposing magnetic fields. In the resting state, the moving cones are balanced and stabilized in a magnetic field repulsion, like a magnetic bearing. The startup of the GMD is initiated by lowering a magnet at the center top of the shell, inside the shell, towards the momentarily magnetically balanced moving cones.

As the center magnet, which opposes the one attached at the center of the upper moving cone, is lowered inside the GMD, it forces the upper cone to move sideways, shifting the magnetic balance between the cones inside the GMD. The cones stay offset to each other for a short while and then plasma-like energy starts to build up around the GMD. This energy built up creates a shift of colors from red-orange to light blue and then white. Following this effect the GMD starts to lose weight and quickly generates an upper lift in a greater ratio than its total weight.

It should be emphasized that the power generated, surrounding the GMD, is extremely powerful and radiates, causing interruptions of electron flow in normal electrical systems, i.e. lights, cars, transformers, and interferes with electromagnetic transmissions. So it is without saying that this machine has to be operated with serious caution when completed and activated. However, if a control system is in place, it is easy to stop its effect. One of the main purposes of GMD research is to understand the effects of enclosed opposing magnetic fields that have varying vector angles.

The GMD is potentially a versatile, useful technology which also generates antigravity. The GMD has a powerful upward thrust causing it to rise in the air in a manner similar to a Searl effect generator (see above). (The first assembled model after two hours of increasing spin velocity unexpectedly crashed through the roof and escaped.) When the inner workings of what causes the secondary electrogravitational fields are understood, it is probable that various devices can be created providing plentiful energy of different types.

It should be noted that all building materials for the GMD are readily available almost anywhere in the world, and the cost is relatively cheap. A lot of hand work is required but nothing that is unreasonably unattainable. No special machining or parts are required. Only patience and devotion is needed.

Casimer Effect Self-Charging Energy Cell. In the above article on etheric weather engineering, the force of gravity is described as the ether weakly pushing two objects such as a book and the earth into each other's shadow. Gravity can also be thought of as the long-range version of the Casimer effect. The Casimer effect predicts that two metal plates close together will attract each other.

Consider the plates set at a certain distance apart. In the space between the plates, only those ether (vacuum) field fluctuations for which a whole number of half-waves just spans the distance can exist, just like waves formed by shaking a rope tied at both ends. Outside the plates, the fluctuations can have many more values because there is space. The number of modes outside the plates, all of which carry energy and momentum, is greater than those inside. This imbalance PUSHES THE PLATES TOGETHER.

The proprietary Casimer effect self-charging energy cell contains many extremely thin layers of carbon, magnesium, chromium oxide, and a couple of other elements and compounds. The result is analogous to a boat that has some rather large leaks. More water pours into the boat as fast as water is bailed out. Likewise, as electromagnetic energy is drawn out of the Casimer effect self-charging energy cell when inserted in an electrical circuit, energy is drawn in from the surrounding ether. Physically and functionally, the Casimer effect energy cell is like a solid-state battery that recharges itself with some valuable features such as simplicity and compactness.

Switched Reluctance Motor. The switched reluctance motor is a motor design that has been around for many decades but has never been commercialized. The inventor of the Casimer effect self-charging energy cell is also developing an efficient commercial version of the switched reluctance motor specifically designed with modern switching components. The intended end use is for powering electric vehicles. The switched reluctance motor has the key advantages of ease of manufacture, simplicity, and allowing complete vehicle motion control. No claims are being made that it is capable of over-unity power conversion.

Most self-powered electric vehicle power train concepts involve combining an over-unity motor (to extend the range between battery charges) with an on-board battery charger and a pack of batteries or super-capacitors. The Casimer effect self-charging energy cell offers some important advantages such as much simpler mounting of one to several battery-like cells in the vehicle's engine compartment and greatly increased maintainability and dependability. With the cells' self-charging capability, the efficiency of the vehicle's electric motor thus becomes less of an issue. Electric motor features such as controllability, manufacturing cost, simplicity, and reliability can thus be given much greater consideration.

This particular self-powered electric vehicle power train combination may be the best one. If plugged into the electric grid while parked in the owner's garage, the revenue from running the electric meter backwards could eventually pay for the vehicle's purchase cost.

Joe's Energy Cell. The Joe's energy cell basically comprises of two metal containers, one inside the other. Both containers are filled with specially charged and cleaned water with the inner container perforated to allow water to freely move between the inside and outside of the inner container. The outside container is electrically connected to the anode of a battery, and the inner container connected to the battery's cathode. The outside container is closed except for an orifice to which a thin pipe is attached. The other end of the pipe is attached to the outside housing of the carburetor of a gasoline engine. Gas/energy is transferred to the carburetor through the pipe. The entire cell including the pipe must be electrically insulated from the engine.

Various designs and shapes of both containers have been experimentally built. The original and simplest comprised of both containers as long pipes with the inner pipe, which was perforated, inside the outer pipe.

At least fourteen vehicles in Australia have been fitted with different versions of Joe's energy cells to be driven without fuel nor battery charging. The engine, radiator and exhaust pipe stays cold enough to freeze water – warranting replacing water in the block with transmission fluid. The timing does have to be advanced between 25 and 80 degrees, depending on the type of engine, to allow the engine to run smoothly. The engine's power doubles over that when petrol-fueled.

The Joe energy cell is not explainable using conventional mainstream physics. It is not even known if the process inside the cylinders is implosion, explosion, or both. No gasoline is mixed with air inside the carburetor. It appears that zero-point energy is somehow drawn from the ether and converts the air entering the cylinders into some kind of fuel. The inventor claims the process increases the frequency and energy of the air.

For converting existing gasoline-powered vehicles into self-powered vehicles which don't require fuel nor battery charging from a local electric utility, adding the Joe's energy cell seems to offer by far the easiest modification. Nearly the entire engine is left alone. A separate heater would have to be provided since the engine runs cold. The vehicle will not rust, and paint will not oxidize.

Guy McCarthy guy@twelvestar.com has provided the following insightful analysis of the Joe energy cell from a biodynamics perspective:

[0.1] The "Joe Cell" (described in NEXUS magazine, Aug-Sep '98, pp. 43-46) is an electrical device attached to the carburetor of an ordinary automobile engine which allegedly enables it to run for extended periods with the fuel line disconnected.

[0.2] Biodynamics is a science of natural forces and agriculture inspired by the Austrian philosopher Rudolf Steiner. It pre-dates "Organics" as the original alternative to chemical/industrial agriculture. Biodynamics has achieved limited recognition in the United States and Canada, but is widely practiced in Europe, New Zealand, and Australia.

Main Text:

[1.0] The Joe cell uses water as a storage medium, which, when charged above a certain threshold, collects additional energy as needed by the engine. The initial charge is not depleted as the engine runs, but will dissipate under certain conditions. This matches a key attribute of the biodynamic ether, which attracts more ether to itself once the local concentration reaches a certain threshold. Without adequate boundaries (or storage conditions) the etheric charge build-up will dissipate.

[2.0] The motive reaction in the engine seems to be *implosion*, since the ignition timing must be advanced so far into the compression stroke. (Note that 80 degrees is nearly 2/3 of a typical compression cycle, which totals about 135 degrees in a 4-stroke engine.) Implosion may be considered equivalent to "a sudden condensation of the ether" which is also thought to be the motive reaction that creates lightning and thunder in the atmosphere. According to biodynamic researchers, condensation is a state change from a more rarefied ether into a less ratified one, releasing energy in the process.

[2.1] Biodynamics deals with four states of ether which are equivalent to the four elements intuited by ancient philosophers:

Warmth Ether corresponds to the Fire element
Light Ether corresponds to the Air element
Tone Ether (or "Chemical Ether") corresponds to the Water element
Life Ether corresponds to the Earth element

[2.2] In the physical world, substance tends to flow from a high potential to a low potential. This is what the concept of "entropy" and the Second Law of Thermodynamics are based on. But in the etheric world of living energies, the inverse is true. Ether is naturally attracted to itself and flows from low potential to high potential. This is why living organisms continue to draw nutrients and life forces into themselves while the rest of the world is supposedly running down. Ether penetrates substance, and substance influences ether. This dynamic interplay is essential to life on the physical plane.

[2.3] Under favorable conditions, the following etheric condensations will occur:

Warmth Ether --> Light Ether, releasing energy as lightning
Light Ether --> Tone Ether, releasing energy as thunder
Tone Ether --> Life Ether, releasing energy as biological manifestation

[2.4] Recall that lightning and thunder sometimes occur independently of each other (as in "heat lightning" and "rolling thunder"), while at other times they are closely linked. Clearly any reasonable explanation for these phenomena must allow for both cases. The common notion that lightning and thunder are caused by static discharge between air masses is clearly untenable. A buildup of static charge in such magnitudes could only occur under extremely dry conditions; the typical thunderstorm is certainly not dry.

[2.5] The biodynamic researcher points to a well-defined cumulus cloud in mid-summer as the ideal collector of etheric energy. Hour by hour it grows, drawing abundant warmth ether from the atmosphere into itself as well as particles of dust and moisture. The cloud builds itself taller and taller - its boundaries sharply distinct from the rest of the sky. Eventually the cloud becomes saturated - turning darker and forming a mighty thunderhead. At this point, anyone who is familiar with weather patterns in open country is headed for shelter. They know that a violent thunderstorm could be unleashed at any moment.

[2.6] Just a few months ago the author observed such a phenomena in central Maryland. The top of the cloud was puffy and brilliant white, illuminated by the late afternoon sun. In contrast, the bottom was flat and dark, laden with moisture. Great bolts of lightning began to crackle about its upper regions. The air felt clear and energized while all around trees were bending and twisting in sudden gusts of wind. When the storm finally broke it was both fearsome and beautiful, a mighty discharge of lightning, thunder, and rain.

[2.7] We can surmise that the Joe cell becomes highly charged with etheric energy, and that this charge is transferred through the carburetor to the air entering each cylinder. As the compression stroke begins the volume of air is compressed, causing a further concentration of etheric charge. Soon the air becomes saturated with ether. At this point conditions in the cylinder are similar to those within the thunderhead. The ignition spark, far advanced into the compression stroke, serves to catalyze a condensation reaction of the compressed ether. This sudden change of state causes the air mixture to contract sharply, generating power through the remainder of the compression stroke. Therefore the air mixture in each cylinder undergoes a structural change, not a chemical one, and the flywheel is driven by *suction* rather than combustion. With the exception of small amounts of vapor from engine oil and perhaps trace elements from the engine and muffler, the exhaust should be of substantially the same quality as the air intake.

[2.8] Since warmth ether is the most rarefied ether, condensation will have the effect of reducing or consuming warmth. Therefore implosion is a cool process, which tends to absorb heat rather than release it. This matches observations of the Joe cell in which the engine runs cold. Unlike combustion, implosion is a "living" process, and as such produces no waste heat or by-products.

[3.0] All three styles of Joe cell are based on concentric, insulated cylinders. This is similar to the classic "orgone accumulator" discovered by Wilhelm Reich. Reich found that metals tended to conduct ether while organic materials tended to absorb it. By layering the two types of materials together, Reich caused a directional flow of ether to occur. The orgone accumulator was a six-sided box constructed with alternating layers of metal and non-metallic materials.

[3.1] The inclusion of a 1.5-volt battery to maintain the charged condition (and a 12-volt battery to create it) is an interesting variation on the orgone accumulator design. There is precedent for this idea in electrogravity documentation that has become available in recent years. (See the USAF report "Electrogravitic Systems" that was released in 1995 as well as patents by T. Townsend Brown.) The basic idea is that a charged condenser exhibits a tendency to move towards its positive terminal. This is thought to result from a net movement of ether in the opposite direction (from positive to negative). Therefore a static electric charge stimulates a directional flow of ether.

[3.2] The Joe cell design implies a net movement of ether from positive to negatively charged terminals (i.e. towards the center of the cell and towards the engine).

[4.0] The transfer of energy to the carburetor is accomplished by several different conductors including plastic, copper, aluminum and rubber tubing. The common material in all of these configurations is the *air* inside the tubing. This is consistent with the biodynamic view that oxygen is an excellent carrier of etheric forces. (Fertile soils are said to contain 50% air for just this reason.) The metallic carburetor housing would conduct the etheric energy to its interior surfaces, where incoming air would absorb it and carry it into the cylinders.

[5.0] In conclusion, the Joe cell offers a compelling view of how ordinary combustion engines might be modified to run on natural etheric energy. This could be an important direction for future research. Validation of the concept could be approached in three phases:

[5.1] Collecting a high concentration of etheric charge. For some ideas on how to accomplish this, see "Geometric Energy Fields" at http://www.twelvestar.com/sourceworks/ which includes specific instructions for building resonant etheric devices.

[5.2] Stimulating a sudden condensation of ether by means of electric spark and measuring the implosion effect in a pressurized container.

[5.3] Achieving reproducible evidence of successive implosion events within a small engine mounted for laboratory testing.

Advanced Self-Powered Electric Vehicle Concept

Electric vehicles are clean, quiet, powerful, require much less maintenance than gasoline or diesel-fueled vehicles, and inherently much simpler and easier to manufacture. Their drawbacks have been a short range, long battery recharging time, and a heavy, bulky battery pack. Clearly, self-powered electric vehicles, if they could somehow be designed and manufactured at a reasonable cost, would be a commercial success. Forbes January 25, 1999 compares golf carts (400,000 already sold) with personal computers.
http://www.forbes.com/forbes/99/0125/6302088a.htm

Self-powered electric vehicles at minimum must satisfy four requirements: The battery ideally should not have the disadvantages of conventional lead-acid batteries such as temperature sensitivity, low charge-to-weight ratio, toxic materials, and finicky slow recharging. The electric motor should be durable and highly efficient. Heating and air conditioning must be provided. The really key difference from conventional electric vehicles is having an on-board battery charger.

Electric bicycles with only one battery are inherently more practical than conventional electric cars or trucks carrying a half-ton or so of batteries stuffed into every available nook and cranny of the vehicle. When just one battery out of one or two dozen batteries fails, the dead battery can be time-consuming to find before replacement. Once a dead battery is replaced, it could be a short time before another battery fails again. Besides weighting much less and with the batteries taking up much less space, a self-powered electric vehicle with an on-board battery charger would require at most only a few batteries.

What follows is a discussion of candidate technologies which could be combined into a reliable, commercially successful advanced self-powered electric vehicle.

BATTERY

Alvin Snaper's **Power Technology Battery.** Las Vegas resident Alvin Snaper (600 patents and new products) through his company, Power Technology, Inc., is developing a superior new battery with none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally friendly than lead. (For more information, see www.powerpwtc.com/business_of_issuer.htm.)

Maxwell Technologies **Ultra-Capacitor.** Since there is no heat nor waste product buildup as with electrochemical batteries, ultra-capacitors can easily last many hundreds of thousands of extremely rapid and deep charge/discharge cycles. They can supply repeated bursts of power for fractions of a second to several minutes. They are especially useful for supercharging power for accelerations or climbing. With their quick recharge capability, ultra-capacitors can easily capture regenerative braking energy, extending the range of the vehicle. For increased safety, they can be stored, assembled, maintained, and transported while completely discharged. Since the energy stored is directly related to the voltage, the amount of available energy can be easily monitored. This precision eliminates the need for sophisticated state-of-charge algorithms. Other advantages include temperature insensitivity and low maintenance.

Capacitors are inherently more capable than electrochemical batteries of withstanding quick discharges of electricity to the motor when the driver demands high acceleration by stepping on the throttle. It is conceivable that ultra-capacitors could be combined with batteries to take advantage of the best performance characteristics of both types.

Maxwell Technologies' commercially available PowerCache™ ultra-capacitors pack up to 100 times the energy of conventional capacitors and can deliver ten times the power of ordinary batteries. Their ultra-capacitor is a double-layer capacitor incorporating a unique metal/carbon electrode and an advanced non-aqueous electrolytic solution. As a potential is applied across the terminals, ions migrate to the high-surface-area electrodes. The combination of available surface area and proximity to the current collector provide an ultra-high capacitance for this electrostatic process.

Ukrainian **Capacitor-Like Battery.** The I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, has invented an entirely new type of battery. Emtech LTD., Mississauga, Ontario is commercializing the battery and has applied for 11 patents. A set of conventional lead-acid batteries can propel a small electric car for 100 miles or so, require several hours to recharge, and weigh 1000 lb. An equivalent set of Ukrainian batteries is expected to weigh approximately 200 lb., provide a much greater range of up to possibly 200-300 miles, require 15 to 30 minutes to recharge, and maintain full voltage until 94% discharge. The Ukrainian battery operates well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the Ukrainian batteries is that they are made only of proprietary materials which are environmentally friendly, plentiful, and inexpensive. (Dated 1993; claims currently are not considered credible. Emtech LTD, which had the commercialization license, recently went bankrupt. Nu Omnicomm Technologies, Inc., of Salt Lake City, which has close ties to the I. N. Frantsevich Institute for Problems of Materials Science, may be able to revive the Ukrainian battery.)

A Ukrainian battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as one molecule. Since capacitance is inversely proportional to thickness of the separation between layers, the practical consequence of the Ukrainian battery is to electrically function in a manner similar to that of a giant capacitor.

Ed Baldwin's **Super-Capacitor.** Similar in electrical function to the Ukrainian battery, Ed Baldwin's solid-state multi-layered "super-capacitor" has a very high dielectric constant. It is believed ultimately capable of ten times the electrical energy storage capacity per pound of lead-acid batteries.

Yasunori Takahashi's **ultra-capacitor.** The Takahashi ultra-capacitor is rated at approximately 20 farads at 25 volts in a volume of about one cubic centimeter.

Blacklight Power's **hydrino battery.** Blacklight Power is completing a 10-kilogram battery using hydrinos which can supply 150 horsepower for 1,000 miles.

ON-BOARD ULTRA-CAPACITOR/BATTERY CHARGER

The famous inventor Dr. Nikola Tesla reportedly modified and drove a Pierce Arrow automobile in 1931. Tesla's car required neither gasoline nor external battery charging. The power source was an array of vacuum tubes apparently similar to photo-multiplier tubes. Before and since then, dozens of other inventors claimed to have developed or are developing devices for converting relatively small input power to larger output power.

It is generally inaccurate to say that their devices produce more energy than they consume which would violate the widely accepted physical law of the conservation of energy. The accurate statement to make would be that a small external energy input causes very large internal energy to be transformed into large external energy output (electrical, thermal, and/or mechanical).

An on-board charger is required to keep the ultra-capacitor/batteries fully charged while the vehicle is parked as well as when the vehicle is motion. Parked in a garage, the car's battery charger could feed electricity back into the electric power grid and help pay for the car, if it were not for potential safety problems for power company workers. Descriptions of some of the more promising on-board charger technologies follow. (If only mentioned, see additional details above.)

Blacklight Power's "**hydrinos**". It is an exotic new source of clean energy from ordinary water.

Ken Shoulders' **high-density charge clusters** device (U.S. Patent 5,018,180). A nearly solid-state device, it ultimately may put out one kilowatt of electricity and one kilowatt of thermal energy per cubic inch. Its gain can be increased so that it puts out 30 times as much power as its input electrical power. However, the device's power conversion gain is more stable with the gain at about 5 times. (Still being researched.)

Trenergy's **plasma-injected transmutation,** Dr. Case's **gas-phase catalytic fusion**, **fiber-based cold fusion power cell,** and the **hybrid cold-fusion hydrogen reactor** have electric-to-thermal energy conversion gains as high as well over 100 to 1. Their energy comes from high-density clusters of electrons carrying small numbers of protons at very high velocities to target nuclei using relatively low voltages.

W. A. Lambertson's **WIN zero point electrical energy converter** extracts AC current as high as 9.908 amperes using an input current of only 0.2596 amperes. It generates electricity by collecting electrons between "E-dams" in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. Solid-state with no moving parts and no size restrictions, individual units may eventually be built to power a 15-kilowatt home or a 20-megawatt arc furnace with an efficiency of 1000% or ten times the external input power.

The Correas' **pulsed abnormal glow discharge reactor** is an over-sized glass vacuum tube which uses high-density charge clusters to produce useful positive AC-to-DC electrical power conversion gains such as 483%.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. Converts very high frequencies of natural fluctuations of the universal electromagnetic radiation field to usable electrical power at much lower beat frequencies.

John Searl's **Searl effect generator** has three concentric rings of magnetic rollers. Brushes positioned around the outer ring of rollers pick up electricity.

Frank Richardson's **electrical generator.** Two pairs of electromagnets warp permanent bar magnet's magnetic fields back and forth across field coils to achieve over-unity electrical energy conversion gain. Requires additional resonant circuit components.

ELECTRIC MOTOR

Of the many types of electrical rotating machines that have been developed, of particular interest are those which are claimed to incorporate permanent magnets in order to develop more mechanical output power than their electrical input power. Such claims are considered suspect by many skeptics since they apparently violate the so-called law of conservation of energy. Skepticism is often reinforced by frequent power gain measurement errors. However, it has also been suggested that the key to over-unity power conversion gain in such motors is to use super-powerful permanent magnets at a very high rotating speed. A so-called "super-efficient" electric motor, besides providing motive power, could also act as an on-board capacitor/battery charger whether the vehicle is cruising, idling, or parked.

Perm-Mag Motor. An over-unity energy converter claimed to have a gain of up to several times of shaft rotational power over electrical input power, the super-efficient "perm-mag" motor generates 1 horsepower per pound of weight. Used in a self-powered electric vehicle, a 50-pound, 50-horsepower electric motor is equivalent to a 250-horsepower gasoline-fueled engine.

The perm-mag motor's inventor, Ronald Brandt, has successfully demonstrated a 10-pound, 10-horsepower prototype. Further research is expected to lead to a substantial increase in energy conversion gain over the reported gain of 400%. A 50-pound, 50-horsepower model (equivalent to a 250-horsepower gasoline-fueled engine) is currently being mounted in a Chrysler New Yorker for testing. Its companion controller, which is required to complete the resonant circuit for achieving over-unity gain, has been designed. It is not known yet whether a separate on-board battery charger will still be needed for a completely self-powered electric vehicle.

It should be noted that just because a motor can produce more mechanical power than its electrical input power does not necessarily mean that it is suitable for powering an electric vehicle. An electric vehicle motor ideally should have a number of other characteristics such as reversibility, complete variable power control, complete variable speed control, braking, and stepping. It is understood that the perm-mag motor meets all performance requirements for powering electric vehicles. It is not known how the perm-mag motor specifically compares with other types of over-unity motors.

Other Over-Unity Magnetic Motors. There are several other types of magnetic motors claimed to have over-unity energy conversion gain such as the ones that have been developed by Aspden, Reed, Watson, Bergman, Johnson, Labine, Tewari, and Marinov. For example, Teruo Kawai of Tokyo, Japan recently obtained U.S. Patent 5,436,518 for his "Motive Power Generating Device". The patent's key statement is as follows: "Electric power of 19.55 watts was applied to the electromagnets at 17 volts and 1.15 amperes. … an output of 62.16 watt was obtained." Dividing the output power by the input power yields an efficiency of 318%. However, as stated above for the perm-mag motor, such motors may not necessarily have all the characteristics needed for powering electric vehicles. Power gain measurements also can be misleading.

COMPRESSED AIR-DRIVEN AIR CONDITIONER/HEATER

Alvin Snaper has patented a compressed air-driven air conditioner/heater. It relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air.

The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 CFM at 40 PSI. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its efficiency is nearly 30%.

The vehicle would have a redundant pair (for increased reliability) of air compressors for pressurizing the vehicle's tubular frame which would also serve as a storage chamber. The heavy (no fuel economy requirement) and strong (for safety) tubular frame would help distribute compressed air to the power steering, power brakes, power seats, power windows, windshield wipers, door locks, air conditioner/heater, and a computer-controlled air ride suspension system.

CONTINUOUS CLIMATE-CONTROL SYSTEM

Since the vehicle's on-board super-capacitor/battery charger is expected to keep the super-capacitor/batteries charged even while the vehicle is parked, the vehicle's interior temperature could be thermostatically controlled at a comfortable room temperature 24 hours per day, seven days a week regardless of the exterior temperature.

LOW-TEMPERATURE DIAMOND COATINGS

Durability would be enhanced by coating parts such as shock absorbers with diamond using a new nondestructive low-temperature coating process which also was patented by Alvin Snaper.

ADVANCED COMPUTER-CONTROLLED SUSPENSION SYSTEMS

Computer-controlled hydraulic shock absorbers as well as the computer-controlled air ride suspension system would be supplied by Aimrite Systems International, Inc., which owns the patents. Aimrite's Computer-Optimized Adaptive Suspension Technology (COAST) system replaces a vehicle's conventional shock absorbers with specially designed hydraulic shock absorbers. The COAST system utilizes a sophisticated computer and position sensors to monitor the vehicle's level at each corner. The computer's microprocessor checks the sensors 240 times per second and optimally regulates the damping on all four shocks based on this input. The firmware used in the microprocessor is patented and represents the most important element in the COAST system. It controls nine dynamic and static parameters of motion (roll, pitch, sprung natural frequency, unsprung natural frequency, pumping down, stored energy, topping out, bottoming out, and height).

The COAST system is not only totally automatic, but it monitors and controls the vehicle's ride performance on a continuous basis providing soft and stable ride characteristics at all times as needed. The ride is comparable to active systems without the need for pumps nor high-speed servo-valves.

Each shock absorber is actually a complementary pair of shock absorbers mounted in opposing vertical compression/rebound modes. The computer sends signals to valves to release pressure as required. Aimrite considers its shock absorbers more durable and react faster than competing computer-controlled shock absorbers which apply pressure when needed. A built-in safety factor is that if the computer fails, the result is conventional damper operation, and failure of an individual damper is equivalent to failure of a conventional shock absorber.

Aimrite’s air ride suspension system replaces a vehicle's front coil springs and rear leaf springs. The air suspension comprises of a high-quality control subsystem that includes the aforementioned dual redundant air compressors, air dryers and filters, position sensors, computer-controlled solenoid valves, and a dashboard-mounted control to ensure proper operation and a long and reliable life of the air suspension in all weather and driving conditions. While stopped or driving, the control subsystem allows the operator to easily maintain the correct ride height under all loading conditions. For example, the chassis can be raised for a bumpy ride and lowered for stable highway driving. The vehicle body is automatically leveled at all four corners, even when parked on an uneven surface.

Aimrite’s suspension provides a full air suspension ride, with increased comfort and control. Built-in safety capabilities are provided that virtually eliminate traditional problems associated with air ride suspension systems.

Combining Aimrite’s two computer-controlled suspension systems would offer a luxurious ride with sports-car control and additional features at a reasonable price.

MONOCOQUE (UNIBODY) BASALT/CARBON FIBER FOAM BODY/FRAME

Developed by the I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. Test vehicle made with basalt/carbon fiber foam parts was only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

MARKETING

By combining these superb new technologies into an advanced self-powered electric car that would be superior to any other car even envisioned, it is evident that it should not be very difficult to sell a reasonably priced car which would offer the following features:

- Continuous climate control even while parked.

- Computer-controlled luxurious ride with sports-car control and automatic leveling even while parked.
- Powerful but quiet and emission-free electric motor.
- Much less hassle with bothersome and costly maintenance such as oil changes, tune-ups, etc.
- No dangerous gas tank taking up space.
- Only a few maintenance-free lifetime environmentally benign super-capacitors/batteries.
- Heavy pressurized tubular frame and basalt/carbon fiber foam body for increased safety.
- And, above all, never requires refueling nor electricity recharging.

HYDRO-MAGNETIC DYNAMO

The hydro-magnetic dynamo is a recent addition to this compilation of advanced technologies. The dynamo appears to be this report's only large-scaled emission-free electrical generator which does not requires external fueling. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at $500 per kilowatt which is competitive to nuclear power's capital costs of $5,000 per kilowatt, windmill capital costs of $4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street $4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ball park of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent
IPC H 02 K 44/00 "Method of deriving of electrical energy and organization of Gritskevich's MHD-generator for its realization":

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water's friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavitatal-vacuum structures (probably same phenomena used by the hydrosonic pump – see above), and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10050.

Comment Date: February 21, 2011 00:06:04AM
Solar Energy Development PEIS
Comment ID: SolarD10050

First Name: Gary
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Boulder City anti-wind energy version 3.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

The small photovoltaic panels seen on top of billboards and bus stops are practical because they can use on-site car batteries for temporary electricity storage.

As explained in the May 2009 Nevada Business Journal article in http://nevadabusiness.com/issue/0509/38/2032 (or click on www.nbj.com and select May 2009), power companies have to resort to inefficiently maintaining increased spinning reserve as their large-scale "car battery" to compensate for the sporadic production of wind and solar power.

Spring 2010 the Boulder City City Council appointed me and Joe Liebhauser to write the anti-wind energy argument for a Boulder City advisory question to be voted upon November 2010. Attached is our anti-wind energy argument that was submitted to the Boulder City City Clerk for inclusion in the November 2010 election ballot materials sent to Boulder City voters.

Also included in the November 2010 election ballot materials was our rebuttal to the pro-wind energy argument which is copied as follows:

"After a temporary boost in construction jobs, a typical wind farm only employs a few maintenance workers.

Large wind turbines fail to achieve some positive environmental goals such as energy independence, lower environmental damage, and domestic economic security. For example, a single large wind turbine’s permanent magnets, needed to generate the electric current, contain significant quantities of rare earths such as neodymium.

Chinese mines supply 95% of the world’s rare earths. They engage in environmentally questionable practices such as unreclaimed strip mining. Thus, wind energy would still create negative environmental impacts and increase our dependency on foreign mineral exploitation for its components.

The U.S. DOE’s projection of wind energy providing 20% of our electricity within 20 years may not be realistic.

Wind energy technology is not perfected and ready for full deployment. Dedicating and disturbing Boulder City lands for wind research is not needed, as there are numerous wind energy sites already developed worldwide that are available for such research. Boulder City should avoid dedicating its lands to experimental technologies that may needlessly impact our natural resources. If and when wind energy becomes viable, then Boulder City voters can make a reasoned choice to dedicate land to wind energy production."

(End of rebuttal to pro-wind energy argument.)

Boulder City voters unfortunately passed the pro-wind energy advisory question by a margin of 3 to 1. For the text of our arguments see also http://www.energy-resource.co.za/content/energy-resource/ejournal/news-a-articles/articles/item/938-boulder-city-nevada-anti-wind-energy.html.

Please note that much of our anti-wind energy arguments are also effectively anti-solar energy arguments.

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Additional development in the Eldorado Valley Transfer Area for wind farm use would negatively impact scenic views, recreation, and wildlife habitat. Unpaved roads, disturbed wind turbine sites, and power line construction create dust and may encourage vehicle incursions into the Conservation Easement.

Large wind turbines are visually intrusive, hazardous to birds, bats and small aircraft, and can cause "shadow flicker," "blade glint," noise, and harmonic ground vibration over many square miles. Nearby residents may suffer loss of sleep and nausea called "wind turbine syndrome".

Poor reliability and performance experience has shown wind turbines are not economical or profitable without significant government subsidies. Wind turbine failures are common. Replacing a large turbine gearbox can cost $500,000 and take several months. Governments may subsidize wind turbine construction but often will not then help pay for maintenance and expensive repairs. Eventually Boulder City's lands could be scarred with abandoned wind turbines, as experienced in southern California.

To ensure reliable electric utility supplies, regulated electric utilities need dependable constant output generation. Utilities must inefficiently burn more fuel in their baseload generators to compensate for sporadic production of wind-generated electricity. Japan has disconnected wind turbines from their electric grid due to the inability to maintain a steady supply of power.

New energy sources are in development that soon may make wind energy completely obsolete. The New Energy Congress has compiled 100 new energy technologies. Some new energy sources may produce much steadier and cheaper electricity than wind turbines.

The limited revenue from any potential land sale or lease in the current distressed market would not justify the visual, acoustic, power grid, economic, and environmental effects from potentially impractical Eldorado Valley Transfer Area wind farms.

Vote no on Question 4.

Thank you for your comment, Jeffrey Pauly.

The comment tracking number that has been assigned to your comment is SolarD10051.

Comment Date: February 21, 2011 12:50:59PM
Solar Energy Development PEIS
Comment ID: SolarD10051

First Name: Jeffrey
Middle Initial: M
Last Name: Pauly
Organization:
Address: 30 Locust Drive
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Address 3:
City: Yerington
State: NV
Zip: 89447
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hello:
I am sending another comment since reading through the draft regarding the SE sites (my ID # is SEDD10027)

I have concerns over the information gathered for the Goldpoint site. It appears that there is little concern over the impact on the residents and visitors to Goldpoint.
In the draft report it is stated that the site with "dominant the views" from Goldpoint, and depending on conditions, might result in the "appearance of light streaming down from the towers". Also lights on the towers would be very conspicuos. It is also noted that residents and visitors to the area "may experience visual impacts from the solar energy facility".
All of this is alarming to me and of concern that the draft report says nothing about any possible health related problems that may occur to those living in close proximaty of the SEZ.
If it is decided to move ahead with using this area for an SEZ, then I believe a health assessment for the residents and visitors will need to first be undertaken. I will also contact both my Federal representative and State representatives about this problem. I believe it is something the BLM has overlooked and needs to due further research into.
I continue to maintain that there are numerous other areas that would not be an impact to local residents and visitors.
Should the BLM ignore these concerns, then it may be necessary to take this to the Judical system to have the project stopped until these issues are are resolved.
Jeff Pauly

Thank you for your comment, Rita Guidi.

The comment tracking number that has been assigned to your comment is SolarD10052.

Comment Date: February 21, 2011 20:41:32PM
Solar Energy Development PEIS
Comment ID: SolarD10052

First Name: Rita
Middle Initial: L
Last Name: Guidi
Organization:
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City: Wickenburg
State: AZ
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to increase generation of renewable energy in order to limit harmful greenhouse gas emissions. However, the Draft Programmatic EIS focuses on an unnecessarily destructive method of achieving this goal by sacrificing treasured public lands.
The Draft Programmatic EIS should include a fourth alternative that encourages distributed generation (commonly referred to as "rooftop solar") or development on already-disturbed lands.
The Departments of Interior and Energy should work with the Environmental Protection Agency (EPA) to institute incentives for energy companies that build on lands identified in EPA's "RE-Powering America's Land Program," or on other lands that have been previously disturbed for agriculture or industry.
The Draft EIS does not adequately assess the environmental impacts of industrial development in either of the three proposed alternatives, nor does it assess the impacts of transmission line upgrades that will be required by the projects. In addition to the lack of a disturbed lands and distributed generation alternative, an inadequate understanding of the cumulative impacts of such widespread energy development in America's southwest will hinder the government's ability to identify which policy represents an ideal way forward for renewable energy.
The "Solar Energy Development" program should not be the "preferred alternative," since it closely resembles the status quo, whereby energy companies are applying to use sites that are inappropriate for industrial development. This program will still result in a lengthy and expensive environmental review process for energy companies, and it will severely fragment America's desert ecosystems.
The "Solar Energy Zones" identified in the Draft Programmatic EIS would concentrate development on pristine desert habitat of importance to imperiled plant and wildlife. The Riverside East, Pisgah, and Iron Mountain Zones in California will have significant cumulative impacts on the threatened Mojave fringe-toed lizard and desert tortoise. The Imperial Zone has already been determined to contain hundreds of sites of cultural significance to Native American tribes, and prime habitat for the threatened flat-tailed horned lizard.
Hundreds of square miles of industrial development in these zones will lead to cumulative ecological damage that the proposed mitigation measures will not be able to reverse.

Thank you for your comment, Brian Swope.

The comment tracking number that has been assigned to your comment is SolarD10053.

Comment Date: February 21, 2011 23:19:44PM
Solar Energy Development PEIS
Comment ID: SolarD10053

First Name: Brian
Middle Initial: M
Last Name: Swope
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar power is absolutely necessary to meet the energy needs of the 21st Century. However, its production must be done in a manner that does not sacrifice irreplaceable pristine desert habitat. I and many others love the desert for its panoramic vistas as well as for the unique life forms that are found there and nowhere else.
New solar generating plants should be concentrated on already-disturbed land and on existing rooftops, not on wild desert lands. Destroying the desert in the name of clean energy is a short-sighted contradiction to the meaning of the word "green". Once the desert has been converted to an expansive industrial zone it will be gone forever. Please do not let this happen.
Thank you.
Brian M. Swope M.D.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10054.

Comment Date: February 22, 2011 17:30:18PM
Solar Energy Development PEIS
Comment ID: SolarD10054

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support solar development in Arizona, but please do not develop this in important wildlife habitats and key areas.

Thank you for your comment, Eugene Romanski.

The comment tracking number that has been assigned to your comment is SolarD10055.

Comment Date: February 22, 2011 17:46:20PM
Solar Energy Development PEIS
Comment ID: SolarD10055

First Name: Eugene
Middle Initial: J
Last Name: Romanski
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Thank you for providing me the opportunity to comment on the Draft SED PEIS.

First, let me state that I spend a great deal of my time working as an archaeologist and exploring and enjoying the AZ, CA, and NV country where solar energy development is proposed. I love the environs and I'm very interested in the scale of development being proposed. I have three main concerns:

- I feel that the proposed "Solar Energy Zones" constitute excellent initial targets for development, and that opening an additional 21 million acres to potential solar development is not necessary or acceptable.

- I would like to see the Solar Energy Zones clearly identified, and vetted by public officials, conservationists, and developers.

- I want the BLM to encourage the construction of projects on these Solar Zones sites. If and when the identified Solar Zones become fully utilized, I would then urge the BLM to create additional Zones as needed with public input and environmental review.

Thank you for your comment, Rita Smalling.

The comment tracking number that has been assigned to your comment is SolarD10056.

Comment Date: February 22, 2011 19:32:30PM
Solar Energy Development PEIS
Comment ID: SolarD10056

First Name: Rita
Middle Initial: J
Last Name: Smalling
Organization:
Address: 4711 E. Brisa del Norte
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 857183601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I totally believe in solar energy, but I do not want the photovoltaic fields set up in sensitive ecological areas, of which we have many in Arizona.

Thank you for your comment, Mary Ann and Frank Graffagnino.

The comment tracking number that has been assigned to your comment is SolarD10057.

Comment Date: February 22, 2011 19:55:16PM
Solar Energy Development PEIS
Comment ID: SolarD10057

First Name: Mary Ann and Frank
Middle Initial:
Last Name: Graffagnino
Organization:
Address:
Address 2:
Address 3:
City:
State: AZ
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My husband and I had solar panels installed on our home over two years ago. The panels are neat, clean and unobtrusive. Our electric bills have been $8.00 per month and we have enven got rebates. We were thrilled to see that the new housing units on Davis Monthan Air Base have solar panels. Solar energy is the answer to many of our energy needs and should be pursued vigorously. Also, we will not fight wars over solar energy since it is universal, unlike coal or oil.

SOLAR IS A WIN WIN PROPOSITION FOR AZ, the US and the WORLD. LET'S LEAD THE WAY.

Thank you for your comment, Stacy Blackmer-Blomquist.

The comment tracking number that has been assigned to your comment is SolarD10058.

Comment Date: February 22, 2011 20:59:39PM
Solar Energy Development PEIS
Comment ID: SolarD10058

First Name: Stacy
Middle Initial:
Last Name: Blackmer-Blomquist
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear Sirs:
Please allow responsible building of solar energy plants on public lands. I live in a place that could gain substantially by solar plants. I approve of the building of these plants as long as they do not endanger wildlife or habitat.

Thank you for your comment, Joanne Vuillemot.

The comment tracking number that has been assigned to your comment is SolarD10059.

Comment Date: February 22, 2011 23:15:19PM
Solar Energy Development PEIS
Comment ID: SolarD10059

First Name: Joanne
Middle Initial:
Last Name: Vuillemot
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Opening an additional 21 million acres to potential solar development is not acceptable.
Westerners want solar energy zones clearly identified and vetted by conservationists, developers and public officials alike.
The public wants the BLM to encourage the construction of projects on these solar zones sites. If and when the identified solar zones become fully utilized, the BLM will create additional zones as needed with public input and environmental review.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10060.

Comment Date: February 23, 2011 10:56:51AM
Solar Energy Development PEIS
Comment ID: SolarD10060

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I fully support solar energy and are pleased to see that Arizona is leading the way. HOWEVER we must ensure that we are not harming the environment, wild places and wildlife survival and habitat. Thorough impact studies MUST be conducted before any solar project takes place. Otherwise we are solving a huge problem and creating another one of unforeseen consequences for our own survival.

Thank you for your comment, Barbara Rose.

The comment tracking number that has been assigned to your comment is SolarD10061.

Comment Date: February 23, 2011 15:06:21PM
Solar Energy Development PEIS
Comment ID: SolarD10061

First Name: Barbara
Middle Initial:
Last Name: Rose
Organization: Bean Tree Farm
Address: 8965 N Scenic Drive
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85743
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development is a big part of the solution to global climate change. Planned, located and built responsibly, energy projects can avoid harm to wildlife in fragile desert environments, national monuments and other places we value for their natural beauty or cultural history.

I feel that a sustainable energy future lies in distributed energy systems, located where the need exists- on rooftops of large public and private buildings in urban areas, and on the roofs of millions of residents and businesses everywhere. Distributed energy systems are less expensive to build, provide greater security to those they serve, and can be connected through the grid that now exists, instead of having to build huge new lines through still more environmentally sensitive public lands.

Federal agencies have made a sensible decision to not process any new solar applications until they develop a comprehensive development program through a programmatic environmental review. And it would be wise to remember that we have more and perhaps better energy choices available than just throwing up more, massive "utility-scale" behemoths on public land.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10062.

Comment Date: February 24, 2011 15:14:46PM
Solar Energy Development PEIS
Comment ID: SolarD10062

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

First, I would like to thank the BLM and DOE for their time in preparing the Draft PEIS for Solar Energy Development in Six Southwestern States. I believe that this document is a huge step forward in selecting appropriate sites for solar energy development. However, I feel that much more work needs to be done to allow the document to serves it's intended purpose.

I am a strong supporter of decentralized solar power. Three years ago at my job as an environmental consultant I participated in the rare plant surveys for the Ivanpah Solar Electric Generating System (ISEGS). At first I was overwhelmed by the scale of the project, but as I flew over the sprawling suburban areas of Las Vegas on my way to the airport, I was disgusted by the fact that I did not see a single solar panel atop commercial or residential buildings. Shouldn't we cover every rooftop surface and other previously developed areas (i.e. parking lots) with solar panels before we even consider going to our undeveloped public lands and wiping out the natural communities? With the exception of a few scattered weed populations, the Ivanpah site is a pristine land that provides habitat for desert tortoise (who have a high rate of mortality when relocated) and rare plants. I have also participated in rare plant surveys for wind farms in the Tehachapi area, which have consisted of beautiful and diverse habitat that end up scarred and permanently altered by large scale grading. So many large areas have not been surveyed by biologists. Our survey team discovered a new species in the lily family at a site last year. To create priority "zones" without knowing what is there is dangerous. Though I believe a focused "zone" approach is a good way to evaluate siting these large projects, we can't assume that areas that lack documented occurrences of rare plants and animals are actually lacking these resources. More work needs to be done to identify appropriate sites and avoid impacts to our valuable and limited resources.

Though I know it isn't BLM's responsibility to encourage decentralized solar development in residential or commercial areas, I think that it would be very beneficial to build some type of matching program into the mitigation measures involved for large solar development on public land. There could be a ratio required of proponents having to subsidize X megawatts of solar panel installation on residential or commercial rooftops to install Y megawatts on public land.

Population growth and energy demand are not slowing. Though developing large solar installations may help with some of the energy demand, it is not a sustainable and viable solution. BLM should encourage decentralized solar development, use of already impacted lands for large solar developments (i.e. abandoned agricultural areas where desert wildlife communities have already been destroyed), and as a last resort a zoning approach for developments on BLM land that are in areas with the absolute least environmental impact possible.

Thank you for considering my comments.

Thank you for your comment, Ann McDermott.

The comment tracking number that has been assigned to your comment is SolarD10063.

Comment Date: February 25, 2011 10:57:52AM
Solar Energy Development PEIS
Comment ID: SolarD10063

First Name: Ann
Middle Initial: F
Last Name: McDermott
Organization:
Address: 29212 N. 155th Ave.
Address 2:
Address 3:
City: Surprise,
State: AZ
Zip: 85387
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Love the idea of PEIS, but please don't use land that meets Wilderness requirements. Use land that's already had its environmental integrity compromised. We've plenty of that. What we don't have is plenty of land that's true wilderness anymore.

Thank you for your comment, Ann Bley.

The comment tracking number that has been assigned to your comment is SolarD10064.

Comment Date: February 26, 2011 19:46:22PM
Solar Energy Development PEIS
Comment ID: SolarD10064

First Name: Ann
Middle Initial:
Last Name: Bley
Organization:
Address: 1184 Clouds Rest Point
Address 2:
Address 3:
City: Mesquite
State: NV
Zip: 890341004
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It has come to my attention that in addition to opening up the 7 solar energy development zones in NV, also under consideration is opening up an addtional 9.1 million acres in Nevada as potential area for solar development. It is my understanding the the current 7 SEZs with the others identified in the west should be sufficient to supply future planned solar energy development. As a result, I am asking that BLM NOT open the additional 9.1 million acres.
In addition:
1) Solar Energy zones should be clearly identified and vetted by conservationists, developers and public officials;
2) BLM should encourage the identified 7 SEZs in Nevada as the locations for future construction projects. If additional land is required, BLM should create additional zones with public input and environmental review.
Thank you for your consideration of my comments.

Thank you for your comment, Renée Guillory.

The comment tracking number that has been assigned to your comment is SolarD10065.

Comment Date: February 27, 2011 20:29:10PM
Solar Energy Development PEIS
Comment ID: SolarD10065

First Name: Renée
Middle Initial: H
Last Name: Guillory
Organization:
Address: 1127 E Bluebell Lane
Address 2:
Address 3:
City: Tempe
State: AZ
Zip: 85281
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support BLM developing solar/wind energy on public lands. I think the way best to do this - to save the agency and the public a great deal of cost and bureaucracy (and time) - is to create Solar Energy Zones. I therefore add my name in support of the Solar Energy Zones Alternative being discussed at this week's meetings. I strongly oppose sacrificing precious wilderness or other ecologically-sensitive wild lands even to renewable energy development. Thanks for entering my comments into the public record. Sincerely, Renée H Guillory

Thank you for your comment, Renée Guillory.

The comment tracking number that has been assigned to your comment is SolarD10066.

Comment Date: February 27, 2011 20:29:11PM
Solar Energy Development PEIS
Comment ID: SolarD10066

First Name: Renée
Middle Initial: H
Last Name: Guillory
Organization:
Address: 1127 E Bluebell Lane
Address 2:
Address 3:
City: Tempe
State: AZ
Zip: 85281
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support BLM developing solar/wind energy on public lands. I think the way best to do this - to save the agency and the public a great deal of cost and bureaucracy (and time) - is to create Solar Energy Zones. I therefore add my name in support of the Solar Energy Zones Alternative being discussed at this week's meetings. I strongly oppose sacrificing precious wilderness or other ecologically-sensitive wild lands even to renewable energy development. Thanks for entering my comments into the public record. Sincerely, Renée H Guillory

Thank you for your comment, ellen spears.

The comment tracking number that has been assigned to your comment is SolarD10067.

Comment Date: March 1, 2011 11:33:09AM
Solar Energy Development PEIS
Comment ID: SolarD10067

First Name: ellen
Middle Initial:
Last Name: spears
Organization:
Address: 7445 gomer
Address 2:
Address 3:
City: las vegas
State: NV
Zip: 89178
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My name is Ellen Spears. I am a native to Nevada. Last week I was given an article from a fellow co worker about this project. I can't tell you how happy and excited I was to find out that our government and private companies were co opting to provide clean energy to the people. Nevada is one of six states that could become a model on renewable resources to the American people and to the world.
Research:
However, upon investigation I learned that not only was 677,400 acres are to be leased from BLM lands at an assessed market value (?) But, private industry that co opts with our government doesn't have Nevada's best interest in mind. They do not have to pay any royalties to BLM or any of the grant monies that were initially given to them in the amount of $50 million. They/ you would simply rent cheap land, reduce Nevada's natural resources, change Nevadans way of life, and then pocket the proceeds. (Question: Why are private industries receiving grant monies for research? Why aren't our institutions of higher learning receiving this money? It makes sense that the Universities get developmental money and then private industries can purchase that technology. What a way to bail out that deficit.) Anyways,
Using large amount of land as purposed would reduce the available grazing lands from our northern neighbors by 18 %.(5,760 acres in Dry Lake North, 5,760 acres in Delamar Valley ect.) This most definitely would affect the way of life for those northern ranchers and the Indigenous people that already have grazing permits and grazing rights.
The amount of water it takes to cool the proposed solar towers is thousands and thousands of acre feet of ground water (40,327 ac ft for wet cool and 4,067 ac ft. for dry cool in just the Miller SEZ by Tonopah). Either way this is depleting a lot of our states natural resource. This would affect native plants and animal life as described in your 2900 page Nevadas' feasibility study, some even to extinction. Quote from line 11.7.10.2 of the feasibility study "Plant communities that access groundwater, such as those in the vicinity of Playas could become degraded or lost as a result of lowered ground water levels."
Alternatives:
I asked myself why these great ideas aren't properly implemented to not only benefit the State of Nevada but also all the American people. We are sacrificing land, water, and a way of life and for what, a few jobs and minimal reduction in our power bill. Why are we using solar panels in this manner, which are designed for individual use on roof tops and garages? Why aren't more effective methods being considered for large scale production, such as the Solar Updraft Towers (4 acres of land and no water use) or wind turbines or geothermal? Why aren't solar panels being utilized on roof tops, parking structures, and government buildings independently, as they were designed? Tax break incentives for individual homeowner and legalizing it for all i.e. HOAs would have been a good start. And finally why are past mistakes being repeated by allowing private enterprise to control the masses. Companies like Bechtel, Semprass, Peabody Energy, and other powerhouses that were nuclear and coal producers in the past are repeating their dirty business practices but now they are doing it with a green mask.
Conclusion:
I'm glad that dialog is occurring between industry, government, and citizens and that our mind set is clean energy. Science and technology is here. There is no reason that clean energy is not available to the masses in this day in age. I only hope that our government leads its people with justice. And I hope private enterprise provides affordable clean energy with equity to the people so that this partnership really does become a model for the betterment of the world of humanity.

Thank you for your comment, Howard Israel.

The comment tracking number that has been assigned to your comment is SolarD10068.

Comment Date: March 1, 2011 18:46:26PM
Solar Energy Development PEIS
Comment ID: SolarD10068

First Name: Howard
Middle Initial:
Last Name: Israel
Organization: International Dark Sky Association
Address: 3225 N. First Ave.
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85719
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: PEIS doc.docx

Comment Submitted:

International Dark-Sky Association
3225 N. First Ave.
Tucson, Arizona
1-520-293-3198

The International Dark-Sky Association (IDA) has been made aware of Solar Energy Development Programmatic EIS (PEIS) sites proposed on public land, managed by the Bureau of Land Management, in order to assess environmental impacts associated with the development and implementation of agency-specific programs that would facilitate environmentally responsible utility-scale solar energy development in six western states (Arizona, California, Colorado, New Mexico, Nevada, and Utah). Our concern has to do with the potential environmental impact of light pollution emanating from these sites.

IDA is an educational organization that seeks to preserve the natural night skies worldwide. Light pollution is excessive and inappropriate artificial light and is an increasing problem threatening astronomical facilities, ecologically sensitive habitats, all wildlife, energy use, as well as our human heritage.

The four components of light pollution are often combined and overlapping:

Urban sky glow—the brightening of the night sky over light polluted areas.
Light trespass—light falling where it is not intended, wanted, or needed.
Glare—excessive brightness which causes visual discomfort. High levels of glare can decrease visibility.
Clutter— bright, confusing and excessive groupings of light sources, commonly found in over-lit areas. The proliferation of clutter contributes to urban sky glow, trespass, and glare.

We are concerned about the potential for improper lighting at these facilities and how it will affect mammals, birds, reptiles and insects.

MAMMALS

The bright lights from these facilities will cause these nocturnal mammals to experience a loss of their night ecosystem. Examples of these affected mammals are bats, raccoons, coyotes, deer and moose.

BIRDS

Many species of birds migrate or hunt at night This dependence on darkness makes them extremely vulnerable to bright lights in areas that are naturally dark. Birds can be drawn to light sources and become fixated on the beam. This confusion causes a variety of negative effects, such as:

100 million birds a year throughout North America die in collisions with lighted buildings and towers.
Not wanting to fly back into the dark, they continue to fly in the light's beam until they are exhausted, fall or become prey.
The artificial lights can also cause migrating birds to wander off course and never reach their natural destination.

REPTILES

Nocturnal reptiles can become disoriented by the artificial light invading their homes and experience a change in natural behaviors. These behaviors might include:

Appetite problems resulting in decreased weight
Decrease in mating, resulting in diminished populations
Increased vulnerability to natural predators and unusual ones like cars and humans

INSECTS

Moths and other insects are attracted to artificial lights and may stay near that light all night. This activity around the light:

Expends too much energy and interferes with mating and migration, causing population reduction
Makes them easy prey for bats and other nocturnal predators, further reducing their numbers
Impacts all species who rely on insects for food or pollination

ASTRONOMY

Light Pollution is a serious problem for most amateur astronomers today. Located just a few miles from the proposed Brenda site is an area used by hundreds of amateur astronomers throughout the Phoenix/Tucson area for deep sky viewing. Any extraneous light from proposed solar energy plants will have a great impact not only on amateur astronomy but quite possibly on professional observatories throughout Arizona located hundreds of miles away. Light Pollution to astronomers is analogous to having a sewage treatment plant located in the middle of a residential neighborhood.

Excess manmade light being emitted into the night does enormous environmental harm and wastes energy. It is of utmost importance to protect the natural night sky to avoid the adverse effects of air and light pollution by advocating for intelligent and responsible lighting to protect the night sky quality as well as astronomical observations, wildlife conservation, together with the maintenance of the integrity of nighttime landscapes and cultural heritage scenarios.

PREVENTING LIGHT POLLUTION

Light pollution is that rare issue that costs less to solve, then to let it continue.

We urge the designers and contractors of the solar panel facilities to consider the use of fixtures that will eliminate light pollution while providing safety and security. Formed in 1988, the International Dark-Sky Association is the authoritative voice on light pollution. IDA educates lighting designers, manufacturers, technical committees, and the public about light pollution abatement. We recognize that the best way to accomplish our goal of protecting and restoring our natural night environment and our heritage of dark skies is through promotion of quality outdoor lighting. It is in this spirit that we have developed the Fixture Seal of Approval (FSA) program for dark sky friendly fixtures. The Fixture Seal of Approval provides objective, third-party certification for luminaries that minimize glare, reduce light trespass, and don't pollute the night sky. Hundreds of products and dozens of manufacturers have already been approved under our Fixture Seal of Approval program. It is of upmost importance that the designers and contractors of these sites consider the use of dark sky friendly lighting to insure the protection of natural resources.

We recognize that light pollution must be considered as an imminent threat to the environment, and that the preservation of dark skies is an important and necessary part in the process of the protection and safeguarding of natural and cultural properties worldwide.

We appreciate the proposed action in this PEIS to develop and implement a new Solar Energy Program that would facilitate environmentally responsible utility-scale solar energy development by establishing environmental policies and design features related to utility-scale solar energy development, especially in Arizona. If the International Dark-Sky Association can be of any assistance in these efforts, please do not hesitate to call upon us.

Howard Israel
International Dark-Sky Association
Maricopa County Section Leader
480 893 7523
Howmad1@cox.net
www.phoenixdarkskies.org
www.darkskies.org

Thank you for your comment, Shareen Goodroad.

The comment tracking number that has been assigned to your comment is SolarD10069.

Comment Date: March 1, 2011 19:09:26PM
Solar Energy Development PEIS
Comment ID: SolarD10069

First Name: Shareen
Middle Initial:
Last Name: Goodroad
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

When we mandate for multiple use, we do not necessary mandate for all uses at the same time. Conversely, we also have areas where science, the environment, and the ecology of the area limit available current or projected uses. My biggest concern is protecting sensitive wildlife, maintaining important or unique attributes (ecological, geological, cultural, historical, etc.), and allowing for sensible and healthy outdoor recreation. My suggestion is that the BLM and other federal/state land management agencies make full use of the "brown fields" in their inventories for siting energy projects before considering any alternative sites. These lands are typically near urban areas, reclaimed sites, or other places that are currently disturbed would be much preferred for siting energy projects. Provided that these sites do not disturb any important migratory corridors, wilderness areas, or important habitats. Sound science should combine with good land use planning, sustainability, communication, and accountability to the public.

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10070.

Comment Date: March 1, 2011 21:43:21PM
Solar Energy Development PEIS
Comment ID: SolarD10070

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The great majority of lands in public ownership consist of habitat for native species and other valued resources and it is preferable that these land should remain undisturbed, with solar development occurring on disturbed private lands in a more distributed fashion. But if no alternative prohibiting large scale industrial development is put forth or if policy mandates the development of solar facilities on public lands, an optimal level of environmental protection should be provided for all the lands examined for development including the solar energy study zones. These considerations may conflict with the cost efficiency or convenience of siting of solar facilities and associated transmission lines but should be considered more extensively in the final PEIS. They include implementing the following actions into a preferred alternative.

Restricting all photovoltaic development to heavily disturbed areas. Photovoltaic systems are most amenable to distributed and fragmentary siting and thus in most cases no purpose or need exists to disturb lands in public ownership in the deployment of this technology.

Excluding from consideration for development all areas with known populations of sensitive plants and animals. Sensitive species and varieties should include all those determined as such by the scientific community in addition to those designated by the BLM. The long term success of mitigation measures taken for most of these species is largely unknown with some measures shown to be inadequate.

Excluding all known areas important for the foraging, breeding, and migration of wildlife, and areas important for the ecological functioning of plants species, sensitive or otherwise. In many cases these areas are also difficult to provide adequate mitigation for.

Including in the PEIS a more detailed analysis of the known locations of those populations and habitats to be excluded. The PEIS should also include an analysis of potential habitat of sensitive species and possible locations of important plant and wildlife habitat and recommend avoidance of these areas.

If sensitive populations and important habitat areas are discovered through any means after the adoption of the final document, the PEIS should exclude these areas from further consideration for development.

Include a general analysis of variations in biodiversity and excluding from development areas with a high level of biodiversity.

Exclude areas with a high concentration of archaeological resources or of significance to Native Americans.

These extended analyses and subsequent exclusions should also apply to previously filed applications. A high level of mitigation should be mandated if any of these applications with the above mentioned conflicts are nonetheless approved.

The PEIS should also include an analysis of variations in carbon storage in both soils and standing biomass and require an analysis of carbon emissions resulting from the land disturbance and construction activities of any project that may be approved.

In addition, the PEIS should provide an analysis of the locations of disturbed areas similar to the Restoration Design Energy Project in Arizona and establish new solar energy study zones or other designations in these areas, although they may be of small

size, and prioritize the development of any future projects in these areas over lightly disturbed areas.

Jared Fuller
Provo, UT

Thank you for your comment, Rob smith.

The comment tracking number that has been assigned to your comment is SolarD10071.

Comment Date: March 2, 2011 00:58:51AM
Solar Energy Development PEIS
Comment ID: SolarD10071

First Name: Rob
Middle Initial:
Last Name: smith
Organization:
Address: 3708 E Cholla
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 85028
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear BLM,

I favor the option to limit major solar developments to the specific zones. And I also think this siting should be tied to rooftop solar and development on disturbed private or state lands. The public lands should be a last resort and the best locations should be filled in first before looking more widely.

I am concerned that the Bullard Wash site contains Joshua Trees, which should be saved and not sacrificed for energy development

Thanks

Thank you for your comment, Clyde Stagner.

The comment tracking number that has been assigned to your comment is SolarD10072.

Comment Date: March 2, 2011 13:31:55PM
Solar Energy Development PEIS
Comment ID: SolarD10072

First Name: Clyde
Middle Initial: H
Last Name: Stagner
Organization:
Address: 8565 Pembrook Drive
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85715
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Unless additional non biological sources of energy are enabled,the recent,and future, proliferation of electrcal powered vehicles in the US shall cause an increase in oil imports to the US. Conversion of crude oil to gasoline per vehicle mile traveled consumes less crude oil than the conversion of crude oil to electricty per vehicle mile traveled-the identical vehicle used in both cases except for power train.

Thank you for your comment, Alvin Conaway.

The comment tracking number that has been assigned to your comment is SolarD10073.

Comment Date: March 2, 2011 14:29:31PM
Solar Energy Development PEIS
Comment ID: SolarD10073

First Name: Alvin
Middle Initial: L
Last Name: Conaway
Organization:
Address: 1801 N Rio Yaqui
Address 2:
Address 3: 1801 N Rio Yaqui
City: Green Valley
State: AZ
Zip: 85614
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We installed a 3.4 KWH 16 panel solar system placed in operation 9/9/2009. Without TRICO furnishing 50%, + Federal & AZ tax refund it would not be affordable or repay the cost prior to the life of the system. At present, without including the service contract, added insurance or possible problems, the system should pay for cost in 8 to 10 years. Additionally, even a thin overcast will reduce output from 3K to1800K. You still need a power source after the sun goes down. It is a help (costly) but not a solution. If cost can be reduced by 75% it will be a partial solution.

Thank you for your comment, Mitchell Timin.

The comment tracking number that has been assigned to your comment is SolarD10074.

Comment Date: March 2, 2011 14:36:40PM
Solar Energy Development PEIS
Comment ID: SolarD10074

First Name: Mitchell
Middle Initial: E
Last Name: Timin
Organization: Earthchurch
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Don't forget about the water! It is important to ensure that electricity is generated by a method that does not us significant amounts of water. Our water crisis is more imminent than our energy crisis. I would like to see this in the legislation, i.e., only power plants that use very little water shall be permitted.

m

Thank you for your comment, Marian Hill.

The comment tracking number that has been assigned to your comment is SolarD10075.

Comment Date: March 2, 2011 16:36:29PM
Solar Energy Development PEIS
Comment ID: SolarD10075

First Name: Marian
Middle Initial: J
Last Name: Hill
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The TRUE cost of solar is less than fossil fuels or nuclear. The power source is free and widely available. In relative terms, it has little environmental impact. Wildlife in open spaces adapt to its presence, and it doesn't consume our most precious resource - water - the way nuclear and other power plants do. In the big picture, the presence of panels in open spaces causes far less environmental damage than fossil or nuclear fuel usage. For our children, grandchildren and our country's prosperity and safety, we must develop significant solar generating plants NOW.

Thank you for your comment, Elizabeth Webb.

The comment tracking number that has been assigned to your comment is SolarD10076.

Comment Date: March 2, 2011 19:39:19PM
Solar Energy Development PEIS
Comment ID: SolarD10076

First Name: Elizabeth
Middle Initial:
Last Name: Webb
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Should have meetings in areas that would actually be impacted by the proposed project -ie Safford!!!!

Also, in a location that has easy access with NON PAY parking!

Thanks!

Thank you for your comment, Michael Neidich.

The comment tracking number that has been assigned to your comment is SolarD10077.

Comment Date: March 2, 2011 23:30:58PM
Solar Energy Development PEIS
Comment ID: SolarD10077

First Name: Michael
Middle Initial: I
Last Name: Neidich
Organization:
Address: 60917 E Eagle Heights Dr
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85739
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Let's stop talking and start doing. Solar projects are decades old by now, and everything is known about them.

Thank you for your comment, Pat Lukensmeyer.

The comment tracking number that has been assigned to your comment is SolarD10078.

Comment Date: March 4, 2011 09:59:58AM
Solar Energy Development PEIS
Comment ID: SolarD10078

First Name: Pat
Middle Initial:
Last Name: Lukensmeyer
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

With all the talk that solar is so good for a person's budget & good for the environment, what sort of resources ($$$$) are available for low income people to afford this new technology? Low income people would also like to participate in helping the environment as well as their pocketbooks. If there are grant programs or something of that nature, then why doesn't the public ever hear of them?

Thank you for your comment, Helene Orr.

The comment tracking number that has been assigned to your comment is SolarD10079.

Comment Date: March 4, 2011 10:44:44AM
Solar Energy Development PEIS
Comment ID: SolarD10079

First Name: Helene
Middle Initial:
Last Name: Orr
Organization:
Address:
Address 2:
Address 3:
City: San Acacio
State: CO
Zip: 81151
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please reconsider the possible destruction of irreplaceable wilderness on public lands by giving free reign to industrial scale solar energy plants that then must use high voltage transmission lines across scenic vistas to trandfer energy. Local distributed energy is the much better alternative-we must have the courage to begin an alternative local sourcing for our energy needs instead of handing over priceless beauty to monopolies and their greed. PLEASE inject some sanity before it is too late. Thank you.

Thank you for your comment, Peter Bengtson.

The comment tracking number that has been assigned to your comment is SolarD10080.

Comment Date: March 4, 2011 14:00:39PM
Solar Energy Development PEIS
Comment ID: SolarD10080

First Name: Peter
Middle Initial: Y
Last Name: Bengtson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I attended the meeting held in Tucson on March 2, 2011. I found myself in agreement with many of the speakers.

I'd much prefer to have these industrial scale solar installations placed on already disturbed lands such as mine tailings fields, farm lands that are already disturbed, or other disturbed lands. This is much preferable to disturbing undisturbed lands.

I like the smaller proposal to open up smaller areas in Arizona, the SEZs. I'd like to start small with a limited number of sites and areas.

Pete Bengtson

Thank you for your comment, Tim McKimmie.

The comment tracking number that has been assigned to your comment is SolarD10081.

Comment Date: March 4, 2011 14:38:48PM
Solar Energy Development PEIS
Comment ID: SolarD10081

First Name: Tim
Middle Initial: i
Last Name: McKimmie
Organization:
Address: 1105 Circle Dr.
Address 2:
Address 3:
City: Las Cruces
State: NM
Zip: 88005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My preference is the SEV in order to minimize impact on wildlife, wildlife corridors, viewsheds, and wilderness quality lands. Installations should be located near already degraded lands, existing roads and existing power lines.

Thank you for your comment, Joe MESTAS.

The comment tracking number that has been assigned to your comment is SolarD10082.

Comment Date: March 4, 2011 17:51:18PM
Solar Energy Development PEIS
Comment ID: SolarD10082

First Name: Joe
Middle Initial: R
Last Name: MESTAS
Organization:
Address: POB 338
Address 2:
Address 3:
City: Manassa
State: CO
Zip: 81141
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is no logical reason why the BLM should convert land for the benefit of huge corporate companies. Since there seems to be no need to maintain this land as open space, wildlife habitats, or cultural preservation it should be turned over to the local governments (counties) so they could better manage and bring benefit to the local citizenery from the use of this land.

Thank you for your comment, Martha Turnquist.

The comment tracking number that has been assigned to your comment is SolarD10083.

Comment Date: March 4, 2011 18:39:42PM
Solar Energy Development PEIS
Comment ID: SolarD10083

First Name: Martha
Middle Initial: A
Last Name: Turnquist
Organization:
Address: 3985 East Presidio Rd.
Address 2: Unit 4
Address 3:
City: Tucson
State: AZ
Zip: 857121048
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe in Solar Energy. Here in Tucson, Arizona there is always plenty of sun. It is important that we take advantage of this excellent source of energy.

Thank you for your comment, Gloria Hacker.

The comment tracking number that has been assigned to your comment is SolarD10084.

Comment Date: March 5, 2011 15:50:44PM
Solar Energy Development PEIS
Comment ID: SolarD10084

First Name: Gloria
Middle Initial: L
Last Name: Hacker
Organization:
Address: 3113 Hillrise Dr.
Address 2:
Address 3:
City: Las Cruces
State: NM
Zip: 88011
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I found out about this project in the past week, too short a time to take in the scope of this enterprise. I am not a scientist, or a person with much technical knowledge, so it is difficult for me to envision how these facilities will be built and how the delivery systems will be designed and situated against the landscape. Visually I could only imagine, a very stark, harsh, structure stretching out to the horizon, permanently changing the contours of the land, and impacting the natural environment in a very dramatic way. I am in favor of developing relatively non-polluting new sources of energy. Theoretically I favor the development of solar technologies. I only hope that the whole environment, and the ecosystems surrounding these projects will be taken into account. Water is an important resource that should never be taken for granted. How much water will be needed to drive these technologies, and from what source will it be drawn ?Can systems be designed to recycle the materials involved? Also can other ecologically driven enterprises be established in the same zones as the solar plants, i.e. greenhouses for food production, algae enterprises for supplemental energy. Can these solar plants be made visually, aesthetically appealing, having plants, landscape, between towers or structures, to control dust, erosion? As this project moves forward I hope that the people in this community, i.e. Las Cruces, New Mexico, will be kept informed, not just On-line, but in the local papers, and through local broadcasts. I don't think that many people here in Las Cruces are even aware of this project, and therefore will not be able to comment by the deadline. The media has been at fault here.Perhaps there has been a lack of communication between this agency and the media outlets here. I hope that you will reach out to the local community and provide more opportunities in the future for us ordinary folks to get involved and get informed. I am in favor of the plan which designates in advance zones for solar development based on a thorough environmental study, taking into account crucial wildlife habitat, and areas of wilderness too pristine and special to be tampered with. I would hope that the beautiful, scenic lands of New Mexico will be valued beyond the energy they can provide for our technical, industrial development. The very land itself, the plants, animals, reptiles, insects, all have value beyond what they can supply for our human enterprises. Please let's plan for the future, develop these wonderful technologies, but always seek a balance. Let's preserve our wildlands, and the beauty of nature also.

Thank you for your comment, Michael Boyd.

The comment tracking number that has been assigned to your comment is SolarD10085.

Comment Date: March 5, 2011 17:31:57PM
Solar Energy Development PEIS
Comment ID: SolarD10085

First Name: Michael
Middle Initial: E
Last Name: Boyd
Organization: CAlifornians for Renewable Energy, Inc. (CARE)
Address: 5439 Soquel Drive
Address 2:
Address 3:
City: Soquel
State: CA
Zip: 95073
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I participated in the February 22, 2011 Solar Energy Development PEIS Meeting in Sacramento. Included in my oral comments was mention of the Secretary Salazar's roots of his racist anti-indigenous peoples policy is born from his genocidal legacy as the descendant of Spanish Conquistadors.

First I want to provide video evidence of the Secretary's racist anti-indigenous peoples policy as demonstrating he was insensitivity towards the Massachusetts Wampanoag tribe by leaving them in tears as he drove off with Cape Wind developer wearing his big black cowboy hat.
http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20100202/MEDIA0303/100209918
This is like having a KKK march during a funeral procession for a black lynching victim.

In a telephone interview, 58-year-old LeRoy Salazar said family lore holds that the first Salazar in New Mexico was a conquistador in the late 1500s or early 1600s.

At his acceptance speech for the office of Secretary of Interior he is quoted to have said "My story in America began more than 400 years ago when my ancestors settled the city of Santa Fe, N.M.," he said in accepting the nomination on Dec. 17.

His remarks apparently were aimed at emphasizing his Hispanic roots in the United States — that his family did not immigrate from Mexico. "It was a border that came over us," he told The New York Times. "We didn't come over the border."

Don Juan de Oñate y Salazar (1550 – 1626) was a Spanish explorer, colonial governor of the New Spain province of New Mexico, and founder of various settlements in the present day Southwest of the United States.

Oñate was born in the New Spain city of Zacatecas to Spanish-Basque colonists and silver mine owners. His father was the conquistador/silver baron Cristóbal de Oñate, and his mother Doña Catalina Salazar y de la Cadena.[1] His Cadena ancestor fought in the Battle of Las Navas de Tolosa, and was the first to break the line of defense protecting Mohammad Ben Yacub. The family was granted a coat of arms, and thereafter were known as the Cadenas. (Ref. La Calle de Cadena en Mexico," pps. 1—46, Guillermo Porras Munoz). Juan de Oñate married Isabel de Tolosa Cortés de Moctezuma, granddaughter of Hernán Cortés, the conqueror of the Aztec Triple Alliance, and great granddaughter of the Aztec Emperor Moctezuma Xocoyotzin.

In 1595 he was ordered by King Philip II to colonize the northern frontier of New Spain. His stated objective was to spread Roman Catholicism and establish new missions. He began the expedition in 1598, fording the Rio Grande (Río del Norte) at the present-day Ciudad Juárez–El Paso crossing in late April. On April 30, 1598, he claimed all of New Mexico beyond the river for Spain.

That summer his party continued up the Rio Grande to present-day northern New Mexico, where he encamped among the Pueblo Indians. He founded the province of Santa Fé de Nuevo México and became the province's first governor. Gaspar Pérez de Villagrá, a captain of the expedition, chronicled Oñate’s conquest of New Mexico’s indigenous peoples in his epic Historia de Nuevo México (1610).

Oñate soon gained a reputation as a stern ruler of both the Spanish colonists and the indigenous people. In October of 1598, a

skirmish erupted when Oñate's occupying Spanish military demanded supplies from the Acoma tribe—demanding things essential to the Acoma surviving the winter. The Acoma resisted and 13 Spaniards were killed, amongst them Don Juan Oñate's nephew. In 1599, Oñate retaliated; his soldiers killed 800 villagers. They enslaved the remaining 500 women and children, and by Don Juan's decree,[2] they amputated the left foot of every Acoma man over the age of twenty-five. Eighty men had their left foot amputated. Other commentators put the figure of those mutilated at 24.[3]

[1] Simmons, Marc, The Last Conquistador:Juan de Oñate and the Settling of the Far Southwest, University of Oklahoma Press, Norman, Oklahoma, 1991, p. 30
[2] Ginger Thompson. "As a Sculpture Takes Shape in Mexico, Opposition Takes Shape in the U.S.," The New York Times, January 17, 2002. Retrieved 2008-07-15.
[3] Simmons, Marc, The Last Conquistador:Juan de Oñate and the Settling of the Far Southwest, University of Oklahoma Press, Norman, Oklahoma, 1991, p.145

Thank you for your comment, Sharon Ray.

The comment tracking number that has been assigned to your comment is SolarD10086.

Comment Date: March 5, 2011 20:06:39PM
Solar Energy Development PEIS
Comment ID: SolarD10086

First Name: Sharon
Middle Initial: M
Last Name: Ray
Organization:
Address: PO Box 91
Address 2:
Address 3:
City: Saguache
State: CO
Zip: 81149
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The BLM should not carry forward a plan that opens approximately 22 million acres (within 6 states) to development – this is over 100 times more land than what the agency's own analysis says it really needs, and includes many places that should be protected for wildlife habitat, clean air and water.

The least intrusive action alternative to BLM lands and open landscape is the Solar Energy Zones (SEZ) Alternative. Unfortunately, that is not what was selected.
SLVEC provided public comment on the 4 selected study areas in the SLV for this PEIS scoping in September 2009. At that time, we made the following recommendation. "It is understood that "solar applications received by the BLM are for large- scale, commercial facilities. These facilities propose to have a large foot print and are likely to be an exclusive use of the land. They will also require occupancy of the surface for a long period of time, as much as thirty years. These characteristics generally require the BLM to amend the land use plan and will require the BLM to conduct a detailed environmental review under NEPA. Adequate time will also be needed to conduct any environmental studies needed and to coordinate with a wide variety of concerned organizations. There is also a need to consult with tribal and state governments and to conduct cultural and historic clearances."
Recommendations:
"The BLM will have to amend it's land use plan, which is governed by "Multiple Use" policies to make an "exclusive use" determination of these proposed solar study areas. We are concerned about the precedence this will set on other BLM lands located in the general vicinity and strongly encourage the agency to consider a no action alternative, and leave the option open for siting on degraded private lands instead. Further, we encourage BLM to conduct a detailed environmental review that will be administered through the local field service offices. We assume this environmental review will be an Environmental Impact Statement (EIS). Local field offices should have the final say regarding the siting of these proposed utility scale facilities and the determination decision of what the land base is purported to support."
Sharon Ray

Thank you for your comment, Nancy Santori.

The comment tracking number that has been assigned to your comment is SolarD10087.

Comment Date: March 5, 2011 21:49:59PM
Solar Energy Development PEIS
Comment ID: SolarD10087

First Name: Nancy
Middle Initial:
Last Name: Santori
Organization:
Address: 102 E Briles Rd
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 85085
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please adopt the more restrictive solar energy zone alternative. If the other option offering more acreage is adopted, it may result in more controversy which will delay the process of bringing solar development to Arizona.

Thank you for your comment, Brendan Hughes.

The comment tracking number that has been assigned to your comment is SolarD10088.

Comment Date: March 6, 2011 01:36:36AM
Solar Energy Development PEIS
Comment ID: SolarD10088

First Name: Brendan
Middle Initial:
Last Name: Hughes
Organization:
Address: 61093 Prescott Trail
Address 2:
Address 3:
City: Joshua Tree
State: CA
Zip: 92252
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

BLM should rethink this entire PEIS process. Arizona has already provided a model in its Restoration Design Energy Project. BLM should identify severely degraded tracts of private or public land that have no habitat value and create SEZs out of these areas. BLM offices in the other five states targeted in the current Draft PEIS should create their own Restoration Design Energy Projects. This would prevent many of the impacts and mitigation measures that make the current DPEIS a 10,000-page document.

BLM has not given a reasonable range of alternatives in the DPEIS. For instance, an environmentally preferred alternative would not allow solar development on any BLM land. Although counter to the wishes of Secretary Salazar, this is a perfectly valid and necessary option to include in the process.

None of BLM's alternatives provide adequate protection for wilderness-quality lands. For example, the Iron Mountain SEZ incorporates the largest remaining unprotected roadless area in the entire California desert, while being immediately adjacent to two wilderness areas. Also, citizen-proposed wilderness has not been excluded from consideration for solar development. The DPEIS acknowledges that even all 600,000 acres of SEZs will not be needed to meet the goals of the six western states. Citizen-proposed wildernesses or potential additions to wilderness can be excluded without a solar developer missing them.

The three alternatives do not take into account the importance of intact habitat for genetic exchange and climate change adaptation. For example, the Riverside East SEZ cuts off several major wildlife corridors between mountain ranges. Also, the SEZs include important ecological areas like Bullard Wash, where Joshua trees and saguaros exist at a low-elevation and southern extreme of the Joshua tree's range. This type of outlying habitat could aid in the survival of the Joshua tree in the face of Climate Change, as well its important friend the yucca moth. Sacrificing such a unique ecology when the Arizona Restoration Design Energy Project has identified 59 sites throughout the state is unnecessary and unconscionable.

I do applaud some of the mitigation measures proposed in the DEIS, and I would encourage BLM to make these even more stringent to protect natural, cultural, and other resources. BLM should learn from its mistakes, like the Ivanpah SEGS, and steer solar development to demonstrably degraded and impaired private and public lands.

Thank you for your consideration.

Thank you for your comment, Amanda Rose.

The comment tracking number that has been assigned to your comment is SolarD10089.

Comment Date: March 6, 2011 16:22:22PM
Solar Energy Development PEIS
Comment ID: SolarD10089

First Name: Amanda
Middle Initial:
Last Name: Rose
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am opposed to the use of BLM lands for large solar field arrays. I would prefer to use private and non-pristine lands, and, to have small, distributed solar here and elsewhere. The use of large solar arrays and thereby the use of distance transmission seems illogical. Better to help all communities to make use of land and/or building tops in the immediate vicinity of where the electricity is needed.

Thank you for your comment, Theresa Dodge.

The comment tracking number that has been assigned to your comment is SolarD10090.

Comment Date: March 7, 2011 10:56:05AM
Solar Energy Development PEIS
Comment ID: SolarD10090

First Name: Theresa
Middle Initial:
Last Name: Dodge
Organization: Sanitation Districts of Los Angeles County
Address: 1955 Workman Mill Road
Address 2:
Address 3:
City: Whittier
State: CA
Zip: 90601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 18290291.pdf

Comment Submitted:

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

STEPHEN R. MAGUIN
Chief Engineer and General Manager

March 3, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Comments on the Draft Solar Programmatic Environmental Impact Statement

Thank you for the opportunity to provide comments on the Draft Solar Energy Development Programmatic Environmental Impact Statement (Solar PEIS) noticed for availability on December 17, 2010. The Sanitation Districts of Los Angeles County (Sanitation Districts) request that the alternatives for Imperial and Riverside Counties in California, specifically the Imperial East and Iron Mountain/Riverside East alternatives, remove the entire Mesquite Regional Landfill Rail Spur (MRL Rail Spur) and Eagle Mountain Railroad from the BLM Lands Available status, and the programmatic design features prohibit overhead obstructions and buried facilities cross these rail lines.

The Sanitation Districts are a confederation of 23 independent special districts located throughout Los Angeles County serving the wastewater and solid waste management needs for over 5.7 million people. The Sanitation Districts provide an essential public service of solid waste management to the second largest metropolitan area in the nation by constructing and operating landfills, transfer stations, refuse-to-energy, and materials recovery facilities. The Sanitation Districts have invested over $500 million in public funds to develop a regional solid waste system using the Mesquite Regional Landfill (MRL) and the future Eagle Mountain Landfill.

The MRL Rail Spur is located in Imperial County, California, within the area shown as BLM Lands Available in the California and Imperial East maps. This approximately five-mile rail spur is within a 150-foot wide BLM Right of Way (CACA-29617), which extends from the Union Pacific Railroad mainline at milepost 697 (about one mile northwest of Glamis) and parallels Hwy 78 to the MRL site. The primary means of delivery of refuse to MRL is rail. Therefore, if rail access is compromised, the MRL will not be able to provide this essential public service. The MRL rail spur is under construction and scheduled to be complete in 2011. This spur will provide rail access to the site for up to five trains a day of municipal solid waste in and out of the MRL throughout the 100-year life.

For similar reasons, the Sanitation Districts also request that California and Iron Mountain/Riverside East alternatives prevent any hindrance to use the existing Eagle Mountain Railroad (CACA- 25594). This 52-mile railroad is shown on both the Iron Mountain and

Riverside East maps included in Draft Solar PEIS Chapter 2, Description of Alternatives, and is the subject of a Memorandum of Agreement between Kaiser, BLM, and the U.S. Navy (November 2004). The Sanitation Districts have entered into an agreement to purchase the Eagle Mountain Landfill, including the railroad. The railroad and unhindered rail access are a critical part of the Eagle Mountain Landfill project.

The Sanitation Districts request that Final Solar PEIS design features for solar infrastructure maintain the overhead clearance for a Class I railroad based upon the American Railway Engineering and Maintenance-of-Way Association, and Union Pacific Railroad standards, whichever is greater, and that no buried facilities are permitted to cross either the MRL Rail Spur or the Eagle Mountain Railroad.

The Sanitation Districts appreciate the opportunity to comment on the Solar PEIS, and have attached copies of the MRL Rail Spur and Eagle Mountain Railroad documents noted in this letter. Please contact Ms. Theresa Dodge at (562) 908-4288, extension 2599, if you have any questions or need additional information.

Very truly yours,

Stephen R. Maguin

Thomas J. LeBrun
Department Head
Facilities Planning Department

TJL:CB:TDD:ddg

cc: Ronald Pearce, Marine Corps Air Station

Thank you for your comment, Thane Somerville.

The comment tracking number that has been assigned to your comment is SolarD10091.

Comment Date: March 7, 2011 12:25:52PM
Solar Energy Development PEIS
Comment ID: SolarD10091

First Name: Thane
Middle Initial: D
Last Name: Somerville
Organization: Morisset, Schlosser, Jozwiak & Somerville
Address: 801 Second Avenue
Address 2: Suite 1115
Address 3:
City: Seattle
State: WA
Zip: 981041509
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Comments on Draft Solar PEIS_030711.pdf

Comment Submitted:

LAW OFFICES
MORISSET, SCHLOSSER, JOZWIAK & SOMERVILLE
A PROFESSIONAL SERVICE CORPORATION

FRANK R. JOZWIAK (WA)
MASON D. MORISSET (WA)
THOMAS P. SCHLOSSER (WA)
THANE D. SOMERVILLE (WA, OR)

COMPTROLLER
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March 7, 2011

Submitted online at http://solareis.anl.gov
and via First Class Mail

Linda Resseguie
BLM Solar PEIS Project Manager
c/o Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, Illinois 60439

Re: Comments of Quechan Indian Tribe on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

On behalf of the Quechan Tribe of the Fort Yuma Indian Reservation, we submit the following comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar PEIS). As described in more detail below, the Tribe's comments on the Solar PEIS include the following:

- The Solar PEIS presents a misleading description of current law regarding solar energy development on public lands; specifically, there is no Congressional mandate or legal prioritization of utility-scale solar energy development on public lands

- The Tribe strongly opposes the no-action alternative, which would continue the current deficient process of case-by-case solar project analysis on BLM lands.

- The Tribe strongly opposes the Solar Energy Development Program Alternative, because it opens lands with sensitive cultural and natural resource values to utility-scale solar development, and opens more lands to solar development than necessary.

- The Tribe supports the concept of the Solar Energy Zone Program Alternative, which would prospectively identify specific lands that are suitable for utility-scale solar, and specifically prohibit utility-scale solar on all other BLM lands; however, the Tribe does not support the development of utility-scale solar on Class L lands within the California Desert Conservation Area.

- The proposed alternatives must be revised to exclude utility-scale solar development on Class L lands within the California Desert Conservation Area.

- No further individual utility-scale solar projects should be approved on BLM lands in the study area until the Solar PEIS is complete and an approved alternative is selected; the current case-by-case approval regime is undermining the purpose of the Solar PEIS, which is to prospectively identify lands most suited to solar development.

- The Tribe opposes the inclusion of the Imperial East site as a Solar Energy Zone due to its location in a sensitive cultural area.

I. Interest of the Quechan Indian Tribe

The Quechan Tribe's Fort Yuma Reservation at its current site was established in 1884 as a permanent homeland for the Quechan people. The Quechan people and their ancestors have inhabited the area surrounding the confluence of the Colorado and Gila Rivers for centuries. The Quechan Tribe's traditional lands extend well beyond the boundaries of the present day Fort Yuma Indian Reservation. Traditionally, Quechan settlements, or rancherias, were scattered north and south along the Colorado River from the confluence area, and eastward along the Gila. Traditional lands to the west of the present day reservation were also utilized by the Quechan people. According to Quechan tradition, the northern territory extended to the vicinity of Blythe, California, the southern territory reached to Sonora, Mexico, the western territory extended to California's Cahuilla Mountains, and the eastern territory approached Gila Bend, Arizona. The lower Colorado River tribes, which include the Quechan, shifted up and down the Colorado and Gila rivers, utilizing the banks and floodplain on both sides of the rivers for subsistence and settlements at different historical periods. (Alfonzo Ortiz, *Handbook of North American Indians*, Volume 10, Southwest (Quechan) (Smithsonian Institution, Washington D.C. 1982). Certain lands identified or proposed for solar development in Arizona and California fall within the Tribe's traditional territory.[1]

The cultural landscape of the Quechan consists of a myriad of natural and cultural features. Natural features include the Colorado desert and river, mountains, hills, rock outcrops, flora, and fauna. Cultural features include mythology locales, sacred places, settlement and battle site locations, trails, and other resource use areas, along with prehistoric and historic archaeological sites. The latter include rock art (geoglyphs, petroglyphs, and intaglios), trails (stamped paths), trail markers, rock alignments, rock cairns, cleared (tamped) circles (sleeping, teaching, prayer, and dance circles), milling areas, pot drops, and other site features. *See, e.g.*, Birnbam, Charles A., *Preservation Brief 36: Protecting Cultural Landscapes: Planning, Treatment, and Management*. Technical Preservation Services, National Park Service, Washington D.C. (1994); Russell, John C.; Woods, Clyde M.; and Jackson, Underwood, *An Assessment of the Imperial Sand Dunes as a Native American Cultural Landscape*. Prepared for

[1] Table 4.16-1 of the Solar PEIS fails to identify the Quechan Tribe as having traditional territory in California. The Tribe's traditional territory is located both in Arizona and California.

the California State Office of Bureau of land Management, Sacramento, California, by EDAW, Inc., San Diego, California (2002).

The Tribe is directly affected by solar energy development on BLM lands. The Tribe is currently engaged in litigation against the Department of the Interior based on Interior's unlawful approval of the Imperial Valley Solar (IVS) project on lands within the traditional territory of the Tribe that contain sensitive cultural and natural resources of signficance to the Tribe. *See Quechan Tribe of the Fort Yuma Indian Reservation v. United States Department of the Interior*, Civil No. 10-2241 (S.D. Cal.). The Tribe is challenging the Department of the Interior's decision to approve the massive utility-scale project on sensitive Class L lands within the California Desert Conservation Area. On December 15, 2010, the Court made a preliminary determination that BLM had failed to properly consult with the Quechan Tribe prior to its approval of the IVS Project. On January 13, 2011, the Court preliminarily enjoined construction of the IVS Project due to Interior's failure to comply with applicable law. Numerous other legal challenges to solar projects approved by Interior under the arbitrary "fast-track" program are ongoing.

II. Comments Of Quechan Tribe on Solar PEIS

A. There Is No Congressional or Executive Mandate For Utility-Scale Solar Development: Utility-Scale Solar Development May Only Be Authorized If Fully Consistent With Existing Resource-Protection and Land Management Laws and Regulations.

The Solar PEIS repeatedly states that there is a legal mandate for utility-scale energy development on public lands. For example, the Introduction to the Solar PEIS begins by stating:

> A number of Executive Orders, Congressional mandates, and federal agency orders and policies promote expedited and concentrated federal action supporting the development of domestic renewable energy resources. [BLM] is considering taking further actions to facilitate solar energy development in compliance with these orders and mandates.[2]

This statement is not correct and misleads the public, because no federal law mandates any solar energy development on public lands. It is misleading for BLM to state that its program to approve utility-scale solar energy development on public lands is mandated by Congress when it is not.

The only statutory enactment that addresses solar energy development is Section 211 of the Energy Policy Act of 2005, which states it is "the sense of Congress that the Secretary of the

[2] Other similar statements are found in the Solar PEIS. For example, page ES-1 states that Interior and DOE are proposing to "facilitate solar energy development in compliance with various orders, mandates, and agency policies." Pages ES-2, 3 state that "the proposed Solar Energy Program has been designed to further the BLM's ability to meet the requirements for facilitating solar energy development on BLM-administered lands established by the Energy Policy Act of 2005 . . . ."

Interior should seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity." This language contains no mandatory directive of any kind. Nor does the Energy Indpendence and Security Act of 2007 contain any mandatory directive to develop renewable energy on public lands. Congress has not approved or required any program for utility-scale renewable energy development on public lands. Nor has Congress waived or limited in any way the applicability of existing federal laws when reviewing proposed utility-scale solar projects. The Department of the Interior must fully comply with all existing federal resource-protection and land management laws. The repeated reference to a Congressional mandate for renewable energy development on public lands, where there in fact is no such mandate, is misleading to the public and skews the analysis.

Likewise, Executive Order 13212 (issued nearly ten years ago under a different Administration) requires executive departments to comply with all applicable laws in reviewing energy projects and to ensure that increased production of energy occurs in "a safe and environmentally sound manner." Executive Order 13514 (October 5, 2009) does not mandate or direct any energy development on federal public lands.

Secretarial Order 3285A1 provides support for the programs identified in the Programmatic EIS, but specifically directs the identification of sites best suited for large-scale solar while ensuring protection and preservation of sensitive resources.

To be clear, there is no federal or executive mandate to develop utility-scale renewable energy projects on public lands. While such projects may be permissible on certain public lands under pre-existing law, it is inaccurate to state or suggest that federal policy prioritizes or mandates utility-scale renewable energy development on public lands. The laws and orders cited on pages 1-2 and 1-3 of the PEIS strongly suggest that solar development on public lands may only be allowed if federal agencies comply with all existing resource-preservation laws and carefully ensure that existing public-land resources will not be adversely affected.

B. The No-Action Alternative Must Be Rejected; The Current Approach of Case-By-Case Project Approvals Fails to Protect the Public Lands

The No-Action Alternative would continue the status quo in which BLM separately accepts, analyzes, and reviews individual solar energy applications on a case-by-case basis. To date, the status quo approach has proven unsatisfactory to both solar energy developers and those interested in protection of public lands and resources. It is clear that BLM needs to carefully study and implement a program that designates certain non-sensitive lands suitable for large-scale solar development, authorizes solar development in those areas, and prohibits utility-scale solar development on all other public lands.

Utility-scale solar projects are a unique form of public land development due to the very large land areas that are necessary for such projects. These renewable energy projects have significant impacts on species habitat and cultural landscapes, in addition to other resources, due to their scale. Solar PEIS, p. 5-217 (acknowledging impacts to cultural resources). The current

case-by-case approach fails to adequately consider the cumulative impact associated with multiple utility-scale renewable energy projects. It is imperative that BLM identify and set aside certain non-sensitive land areas for utliity-scale solar development and prohibit such intensive development on all other lands.

The current approach, which allows applications for solar development on nearly all BLM lands not set aside for wilderness or other special management purposes, is inefficient and has proven unsuccessful. To date, no utility-scale solar energy projects have been constructed under the current BLM policies. Most, if not all, of the "fast-track" projects that have been approved are subject to litigation due to flaws in the existing BLM process and failure to adequately protect affected resources. By designating a reasonable amount of specific lands for solar development, BLM could focus its limited resources on implementing development on those lands, while avoiding controversy and conflicts that arise when BLM approves projects on resource-sensitive lands.

C. The Solar Energy Development Program Alternative Must Be Rejected; This Alternative Opens Too Much Acreage To Utility-Scale Solar, Would Authorize Development on Sensitive Lands, and Will Result in Continued Resource-Conflicts.

The Solar Energy Development Program Alternative should be rejected. This alternative fails to achieve the goal of prospectively identifying specific lands that are the most appropriate for utility-scale solar energy development. This alternative broadly opens nearly 22 million acres of public lands in the six-state area to utility-scale solar development. BLM's current analysis is that 214,000 acres of BLM-land in the study area would likely be developed over the next 20-year period. Thus, there does not seem to be any reasonable need to open a land area of 22 million acres (100-times greater than foreseeable demand). The Solar Energy Development Program Alternative opens far more land than is necessary to meet anticipated solar development demand over the next two decades.

The problem with opening too much land to utility-scale solar is that it will lead to the same problems and inefficiencies that are resulting under BLM's existing policies and procedures. Although Interior and DOE have attempted to identify specific categories of land that are not appropriate for development, it is clear that the agencies have not affirmatively studied these 22 million acres to determine whether specific resource-conflicts exist. For example, some of the public lands identified as appropriate for development under this alternative are within the traditional territory of the Quechan Tribe and likely contain cultural resources, trails, and sacred areas that would be inappropriate for development.

In order to achieve the agencies' development goals, it would be better to effectively plan ahead to affirmatively determine which lands are the most appropriate for large-scale solar. Interior and DOE should focus on identifying a smaller subset of public lands that are the most appropriate for utility-scale solar development. The Solar Energy Zone Program Alternative best achieves that goal.

D. The Solar Energy Zone Program Alternative Represents The Best Alternative Evaluated In the Solar PEIS.

The Solar Energy Zone Program identifies specific Solar Energy Zones in the six-state area that are determined to be the most appropriate for utility-scale solar energy development. This alternative would authorize utility-scale solar on nearly 700,000 acres (more than three times the anticipated demand over the next twenty years) and would close all other BLM-managed lands to such development. The concept of this alternative represents the best approach to large-scale solar energy development. Rather than unnecessarily opening up tens of millions of acres to large-scale, resource-intensive, and largely untested solar energy projects, Interior should take a more careful and restrained approach. The SEZ Program offers an area of land that is sufficient to achieve the agencies' development goals, but not so broad that agency resources will be drained analyzing proposals that are controversial or of marginal quality. It seems that the Solar Energy Zone Program Alternative is most in line with the purpose of the PEIS – to identify specific areas that are most suited to solar energy development.

E. The Action Alternatives Must Be Revised To Exclude Utility-Scale Solar Energy Development on Class L Lands Within the California Desert Conservation Area.

Interior and DOE should revise the Solar PEIS to exclude utility-scale solar energy development on Class L lands within the California Desert Conservation Area. Development of utility-scale renewable energy projects is not consistent with the Class L land designation.

The Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1701 et seq. ("FLPMA") mandates a comprehensive planning system for the use of public lands managed by BLM. In FLPMA, Congress expressly set aside public lands of the California desert as the "California Desert Conservation Area" and mandated development of a comprehensive, long-range management plan for these unique desert lands. 43 U.S.C. § 1781. Interior developed the California Desert Conservation Area Plan ("CDCA Plan") in 1980. The CDCA Plan, like all land use plans developed under FLPMA, has binding legal effect. 43 U.S.C. § 1732(a) (requiring Secretary to manage public lands in accordance with the land use plans developed under FLPMA).

To achieve Congress' mandate of multiple-use management and resource preservation, the CDCA Plan divides CDCA lands into four land-use classes, known as Classes C, L, M, and I, which provide a hierarchy of permissible land uses and development on CDCA lands. The CDCA Plan provides:

> Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not diminished.

The CDCA Plan further elaborates that consumptive uses on Class L lands are allowed "only up to the point that sensitive natural and cultural values might be degraded." Class L provides

"protective resource management which complements many identified Native American values." In contrast, Class M provides for "higher intensity use" such as "mining, livestock grazing, recreation, energy, and utility development." Class I lands allow intensive development and provide for "concentrated use of lands and resources to meet human needs." Nearly four million acres (over 30% of BLM lands under management in the CDCA) are Class M or I lands set aside for moderate to high-intensity development.

Solar energy development is not per se prohibited on Class L lands; however, the Solar PEIS deals only with large utility-scale projects that are very likely to result in degradation of the natural and cultural values that led to the Class L designation. Utility-scale projects often cover many thousands of acres with solar-related infrastructure. Such development is wholly incompatible with the purposes of the Class L designation and inconsistent with Congress' clear intent to protect the natural and cultural resources of the CDCA. Moreover, prohibiting solar development on Class L lands will not interfere with Interior's development goals, because there are literally millions of acres within the CDCA that are specifically designated for high-intensity, large-scale land uses such as utility-scale solar. In addition, small solar projects that do not interfere with cultural and natural values could potentially be developed on such Class L lands. In order to comply with FLPMA and the CDCA Plan, BLM must exclude Class L lands from the lands available for utility-scale solar development.

F. Interior Should Cease Its Review of Proposed Solar Projects Until Final Completion of the Solar PEIS and Approval of A Solar Energy Program.

There are currently dozens of active applications to develop solar energy projects on BLM lands. However, continuing to process those pending applications is inconsistent and interferes with the purpose of the Solar PEIS. Development of the pending active applications would result in nearly 75,000 MW of generation, which is nearly triple BLM's estimate of solar development on BLM lands in the six-state area over the next 20 years. *See* Solar PEIS, p. 2-22. The purpose of the Solar PEIS is to formulate a program that will facilitate development of large-scale solar projects in the appropriate areas, and in a manner that is consistent with protection of the public lands. The current solar project applications are not limited to the proposed Solar Energy Zones and are not necessarily limited to lands within the Solar Energy Program Development alternative. It is likely that some of the projects are located in areas that would be excluded from solar development in a solar program approved under the PEIS. Allowing these pending projects to go forward would largely defeat the purpose of this planning process. In order to preserve the benefits associated with this planning process and to avoid unnecessary resource conflicts, it is prudent to wait until a Solar Energy Program is in place before processing and approving additional solar projects.

G. Interior Should Not Approve Imperial East as a Solar Energy Zone Due to the Prevalence of Cultural Resources, Prehistoric Human Remains, and Visual Impacts

Although the Tribe generally supports the Solar Energy Zone concept, it does not support the identification of lands known as Imperial East as an approved Solar Energy Zone. First,

these lands are Class L lands, which, as described above are not appropriate for utility-scale solar energy development. Second, these lands fall within the traditional territory of the Quechan Indian Tribe and are in close proximity to lands known and recognized for their cultural sensitivity. It is highly likely that there are Quechan cultural sites and possibly remains of Quechan ancestors within this area. It is not appropriate to promote utility-scale energy development on these lands.

H. The Section 106 Process Must Be Completed, In Government-to-Government Consultation With the Tribe, Before Reaching A Final Decision on Any Proposal That May Impact Quechan Cultural Resources.

The Solar PEIS does not approve specific projects and there is an acknowledgement that individual projects must still undergo further reviews under NEPA and Section 106 of the National Historic Preservation Act. The Tribe expects full compliance with the Section 106 process and expects the federal agencies to fulfill its obligations to meaningfully consult with the Tribe on a government-to-government basis when reviewing proposed projects that could affect resources of significance to the Tribe. The Tribe objects to any process that would result in approval of utility-scale solar projects prior to full completion of the Section 106 and government-to-government consultation processes. The Tribe also objects to any scheme that defers consultation until some future time after a project has been approved. *See* Order Granting Preliminary Injunction, *Quechan Tribe of the Fort Yuma Indian Reservation v. United States Department of the Interior*, Case NO. 10-2241 (S.D. Cal., December 15, 2010) (enjoining construction of Imperial Valley Solar project due to failure of United States to properly consult with Quechan Tribe).

Page 14-7 of the Solar PEIS notes that the Quechan Tribe is one of five tribes that affirmatively requested government-to-government consultation regarding the Solar PEIS; however, such consultation has not occurred.

I. Additional Comments

As stated in Section 5.15.3.1, the Tribe agrees that the use of previously disturbed lands should be encouraged; however, cultural resource surveys and completion of the Section 106 process must be completed even on lands that have had prior disturbances. In some cases, in desert areas, cultural resources are located just below the surface of a disturbed area.

In Section 5.16, the Solar PEIS identifies potential mitigation measures to address Native American concerns, including such measures as avoiding visual intrusion on sacred areas, avoiding impacts to sacred springs and waters, avoiding impacts to culturally sensitive plants and wildlife species, etc. While the Tribe agrees that sacred areas and objects should be avoided, the Tribe objects to the use of the phrase "when possible" that follows each of these mitigation measures. The purpose of this Solar PEIS is to determine land areas that are the most appropriate for large-scale solar development. Thus, the government should be prospectively limiting development to those areas that do not contain sacred areas and objects. With appropriate planning, it should always be possible to avoid sacred areas.

Table 6.1-2 states that the impacts to cultural resources would be the same for both the SEZ Program alternative and the Solar Energy Development Program alternative, albeit the impacts in the SEZ Program would be concentrated in a smaller area. The Tribe disagrees that the impacts will be the same under each alternative. First, the likelihood of impacts in the Solar Energy Development Program is far greater given the fact that 30 times more land is available for development under that alternative. It is misleading to state that the impacts to cultural resources under the two alternatives will be the same. Second, the SEZ Program should only be allowing solar development in areas determined not to be culturally sensitive. As stated repeatedly throughout, the purpose of this planning process is to determine those public land areas that are most appropriate for large-scale solar development. Those lands that contain sensitive natural resources should simply not be included with the solar energy zones.

As stated in Section 6.2.2, the environmental impacts of the SEZ Program alternative would be minimized due to the limited land areas and the prospective determination that such areas are appropriate for large-scale solar. The Tribe supports the concept of limiting large-scale solar development to specific areas deemed most appropriate, i.e., those areas that lack sensitive cultural and natural resources, and precluding large-scale solar development on all other public lands at this time.

The Tribe objects to the statement on page 6-100 that cumulative effects on cultural resources are expected to be small "because of the relatively small fraction of land disturbed." It is inaccurate and misleading to analyze the impacts to cultural resources by simply dividing the number of acres disturbed by the number of total acres in existence. The appropriate inquiry is to determine whether or not the specific areas targeted for development have significant cultural resources and to make every effort to move development out of such sensitive areas.

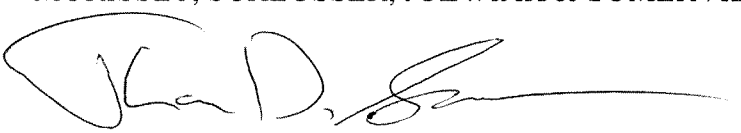
Appendix A, Section A.2.1.2.2, describes the proposed pre-application process for the future Solar Energy Program. That program requires the applicant to consult with holders of grazing rights and mining claims in the pre-application process, but does not require any consideration of cultural resource conflicts or consultation with affected tribes. It is important for the applicant and Interior to determine early in the process whether lands at issue contain significant cultural resources or sacred areas. A cultural resource consultation should be part of the pre-application process.

Appendix C confirms that all proposed utility-scale solar development in California is within the California Desert Conservation Area. The Tribe is concerned with Interior's proposal to allow such a large amount of intensive development within the CDCA. As noted above, utility-scale development on Class L lands within the CDCA is not permissible. Interior must ensure that any proposed utility-scale development within the CDCA is limited to Class M or I lands. Interior should also consider public lands outside the CDCA in California for solar.

Thank you for your consideration to the Tribe's comments.

Sincerely yours,

MORISSET, SCHLOSSER, JOZWIAK & SOMERVILLE



Frank R. Jozwiak
Thane D. Somerville
Attorneys for Quechan Indian Tribe

cc: President Mike Jackson, Sr.
Vice-President Keeny Escalanti, Sr.
Members of the Quechan Tribal Council
Bridget Nash-Chrabascz, Historic Preservation Officer

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kfn 3/4/11

Thank you for your comment, Peter Satrun.

The comment tracking number that has been assigned to your comment is SolarD10092.

Comment Date: March 7, 2011 12:36:30PM
Solar Energy Development PEIS
Comment ID: SolarD10092

First Name: Peter
Middle Initial: S
Last Name: Satrun
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I would agree w/ the SLVRCA in opposition to SEZ and urge to consider EPA plan first. Thanks for sharing.

Thank you for your comment, Philip Incao.

The comment tracking number that has been assigned to your comment is SolarD10093.

Comment Date: March 7, 2011 14:12:24PM
Solar Energy Development PEIS
Comment ID: SolarD10093

First Name: Philip
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Zip: 81131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am strongly opposed to leasing BLM land for the use of industrial solar power plants. Given the many unknowns and the huge, long-term ecological footprint of this proposal, I believe this should be the last resort, not the first option.
Solar energy is the wave of the future, and it must be utilized using a new paradigm and in far-seeing, futuristic ways. Distributed Generation in our vast urban landscapes and the EPA Re-Powering America Plan offer a responsible and cost-effective alternative for solar energy development
The traditional models of generating electricity in a centralized area and transmitting it over vast distances are antiquated and not appropriate to new technologies. Recent research by Dr. Michael Allen and colleagues at the Center for Conservation Biology at UC Riverside suggest this approach could result in a net gain in atmospheric carbon by interrupting ancient carbon-sequestration processes in arid ecosystems, and furthermore it will increase sulfur hexafluoride (SF6), a highly potent greenhouse gas used for electric transmission and distribution. SF6 has a global warming potential 23,900 times higher than CO2.
These power plants will turn thousands of acres of intact, ecologically-valuable public lands into industrial zones, destroying habitat, disturbing migration patterns, and further corrupting the few wild places left on this planet. So I urge you to reconsider leasing our precious, protected lands to industrial solar complexes. Look to the future for new ways of distributing energy as well as in using these new technologies, and please protect our public lands for future generations.

Thank you for your comment, Jennifer Thomson.

The comment tracking number that has been assigned to your comment is SolarD10094.

Comment Date: March 7, 2011 14:14:38PM
Solar Energy Development PEIS
Comment ID: SolarD10094

First Name: Jennifer
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Attachment:

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Thank you for your comment, Diane Bairstow.

The comment tracking number that has been assigned to your comment is SolarD10095.

Comment Date: March 7, 2011 14:15:41PM
Solar Energy Development PEIS
Comment ID: SolarD10095

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Attachment:

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These power plants will turn thousands of acres of intact, ecologically-valuable public lands into industrial zones, destroying habitat, disturbing migration patterns, and further corrupting the few wild places left on this planet. So I urge you to reconsider leasing our precious, protected lands to industrial solar complexes. Look to the future for new ways of distributing energy as well as in using these new technologies, and please protect our public lands for future generations.

Thank you for your comment, Donald Vargas.

The comment tracking number that has been assigned to your comment is SolarD10096.

Comment Date: March 7, 2011 17:29:51PM
Solar Energy Development PEIS
Comment ID: SolarD10096

First Name: Donald
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City: Imperial
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Comment_Letter_SEDD10096.pdf

Comment Submitted:

IMPERIAL IRRIGATION DISTRICT

ENVIRONMENTAL, REGULATORY AND EMERGENCY PLANNING • P.O. BOX 937 • IMPERIAL, CA 92251
TELEPHONE (760) 482-3600 • FAX (760) 482-3603

GS-EREP

March 3, 2011

Solar Energy PEIS
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SUBJECT: BLM & DOE Notice of Availability of the Draft Programmatic EIS for Solar Energy Development in Six Southwestern States

On December 16, 2010 the Bureau of Land Management (BLM) and the Department of Energy (DOE), as co-lead Agencies, filed in the Federal Register, Notice of Availability of the Draft Programmatic Environmental Impact Statement (EIS) for Solar Energy Development in Six Southwestern States and Notice of Public Meetings. The BLM is considering taking further actions to facilitate solar energy development in compliance with various orders, mandates, and agency policies. For the BLM, these actions include the evaluation of a new Solar Energy Program applicable to utility-scale solar energy development on BLM-administered lands in 6 southwestern states (Arizona, **California**, Colorado, Nevada, New Mexico, and Utah). The DOE is considering taking actions to facilitate solar energy development in compliance with various orders, mandates, and agency policies. For the DOE, these actions include the evaluation of developing new program guidance relevant to DOE-supported solar energy projects. The BLM and the DOE are working jointly as lead Agencies to prepare this Programmatic EIS to evaluate the proposed BLM program and whether to develop the DOE guidance.

Pursuant to the above, the Imperial Irrigation District (IID) has reviewed the above mentioned document and submits the following comments on the project:

1. The proposed location of the Imperial East Solar Energy Zone is located on IID's East Mesa Unit and north of Highway 98. IID Water Department facilities that could be impacted include the All American Canal, Drop 4 Hydro Plant, Drop 3 Hydro Plant, several All American drains, all other adjacent water facilities, and well monitoring sites.

2. The Draft Solar PEIS shows generalized map locations. The DOE and BLM will need to discuss impact to IID's operation and maintenance activities for the proposed Imperial East Solar Energy Zone.

3. Any construction or operation on IID property or within its existing and proposed right of way or easements will require an encroachment permit, including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities. A copy of the encroachment permit application is included in the IID's Developer Project Guide. The Developer Project Guide with the encroachment permit application can be found at: http://www.iid.com/Modules/ShowDocument.aspx?documentid=2328. For additional information regarding encroachment permits, the IID Real Estate Section should be contacted at (760) 339-9239.

4. On page 9.1-21, Lands and Realty and Affected Environment sections, the last sentence of the third paragraph states "IID can sell water for solar development." All water supplies must be obtained through IID for this project. All new non-agricultural water project supply requests are processed in accordance with the IID's Interim Water Supply Policy (found at http://www.iid.com/Modules/ShowDocument.aspx?documentid=269). For additional information regarding the Interim Water Supply Policy, the IID Water Supply Planning/Colorado River Manager may be contacted at (760) 339-9038.

5. In order to obtain a water supply from IID for the project, the project proponent will be required to comply with all applicable IID policies and regulations and may be required to enter into a water supply agreement with IID. Such policies and regulations require, among other things, that all potential environmental and water supply impacts of the project have been adequately assessed, appropriate mitigation has been developed and appropriate conditions have been adopted by the relevant land use permitting/approving agencies.

6. Any new, relocated, upgraded or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, etc. and water delivery and drainage structures) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or upgrade of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully mitigated. **Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent**.

Should you have any questions, please do not hesitate to contact me by phone at 760-482-3609 or by e-mail at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Environmental Specialist

cc: Mario Escalera. – Manager, Energy Dept. Operations & Infrastructure
James Ross. – Executive Program Manager, Water Dept.
Mike L. King. – Manager, Water Dept.
Jeff M. Garber. – General Counsel
Joel Ivy. - Asst. Mgr. Energy Dept.
Juan Carlos Sandoval. – Asst. Mgr. Energy Dept.
Carlton L. King. – Asst. Mgr., Energy Dept. Customer Service Operations
Richard R. White. – Asst. Mgr., Energy Dept. Construction & Maintenance Operations
Tina Shields. – Asst. Mgr., Water Dept. Resources Planning & Management
David L. Barajas. – General Supt., Energy Dept. System Planning & Engineering
Michael S. Trump. – General Supt., Energy Dept. Customer Operations & Planning
Ismael Gomez. – Chief Engineer, Water Dept. Engineering Services
Bruce Wilcox. – Environ. Proj. Mgr., Water Dept. QSA Water Transfer
James P. Kelley. – Supervisor, Real Estate & Right-of-Way
Vikki Dee Bradshaw. – Asst. Supv., Environmental Management

Thank you for your comment, Marylin Williams.

The comment tracking number that has been assigned to your comment is SolarD10097.

Comment Date: March 7, 2011 17:42:45PM
Solar Energy Development PEIS
Comment ID: SolarD10097

First Name: Marylin
Middle Initial: K
Last Name: Williams
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The use of land in Colorado in this manner is an outrage. The rape of the land by Goldman Sachs who brought us the bail-out and is now using it to take more money out of our state, BP who has already ruined the Gulf states, and the other corporations who care nothing about our state or hard working people, only their own profit, is unacceptable. If you gave the same amount of money to us to provide independent distribution of energy production, our country, our state, and our economy would be in better shape. SHAME ON YOU!

Thank you for your comment, James Welke.

The comment tracking number that has been assigned to your comment is SolarD10098.

Comment Date: March 7, 2011 18:01:25PM
Solar Energy Development PEIS
Comment ID: SolarD10098

First Name: James
Middle Initial: M
Last Name: Welke
Organization:
Address: 634 Albany St
Address 2:
Address 3:
City: Ferndale
State: MI
Zip: 48220
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

PEIS sounds, I'm sad to say, like a bad idea all around.

First, when I see names like BP, Chevron, JP Morgan, and Goldman Sachs associated with any use of public resources, including land (or Gulfs... i.e. Gulf of Mexico), my hackles are immediately raised. These folks do not, under any circumstances, put the interests of the public first. Their sole concern is short-term profit, and long-term domination of market share to the exclusion of all other options.

Second, utility scale electricity generation is not generally considered a least-cost solution for renewable electricity generation. A proven better and cheaper approach is distributed renewables, where electricity is generated near the load (on the roof, or in adjacent property), and where local co-generation (CHP: combined heat and power) is implemented in the case of thermal generators. Distributed renewables do not require the construction of long-distance transmission lines, so lower cost and better efficiency are gained. Also, distributed renewables bring the added benefit of more, better paid jobs in existing communities.

So, why would we embrace the use of public land for corporate, utility scale electricity generation? Well, it sounds like interested utilities and corporations want to dictate the terms of renewable electricity generation, and insure a perpetual profit stream at the expense of ratepayers. By implementing capital-intensive projects, corporate planners insure their dominating influence will persist for many, many years (this is the same approach used by the nuclear power industry -- once ratepayers have invested a fortune to build one of those things, they are loath to abandon it, even if better options are present).

Further, this plan sounds a little like mountain top removal to me. Once you build in these environments, the environment is altered -- pristine ecosystems gone -- forever. Distributed renewables offer power generation on already developed land (for less expense, and no lossy transmission lines).

If there is no stopping this, I suggest we go very slowly. No “fast track,” thank you. Take sufficient time to evaluate the social and environmental impact, GHG footprint, and economics of these plants. If, after detailed, public-reviewed study, these projects are deemed worthwhile from a public interest perspective, please stick with BLM option #1: “A no action alternative that continues the issuance of right-of-way authorizations for utility-scale solar energy development on a case-by-case basis in accordance with existing policies.”

Then, I would insist that these utilities be publicly owned, not-for-profit entities. They should not be corporate profit centers that hold ratepayers captive for decades.

Thanks!

More: http://completelybaked.blogspot.com/search/label/Energy

Thank you for your comment, cindy Beaver .

The comment tracking number that has been assigned to your comment is SolarD10099.

Comment Date: March 8, 2011 09:01:56AM
Solar Energy Development PEIS
Comment ID: SolarD10099

First Name: cindy
Middle Initial: l
Last Name: Beaver
Organization:
Address: 2050 sandstone way
Address 2: p.o. box 1044
Address 3:
City: Crestone
State: CO
Zip: 81131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please do not give away valuable land for huge corporate development. We have faster, cheaper, less destructive alternatives for meeting our solar energy goals. Do the right thing.

Thank you for your comment, Kurt Chaffin.

The comment tracking number that has been assigned to your comment is SolarD10100.

Comment Date: March 8, 2011 09:52:17AM
Solar Energy Development PEIS
Comment ID: SolarD10100

First Name: Kurt
Middle Initial:
Last Name: Chaffin
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I adamantly oppose this effort to set up a solar power grid in the Utah area, anywhere! The reason for this is that as the administrators of public lands, the DOI and BLM are selectively using policy to best fit a contentious, one sided agenda. The application of policy in Utah, according to BLM, is to shut out recovery of natural resources and legitimate public uses, while pandering to controversial and highly restrictive rules that serve a vary narrow segment of society.
In Addition, it is not equitable to take away an energy resource recovery effort that would use a space of an acre or two to drill for energy, and replace it with a set up that will take many, many more acres of giant black squares lined up in rows. The view-shed impact of such a solar set up far exceeds that of a drill setup in my opinion. In addition, the energy benefit is not equal either. On cloudy days the harvest of solar energy will be decreased and produce less if any energy at all. Damage to the equipment is a real potential occurrence creating more cost and reducing benefit. The output created will likely benefit a very small group of people, not a greater segment of the state, AND will likely be sent to users out of state! If this actually happens, the people of Utah will be once again disregarded and ignored by the federal government administrators.
Also, it's very likely that the area will be off limits to public use by virtue of the policy created by BLM, DOI or any of the other energy related agencies involved in this.
I do not support this effort. I have had enough of BLM and DOI staff dictating what they think should happen in my state while ignoring those who live here who are directly impacted by erroneous and bias decisions.
Terminate this project immediately. Stop wasting our time and our tax-payer money.

Thank you for your comment, Donald Begalke.

The comment tracking number that has been assigned to your comment is SolarD10101.

Comment Date: March 8, 2011 14:24:17PM
Solar Energy Development PEIS
Comment ID: SolarD10101

First Name: Donald
Middle Initial:
Last Name: Begalke
Organization:
Address: PO Box 40381
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 850670381
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The alleged "Programmatic Solar EIS" is not in the email you sent 12/17/10.
Two subsequent emails from you do not include the PEIS either. If you do not send it, how can a person read the PEIS?

Donald

Thank you for your comment, Eve Cannella.

The comment tracking number that has been assigned to your comment is SolarD10102.

Comment Date: March 8, 2011 16:30:41PM
Solar Energy Development PEIS
Comment ID: SolarD10102

First Name: Eve
Middle Initial: A
Last Name: Cannella
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly object to solar panels being placed on or near sacred sites. Specifically the Giant Intaglios and the surrounding sites in and near Blythe, California, and the California desert corridors. It is an unconscionable act to destroy a sacred site. For a moment, think about your house of worship and how you would feel if it were destroyed. These sacred sites are not only treasures for the indigenous inhabitants, but for all of us.

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10103.

Comment Date: March 8, 2011 16:59:04PM
Solar Energy Development PEIS
Comment ID: SolarD10103

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Photovoltaic development on public lands should be limited to small scale projects on areas that are already heavily disturbed. Little purpose or need exists to disturb lands in public ownership by the construction of large scale projects since photovoltaic technology can easily be sited in a highly distributed manner such on small parcels and rooftops near regions of demand. In addition, ample private land exists to accommodate a large amount of solar development, distributed or otherwise. Preferably, public land resources should be reserved as much as possible for conservation or relatively low intensity multiple use that at least partially preserves the natural ecological functioning of a particular location.

Jared Fuller
Provo, Utah

Thank you for your comment, James Dieterich.

The comment tracking number that has been assigned to your comment is SolarD10104.

Comment Date: March 8, 2011 17:04:34PM
Solar Energy Development PEIS
Comment ID: SolarD10104

First Name: James
Middle Initial: A
Last Name: Dieterich
Organization:
Address: 73625 Catalina Way
Address 2: Apt #11
Address 3:
City: Palm Desert
State: CA
Zip: 92260
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of developing solar power within the proposed areas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10105.

Comment Date: March 8, 2011 17:42:04PM
Solar Energy Development PEIS
Comment ID: SolarD10105

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Overall, the amount of utility-scale solar development may be a little too high, but not that much too high. I do not agree with many of the commentors at the Indian Well, CA public hearing. The positive effects of utility-scale far outweigh the negative and highly mitigatable impacts to desert habitat. In fact, if these solar projects are not developed, there is a very good chance that with global warming, the desert creatures and habitat will be destroyed anyway or move to higher elevations, if elevations exist. I agree that distributed solar on city rooftops is necessary as well, but those are all portions of clean renewable energy that must be developed along with utility-scale solar.
My biggest complain on this PEIS is the lack of discussion on Off-site mitigation. If these utility-scale projects impact biological resources, those impacts should be mitigated through appropriate land acquisition and conservation. This should be covered in the PEIS.
Thank You,

Thank you for your comment, Russell TROUTMAN.

The comment tracking number that has been assigned to your comment is SolarD10106.

Comment Date: March 8, 2011 18:38:34PM
Solar Energy Development PEIS
Comment ID: SolarD10106

First Name: Russell
Middle Initial: E
Last Name: TROUTMAN
Organization:
Address: PO Box 723
Address 2:
Address 3:
City: Saguache
State: CO
Zip: 81149
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I moved to the Valley to be away from all the junk assosated with big city after a career in public service. I wish to be isolated from all new development abd bought property ajoining BLM to further isolate myself and now you want to invade me with more so called progress. I object to the propossed sites near Saguache, Colorado. Please look else where as we have a good life here and don't want it ruined with unsightly panels and towers.

Thank you for your comment, mitch lankford.

The comment tracking number that has been assigned to your comment is SolarD10107.

Comment Date: March 9, 2011 10:27:27AM
Solar Energy Development PEIS
Comment ID: SolarD10107

First Name: mitch
Middle Initial: s
Last Name: lankford
Organization: sunquest solar llc
Address: 1660 lakeside drive #231
Address 2:
Address 3:
City: bullhead city
State: AZ
Zip: 86442
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The impact of solar in the desert or the mohave area ia dependant upon three things. One, the wildlife must be considered during the construction phase. Two, the use of water during operation must be kept at a low - no change to existing watersheds and use. Thirdly, the energy generated in AZ and or other states must dirctly benefit the local communities that are part of the electric grid being affected by the project. In other words the local tax payers and residents must have some benefit to it or everybody says "not in my back yard" Possibilities could range from tax breaks on power usage, night lighting offset(s) for streets / Hwy's.
Mostly, the use of federal lands to provide power is an american thing, therefor all americans should have a piece of the pie, and share in the benefits. Thank you for the opportunity to provide public comment.

Thank you for your comment, Tom Bagwell.

The comment tracking number that has been assigned to your comment is SolarD10108.

Comment Date: March 10, 2011 09:28:05AM
Solar Energy Development PEIS
Comment ID: SolarD10108

First Name: Tom
Middle Initial:
Last Name: Bagwell
Organization: New Mexico Department of Agriculture
Address: MSC 3189
Address 2: P.O. Box 30005
Address 3:
City: Las Cruces
State: NM
Zip: 880038005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SOLAR-PEIS.pdf

Comment Submitted:

Attached are New Mexico Department of Agriculture's comments to the Solar Energy Development PEIS.

NM STATE UNIVERSITY

New Mexico Department of Agriculture
Office of the Director/Secretary
MSC 3189
New Mexico State University
P.O. Box 30005
Las Cruces, NM 88003-8005
Phone: (575) 646-3007

March 10, 2011

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 South Cass Avenue
EVS/240
Argonne, IL 60439

To Whom It May Concern:

New Mexico Department of Agriculture (NMDA) submits the following comments to the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States.

Part of NMDA's vision is ". . . proactive advocacy and promotion of New Mexico's agricultural industries." We understand the need for development of renewable energy sources to provide for current and future energy demands; however, development of the Solar Energy Zones (SEZ) will remove these lands from multiple-use status and significantly impact area ranching operations. The PEIS is a substantial and impressive document that accurately identifies a wide range of impacts. Our comments focus on analysis of the effects that development of the SEZs within New Mexico would have on ranching operations associated with the 11 grazing allotments identified in the PEIS.

The SEZs in New Mexico encompass over 113,000 acres of Bureau of Land Management (BLM) administered lands that are currently managed as part of range livestock operations with the exception of two small areas on the eastern edge of the Afton SEZ. The PEIS estimates that under a full development scenario, 9,306 animal unit months (AUM) of forage would become unavailable for grazing causing the cancellation of three grazing permits and reduction in AUMs for eight others. This estimate is based on the assumption that AUM loss is proportional to public land acres lost to the SEZs. Deviations from this assumption are partially explained in the text specific to each allotment with the exception of the La Mesa Allotment, which shows a 15 percent reduction in land area and 32 percent reduction in AUMs. In order to account for these deviations, a more meaningful metric would be to provide the percentage of AUMs lost when analyzing impacts to ranching operations. The forage an AUM represents directly relates to the income producing ability of the allotment. Thus, a percentage reduction in AUMs equates to a percentage reduction in income to the ranch operation.

Appendix M, Section M.4.1.2 Analysis Approach and Information Sources, provides the assumption *". . . allotments that lose greater than 50% of their land area would suffer a large impact; losses of 25% to 50% would be considered a moderate impact; and losses of less than 25% would be considered a small or negligible impact."* NMDA disagrees with this scale characterizing the magnitude of impacts to affected ranches. As outlined above, the percent reduction in land area is directly proportional to percent

reduction in income producing ability of the allotments. To suggest that a 25 percent reduction in income producing ability is *". . . a small or negligible impact"* to a ranch operation is erroneous. When analyzing the estimated AUM losses to each allotment, the percentage loss ranges from 13 percent to 100 percent (impacts to Corralitos Ranch Allotment from the Afton and Mason Draw SEZs are combined). NMDA posits that a 13 percent reduction in AUMs represents a major impact to ranching operations. This position is supported by reports of nominal rates of return for ranches ranging from negative to about 3 percent, depending on ranch size (Bartlett et al. 2002). Any increased management costs associated with indirect impacts from solar energy development would further exacerbate impacts. Impacts deemed small or negligible in the PEIS could, in many cases, lead to total loss of economic viability for affected ranching operations.

Beyond direct impacts to ranch income, AUMs from BLM grazing allotments represent value to associated, privately owned base properties. Rimbey et al. (2007) estimated the 2003 marginal permit value for BLM-administered allotments to be $128 per AUM. This amount varies with the percentage of the allotment that is BLM land. In situations where solar energy development reduces the economic viability of a ranch to the point it can no longer operate, the affected land owner is left with a base property that has been significantly devalued because of the loss of access to BLM forage.

The PEIS provides little analysis of potentially applicable mitigation measures related to grazing use affected by solar energy development. Beyond suggesting development of range improvements and changes in grazing management, the document only encourages agreements between solar energy developers and ranchers. Ranchers displaced by solar energy development would not have the ability to relocate to adjacent or nearby federally managed lands as other uses such as recreation and wildlife would.

Under the current framework, a subset of Americans (the affected ranchers) will bear a disproportionate amount of costs associated with utility scale development of solar energy resources on federally managed lands. NMDA believes that mitigation and/or compensation to affected ranching operations for the severe adverse impacts that will occur with solar energy development should be mandatory and not merely encouraged. In addition, consideration should be given to the potential environmental justice outcomes wherein one segment of the population is disproportionately affected.

Thank you for the opportunity to comment on this important matter.

Sincerely,

Tom Bagwell
Interim Director/Secretary

TB/JM/lo

Literature Cited:

Bartlett, E. Tom, L.A. Torell, N.R. Rimbey, L.W. Van Tassell, and D.W. McCollum. 2002. Valuing Grazing Use on Public Lands. Journal of Range Management. 55: 426-438.

Rimbey, Neil R., Torell, L.A., and Tanaka, J.A. 2007. Why Grazing Permits Have Economic Value. Journal of Agricultural and Resource Economics. 32(1):20-40.

Thank you for your comment, Ronald Decker.

The comment tracking number that has been assigned to your comment is SolarD10109.

Comment Date: March 10, 2011 17:32:30PM
Solar Energy Development PEIS
Comment ID: SolarD10109

First Name: Ronald
Middle Initial: A
Last Name: Decker
Organization:
Address: 428 Kochia Way
Address 2:
Address 3:
City: Sterling
State: CO
Zip: 80751
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The proposed SEZ plotting plan.

I don't believe that the Public Utilities should be able to do anything with land they do not already possess. They don't deserve it. I've already lost enough to the taxes paid on my Energy Bill. and I simply do not feel they will ever deserve my trust again. They canceled the Rebate Program for Consumers, and now they want Eminent Domain for more property in Reservations and BLM land.

So I say NO.

Thank you for your comment, william poleson.

The comment tracking number that has been assigned to your comment is SolarD10110.

Comment Date: March 11, 2011 11:35:24AM
Solar Energy Development PEIS
Comment ID: SolarD10110

First Name: william
Middle Initial: w
Last Name: poleson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a conservative but, with continued use and growth of the solar power industry, prices will come down and efficiency will improve and the government subsidy can be reduced, I hope. Any industry that can't exist without government involvement should not. In the meantime drill for oil and gas and dig more coal for cleaner non arab energy.

Thank you for your comment, Chuck Bell.

The comment tracking number that has been assigned to your comment is SolarD10111.

Comment Date: March 13, 2011 17:37:15PM
Solar Energy Development PEIS
Comment ID: SolarD10111

First Name: Chuck
Middle Initial:
Last Name: Bell
Organization: Lucerne Valley Economic Development Assoc. (LVEDA)
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

LUCERNE VALLEY ECONOMIC DEVELOPMENT ASSOCIATION (San Bernardino County – Calif.) Chuck Bell, Pres. 760 964 3118 chuckb@sisp.net

RE: SOLAR PEIS

Oppose all utility-scale “renewable” projects until the grid can fully accommodate its power without siphoning it off due to capacity constraints – decelerating/accelerating base load coal/natural gas/nuclear generation to accommodate it (which increases emissions/wastes power/disrupts systems, etc).

“Fast tracking" is unraveling a multitude of conservation efforts that citizens and BLM have spent decades implementing.

We're screwing up the integrity of the Calif. Desert - partitioning it out w/o a comprehensive plan - losing the "whole" of it by giving away its "parts".

Ft. Irwin's (base expansion) and Ivanpah's (solar project) experiences indicate tortoise relocations don't work well enough to constitute "full" mitigation. There's a lot more than tortoise that need protection - a multitude of other habitats - open space - etc.

Relying on off-site "conservation" lands to compensate these project impacts might be a "feel good" measure - but the demand will far outpace the supply (much of which is already set aside for conservation and multiple use) - we're just moving stuff around - the Counties lose tax base when private lands are transferred to BLM/DFG/etc. - plus reduces areas for other legit. multiple uses.

SOLUTIONS:

Halt solar/wind application processing until "Programmatic" is finalized/implemented.

Look at the desert as a "whole" - an "Energy Plan" with zoning and/or specific siting criteria - determine the "right" places.

Acknowledge that the acreage requirement per solar/wind MW is a poor/marginal tradeoff of desert resources within the total mix of energy options.

Projects on BLM currently under processing that are in "wrong" locations - per the Plan - could be transferred to "approved" locations with minimal cost and burden to applicants.

DOI eliminate its "fast tracking" practice of trumping BLM in final actions!

BLM increases its lease rates commensurate with the average cost of leased/purchased private parcels (ie: fallowed ag. land, etc. that can't be used for anything else in today's market) - leveling the playing field for private property owners to benefit from these projects - quit subsidizing the use of public land at the expense of free market options.

BLM/CEC/etc. require all applicants for public land sites to present a detailed analysis of options to use private parcels for their

projects prior to initiating any formal processing. Adopt policy: ""Fill up rooftops - parking lots - fallowed ag. lands with solar/wind -where necessary infrastructure exists - (which alone should be sufficient to meet "renewable goals") --- before considering the use of the Plan's "zoned" public land"".

Thank you for your comment, Milt Hetrick.

The comment tracking number that has been assigned to your comment is SolarD10112.

Comment Date: March 13, 2011 21:25:17PM
Solar Energy Development PEIS
Comment ID: SolarD10112

First Name: Milt
Middle Initial:
Last Name: Hetrick
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: BLM_PEIS_ReviewCommentsHetrickFinal.docx

Comment Submitted:

The BLM Draft Programmatic Environmental Impact Statement (PEIS) goes a long way in capturing today's consciousness in a comprehensive assessment of the impact of proposed utility-scaled solar power generation systems to be deployed on public land. The PEIS website is an outstanding application of today's technology for disseminating public information.

My detail comments are provided in the attached Word file.

Review Comments on

CURRENT AND PROPOSED BUREAU OF LAND MANAGEMENT SOLAR ENERGY DEVELOPMENT POLICIES AND DESIGN FEATURES

(*Draft Solar PEIS December 2010)*

Contents

Introduction

We live in a unique era of knowledge – an exciting fast paced era of evolving awareness and consciousness. The BLM Draft Programmatic Environmental Impact Statement (PEIS) goes a long way in capturing today's consciousness in a comprehensive assessment of the impact of proposed utility-scaled solar power generation systems to be deployed on public land.

My particular perspective is one of a retired engineer/physicist (i.e. aerospace engineer), now an elder and advocate for planet Earth[i]. From this viewpoint, I am keenly aware of the ecological stress the ever growing number of humans is having on our global life system. That being said, I still support the responsible development of new tools and technology that allow humans to evolve socially, to extend their consciousness and to exercise their mindful creativity.

Because planet Earth has evolved life that depends on/requires energy from the Sun to animate its accumulated star stuff, emphasis on harvesting sunlight incident on land (including that under BLM stewardship) and sea is of primary importance to life's (and our) continuing existence. Because today, many of our actions, including the consumption of ancient non-renewable energy reserves, and introduction of green house gases into the atmosphere, are unsustainable.

As we humans become more conscious, we realize that along with basic human rights & individual freedoms come personal responsibility to act in right relationship with both our human and our non-human global family. There is an emerging concept of Ecomorality[ii] involving the ethics of sustainability. In the frame of Ecomorality, our consumption/harvesting of Ancient Sunlight (petroleum, coal, natural gas, tar sands, shale oil, etc.)[iii] for any use other than to not have to use Ancient Sunlight is unethical/immoral. For example, an ethical use of our dwindling supply of this non-renewable resource might be to manufacture wind turbines for a wind farm or a photovoltaic solar power generation system that can be substituted for a coal burning power plant.

Land Use Philosophy #1. Harvesting current sunlight for food energy. Biologists using DNA/RNA analysis have given us the three-domain classification system[iv] to differentiate the diverse (but interdependent) forms of life (past and present) on planet Earth: archaea, bacteria, and eukaryote domains. We humans (a twig of the eukaryote branch) have evolved to be totally dependent on the energy of the Sun for our daily supply of food energy. But because of our evolved cellular complexity, capability, and adaptability, humans, of course, cannot simply stand in the Sunlight, absorb the electromagnetic energy and convert it into useful chemical energy needed by our cellular furnaces (mitochondria). We became totally dependent on our plant cousins to harvest current sunlight and make the initial photosynthetic conversion

to glucose (chemical energy). Then, of course, we harvest plant life and other animal life (that have already harvested plants) for our human subsistence. Sustainable land-based and sea-based sunlight harvesting for food using natural solar plants remains our number one priority. It appears the 24 SEZs selected by the BLM in the 6 western States lack adequate water rights for the land to support sustainable agriculture other than natural harvesting by grazing/foraging animal life. But nevertheless, the land is currently harvesting sunlight and producing food for the natural habitat (wild life and soil microorganisms).

Land Use Philosophy #2. Harvesting current sunlight for tool energy. In addition to naturally harvesting current sunlight for food, the BLM land can also be used to harvest sunlight sustainably to produce electrical energy needed for the technology/tools that extend human capability. These human "tools" include home appliances that heat and cool our homes, wash and dry our clothes, help prepare, process, cook, and store our food, provide light; electric vehicles for transportation; machinery for manufacturing, equipment for design and development and research, and equipment for health care, for communication, for entertainment, etc. The DoE has identified several applicable utility-scale solar power generation technologies that can be located on BLM land to harvest current sunlight.

Comments about PEIS – General

The BLM Draft Programmatic Environmental Impact Statement (PEIS) goes a long way in capturing today's consciousness in a comprehensive assessment of the impact of proposed utility-scaled solar power generation systems to be deployed on public land.

The PEIS website is an outstanding application of today's technology for disseminating public information.

Comments about PEIS – Specific

1) Although probably present somewhere in the 11,000 pages, I did not find a Life Cycle Assessment or a Social LCA. To evaluate multiple proposals, the amount of Ancient Sunlight (petroleum, coal, natural gas, etc) , water and other natural resources consumed in manufacturing the harvesting system should be available for comparison of alternatives. Likewise the LCA would identify the amount of "waste" products, contaminants, pollutants generated/released into the air/water during the manufacturing process / installation / operation of the system.
2) Based on past performance of regulated profit-oriented monopolistic utilities, I would be concerned about the decommissioning phase of the power system. The PV systems should last 20-25 years before the cells have degraded to the point they need to be replaced. It is suggested that an escrow fund be established up front by the power company to cover decommissioning / recycling costs. Otherwise the contractor will have a tendency to take their monopolistic profits for 25 years and bail out leaving the taxpayer to cover the cost of recycling/restoring the BLM land.
3) As an un-informed reviewer of section **A.2.2.10 Design Features for Water Resources**, I was shocked that coarse screening did not eliminate sunlight harvesting technologies that require significant water usage – specifically for application in the 24 SEZs contained within the 6 western states where water resources are already scarce. Then I did find in Table A.2-2 of section A2.3 Solar Energy Zone-Specific Design Features, that for specific zones, e.g. ***Colorado:*** Antonito Southeast - *Water Resources*: Water resource analysis indicates that wet-cooling options would not be feasible.
4) If water is available, then I would question why electrolysis systems that generate clean hydrogen were not considered feasible within the Foreseeable Future (next 20 years). Hydrogen remains a viable sustainable candidate for transportation fuel and is a basic component for the production of today's chemical fertilizer[v]. Currently the production of fertilizer is unsustainable because: 1) current hydrogen is made from non-renewable Ancient Sunlight (so called "clean" natural gas) and 2) the process of converting natural gas to hydrogen releases millions of tons of CO_2 into the atmosphere[vi].
5) It is not clear if any of the 24 SEZs are also candidates for co-harvesting wind energy.

6) It would be unethical to "scrape" the land of its natural life forms/habitat just to make the installation of the solar system "easier" because natural harvesting is already in place to support the non-human life in the SEZs. BLM project "Design Features" should clearly state that **the proposed solar power system will co-habitat the BLM land.** Some suggestions on how this **"design feature"** may be further accentuated in the PEIS are provided below using Appendix A**.**

7) There did not seem to be any mention of the concept of selecting a solar system that was designed specifically for a "Cradle to Cradle" philosophy – where at the end-of-life, the system is decommissioned and used as the input for the next use of the raw materials. Using Ecomorality principles, an ethically designed solar harvesting system could be completely recycled – in an ideal sustainable world not a single atom would be considered as waste and get hauled to a land fill. Some suggestions on how this **"design feature"** may be further accentuated in the PEIS are provided below using Appendix A**.**

PEIS APPENDIX A (Annotated) - Reviewer comments are indicated in Red Text

Draft Solar PEIS December 2010

A.2.2.1 Design Features for Lands and Realty

10
11 • If a proposed action might have an adverse effect on prime and unique
12 farmland **(or other natural solar harvesting processes involving native plants, animals, etc.)**, this possibility must be discussed in the associated environmental
13 analysis, along with a consideration of alternatives or appropriate mitigation
14 measures.

1 **A.2.2.8 Design Features for Soil Resources and Geologic Hazards**

31Project developers shall implement the design features for soil resources given below and
32 develop others that address unique site conditions not anticipated here. Routine site inspections
33 shall be conducted to identify and correct improperly installed, damaged, or ineffective design
34 features. Inspections shall be made more frequently during the rainy season and during and
35 following intense rainfall events to ensure the timeliness of corrective actions.
36
37
38 ***A.2.2.8.1 Siting and Design***
44
45 • Project structures and facilities should be sited to avoid disturbance in areas
46 with existing biological soil crusts to the extent possible. **The design shall include a quantitative assessment of existing natural solar harvesting (e.g. in terms of annual biomass generated, CO_2 sequestered, heat balance, etc.) and if/and to what extent the proposed solar energy harvesting will impact the current natural process.**

[Note #1 : The ideal siting and design layout allows the combined harvesting of sunlight as both biomass (chemical energy) and electrical energy – i.e the two processes are not necessarily mutually exclusive.
[Note #2: After the solar energy system power transmission infrastructure has been designed, the SEZ should be re-evaluated for feasibility of adding a wind farm for additional electrical power generation at this site]
47

1 • Project areas shall be replanted with native vegetation at spaced intervals to
2 the extent possible to break up areas of exposed soil and reduce soil loss by
3 wind erosion.

4

1 **A.2.2.8 Design Features for Soil Resources and Geologic Hazards**

11 ***A.2.2.8.2 General Multiphase Measures***

7 • A spill prevention plan to identify sources, locations, and quantities of
8 potential chemical releases (through spills, leaks, or fires) and define response
9 measures and notification requirements shall be developed and followed to
10 reduce the potential for soil contamination. The plan shall also identify
11 individuals and their responsibilities for implementing the plan.

Suggestion: The development of a comprehensive Soil Integrity Control Plan for the SEZ should be considered. This plan would acknowledge, collect, integrate all the soil subculture issues addressed throughout the PEIS (e.g. Spill Prevention Plan and other related issues that focus on Soil Contamination Control; wind and water erosion; consideration of microorganisms relative to herbicides/pesticides/dust control, etc;) as well as issues that may not yet be included such as energy/heat balance changes as equipment/panels are added, diversion/evaporation of natural precipitation, effects of leaking electrical potentials, EMI/EMF phenomena, etc. The Soil Integrity Control Plan would cover the entire project life cycle from site survey, construction, checkout/startup, operation and extend through de-commissioning. The Soil Integrity Control Plan would simply apply the emerging principles of Ecomorality (the ethics of sustainability) and assure the BLM project is implemented in "right relations" with planet Earth.

[An Air and a Water Integrity Control Plan are also recommended]

1 **A.2.2.11 Design Features for Ecological Resources**

14 ***A.2.2.11.2 General Multiphase Measures***
15
16 General design features for eliminating or reducing impacts on plant communities and
17 habitats, wildlife resources, aquatic resources, and special status species that apply to all or
18 nearly all of the project phases include the following:
19
20 • Project developers shall designate a qualified biologist who will be
21 responsible for overseeing compliance with all design features related to the
22 protection of ecological resources throughout all project phases, particularly in
23 areas requiring avoidance or containing sensitive biological resources, such as
24 special status species and important habitats. Additional qualified biological
25 monitors may be required on site during all project phases as determined by
26 the BLM, USFWS, and appropriate state agencies. **The design shall include an assessment of existing natural solar harvesting (e.g. in terms of annual biomass generated, CO_2 sequestered, heat balance, etc.) and if/and to what extent the proposed solar energy harvesting will impact the current natural process.**
27
28 • All personnel shall be instructed on the identification and protection of
29 ecological resources (especially for special status species), including
30 knowledge of required design features.

[Note: This planned personnel training is an excellent feature. It might include discussion of today's DNA/RNA based Tree of Life. Seeing the human connection with all life on the planet can instill a sense of respect for the land (and non-human life) in those who design, install, operate, and de-commission this project. It might include a discussion of Ecomorality(the ethics of sustainability –including the design principles of "cradle to cradle" that eliminates all "waste" – everything is recycled – nothing ends up in a landfill at end of life)]

1 maintain wildlife habitat, maintain soil health, and reduce erosion potential.
2 All short (i.e., less than 7-in. [18-cm] tall) native vegetation shall be retained
3 to the maximum extent possible. **Blading within the project site shall be**
4 minimized to the maximum extent possible. Where necessary and feasible,
5 shrub cover may be mowed and/or raked to smooth out the surface. Retention
6 of native root structure and seeds within the project area would help retain
7 soil stability, minimize soil erosion, and minimize fugitive dust pollution.
8 Retention of native seed and roots within the project site will also facilitate
9 recovery of vegetative cover. Use of native plant species will minimize the
10 need to water the vegetation, because native species are already adapted to the
11 local climate and moisture regime of the area.

Conclusions

- The Draft PEIS is an impressive compilation of diverse expertise. Excellent job.
- Do place a value on the current harvesting of sunlight that has evolved in these SEZs – it may look like meaningless sagebrush, cactus, dessert grass, rodents and reptiles, etc., but it has evolved as nature's way to harvest current sunlight and must be respected.
- Do continue to assure that the selected contractor will design, develop, install, operate and de-commission a solar power generation system that is in "right relations"[vii] with the BLM land – that will co-habitat with the existing natural harvesting system that is already in place. We need both for a sustainable future.
- Do use the insights gained from a Life Cycle Assessment (LCA) as a yardstick for selecting the most appropriate technology as well as a SLCA.
- Do look at including the "Cradle to Cradle" design philosophy as a necessary feature. Assure that the products deployed for 30 years, when de-commissioned become the input for new evolving processes (can be efficiently recycled into other sunlight harvesting or other products/tools). Our human power generation creation should mimic nature where there is "Zero Waste."
- Don't forget the possibility of solar powered hydrogen generation technology within the next 20 years – Sorry but natural gas is not clean (nor is it sustainable) despite all the propaganda by the current energy companies. Clean hydrogen may be the sustainable transportation fuel and source of agricultural fertilizer within 20 years.
- Do try to further develop and employ the concepts of Ecomorality: the ethics of sustainability e.g. No ancient sunlight or ancient water is to be used except to avoid the future use of same.

Respectfully submitted,

Milt Hetrick
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ENDNOTES

[i] M. Hetrick retired from Lockheed Martin in 2002 as a manager in propulsion engineering, and continued to work as a part-time employee until 2010. His background is in aeronautical astronautical engineering (BAAE, The Ohio State University) and physics(MS, University of Denver). Between 1979 and 1982, he worked for Science Applications Inc. on small DOE contracts and for The Oil Shale Company (TOSCO), before returning to aerospace engineering.

[ii] ***At such time that the History of Nature becomes known, and celebrated, as the core of every body's faith, then ecomorality, and its attendant commitment to achieve sustainability, will emerge as a guiding planetary principle.*** [Ref: **Chapter 30: Ecomorality: Toward Ethics of Sustainability**, by Ursula Goodenough; from ***"A Pivotal Moment: Population, Justice & the Environmental Challenge,"*** *edited by Laurie Mazer.*]

[iii] **Ancient Sunlight**- used to denote petroleum, coal, natural gas, oil shale, tar sands, etc. – complex hydrocarbon molecules believed to have formed around 400 million years ago during the so called Carboniferous Period, when there was a large amount of carbon dioxide in the atmosphere. Over an estimated 70 million year period, sunlight stimulated the photosynthesis process that captured, sequestered much of this carbon and in this process patiently captured, converted and stored a significant fraction of the sun's electromagnetic energy (light) incident daily on the planet in the form of biomass (plant life).
Because we currently perceive this one-time-only-supply of black stuff as an easy energy fix to burn in slave engines, we refer to it as "fossil fuel" - ignoring the fact that its usefulness far exceeds that of fuel. We ignore that the burning process returns the carbon to the atmosphere (in the form of carbon dioxide, etc.) where it resumes its role as a "greenhouse gas."
To be perfectly clear, ANY use of Ancient Sunlight is unsustainable. If we humans were fully conscious, we would only use Ancient Sunlight so as not to have to use Ancient Sunlight. For example, using Ancient Sunlight to make a wind turbine that generates electrical power from wind energy might be a conscientious use of this one-time-only reserve- we are using Ancient Sunlight to harvest current sunlight. *An excellent easy to read reference on this topic is "The Last Hours of Ancient Sunlight," by Thom Hartmann.*

[iv] [Ref: http://en.wikipedia.org/wiki/Three-domain_system]

[v] [Ref: http://en.wikipedia.org/wiki/Hydrogen#Industrial] Industrial production of hydrogen is mainly from the steam reforming of natural gas…[7] with the two largest uses being fossil fuel processing (e.g., hydrocracking) and ammonia production, mostly for the fertilizer market.

[Ref: http://en.wikipedia.org/wiki/Haber_process] The Haber process is important because previous to its discovery, ammonia had been difficult to produce on an industrial scale, and fertilizer generated from ammonia today is responsible for sustaining one-third of the Earth's population.[5] It is estimated that half of the protein within human beings globally is made of nitrogen that was originally fixed by the Haber process, the remainder was produced by nitrogen fixing bacteria.[6] By far the major source of the hydrogen required for the Haber-Bosch process is methane from natural gas **(This method of producing hydrogen is unsustainable, but could be transformed to a sustainable process if the hydrogen were produced sustainably – i.e. by harvesting current sunlight to produce electrical power for the electrolysis of water and clean production of hydrogen.)**

Synthesis gas preparation - today's unsustainable approach
(Using our current unsustainable process) First, the natural gas **(mostly methane)** is cleaned, mainly to remove sulfur oxide and hydrogen sulfide impurities that would poison the catalysts of the Haber process. The clean methane is then reacted with steam over a catalyst of nickel oxide – the process of steam reforming:

$CH_4 + H_2O \rightarrow CO + 3\ H_2$

Secondary reforming then takes place with the addition of air to convert the methane that did not react during steam reforming.

$2\ CH_4 + O_2 \rightarrow 2\ CO + 4\ H_2$

$CH_4 + 2\ O_2 \rightarrow CO_2 + 2\ H_2O$

Then the water gas shift reaction yields more hydrogen from CO and steam.

$CO + H_2O \rightarrow CO_2 + H_2$

The gas mixture is now passed into a methanator[8] which converts most of the remaining CO into methane for recycling:

$CO + 3\ H_2 \rightarrow CH_4 + H_2O$

This last step is necessary as carbon monoxide poisons the catalyst. (Note, this reaction is the reverse of steam reforming). The overall reaction so far turns methane **(Ancient Sunlight)** and steam into carbon dioxide **(Greenhouse gas)**, steam, and hydrogen.

Ammonia synthesis – Haber process

The final stage, which is the actual Haber process, is the synthesis of ammonia using an iron catalyst promoted with K_2O, CaO and Al_2O_3:

$$N_2\,(g) + 3\,H_2\,(g) \rightleftharpoons 2\,NH_3\,(g) \quad (\Delta H = -92.22\ kJ{\cdot}mol^{-1})$$

This is done at 15–25 MPa (150–250 bar) and between 300 and 550 °C, passing the gases over four beds of catalyst… On each pass only about 15% conversion occurs, but any unreacted gases are recycled, so that eventually an overall conversion of 98% can be achieved. [vi] [Ref: http://www.ieabioenergy-task38.org/publications/GHG_Emission_Fertilizer%20Production_July2004.pdf] The major GHG emissions associated with nitrogen-containing fertiliser production are carbon dioxide (CO2) emitted when natural gas is combusted as part of ammonia synthesis. (on the order of 2000 gm of C O2 / kg of fertilizer)… The production of fertilisers demands much energy and generates considerable greenhouse gas (GHG) emissions. Kongshaug (1998) estimates that fertilizer production consumes approximately 1.2% of the world's energy and is responsible for approximately 1.2% of the total GHG emissions.

[vii] **Right Relationship**

[Ref: Right Relationship: Building a Whole Earth Economy"by Peter G. Brown and Geoffrey Garver **]**

…"A thing is right when it tends to preserve the integrity, resilience(stability), and beauty of the common wealth of [all] life. It is wrong when it tends otherwise." pg 5.

[Ref: **Chapter 30: Ecomorality: Toward Ethics of Sustainability**, by Ursula Goodenough; from "A Pivotal Moment: Population, Justice & the Environmental Challenge," edited by Laurie Mazer.]

Another perspective of "right relations" is provided by Ursula Goodenough:

And now we are called to recognize our deep affiliation with, as well as dependence on, all the creatures and habitats of the planet. This realization has been translated as an invocation to be stewards, to take responsibility for reversing the many alarming trajectories the planet is taking. But "stewardship" puts us back into the mind frame of humans-as-other, hence I better resonate with the invocation that we be participants in establishing ***right relations*** *with our fellow beings and our earthly habitat.*

Thank you for your comment, william crum.

The comment tracking number that has been assigned to your comment is SolarD10113.

Comment Date: March 14, 2011 10:53:19AM
Solar Energy Development PEIS
Comment ID: SolarD10113

First Name: william
Middle Initial: g
Last Name: crum
Organization: US Mil Ret
Address:
Address 2:
Address 3:
City: col
State: OH
Zip: 43220
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of alternative energy b eing developed on Federal lands [which belong to all] across not only the initial site but all across the USofA. I would also include Federal Highways, all Federal property and Parks. We see the horror on TV each day with our friends in Japan. Reportedly Japan is the "BEST" prepared of all nations.

We should move immediately, because of the above, and the National Green programs, long term international competitive positiom, and our present position with alternative power.

Should natural or manmade disaster occurr and at some time in the future it will, efforts at that point are too late.

Japan, Russia and our own experience with nuculear power [3 Mile Island, Military] suggest we are not ready to depend on that vehicle at crunch time.

Thank you for your comment, Patricia Johnson.

The comment tracking number that has been assigned to your comment is SolarD10114.

Comment Date: March 14, 2011 12:51:07PM
Solar Energy Development PEIS
Comment ID: SolarD10114

First Name: Patricia
Middle Initial: H
Last Name: Johnson
Organization: Resident
Address: P.O.Box 1181
Address 2: 159 Moonlight Way
Address 3:
City: Crestone
State: CO
Zip: 81131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Two small comments: First, At point installation should be given a priority, as the High Intensity Power Lines are not involved. However, there is a great abundance of land in the San Luis Valley that is not being used or is under used. I am not opposed to using BLM lands for Solar Plants, after Due Diligence is properly performed.
Second: Water must be of the utmost importance in any planning of land use. Not only the purity of our water guaranteed, but also use of Wetlands must be protected. I have been told that there are no (present) plans to use Wetlands for Solar Plants, however, if they do, new Wetlands would be engineered to provide for the wildlife. This will not work. Wetlands must be preserved.
Thank You.

Thank you for your comment, clarice Davis.

The comment tracking number that has been assigned to your comment is SolarD10115.

Comment Date: March 14, 2011 15:26:28PM
Solar Energy Development PEIS
Comment ID: SolarD10115

First Name: clarice
Middle Initial: L
Last Name: Davis
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Using little or no water. That would be number 1. 2nd would be using local or at least American businesses. 3rd would be taking time to really figure out how successful these Solar/wind farms would be. 4th would be how inviromentally compatible they are...

So far it seems to be a battle of who has the most money or pull in getting these things built. And in the end it will still cost us consumers more no matter how it is done. But NOT using Arizona water should be the first condsideration. Thank you for your attention.

Thank you for your comment, Andrew Parker.

The comment tracking number that has been assigned to your comment is SolarD10116.

Comment Date: March 14, 2011 17:30:00PM
Solar Energy Development PEIS
Comment ID: SolarD10116

First Name: Andrew
Middle Initial: C
Last Name: Parker
Organization:
Address: 3969 S PHARAOH RD
Address 2:
Address 3:
City: West Valley City
State: UT
Zip: 841231276
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Some of my comments are Utah-centric.

I am not opposed to solar energy, as long as it is restricted to rooftops and parking lots. Rube-Goldberg schemes to pave the West's valleys would be an environmental and aesthetic disaster with little or no impact on demand for fossil fueled and nuclear power plants. Subsidies to solar and wind power will drive electricity costs up, unnecessarily.

Putting aside CO2 concerns, the environmental impact of a coal mine, oil or gas field feeding a modern power plant is far, far less than a wind or solar farm of equivalent electric output; and it can provide base load and peak demand power at any time of the day or night. (that is not to say that I blindly support coal, oil and gas powered electricity.)

If you are dead set on going through with this environmental and economic harakiri, I would suggest the following:

- Drop the Wah Wah Valley from your SEZ list.

- You appear to have located the other two SEZ's in or adjacent to existing agricultural and industrial zones (I hope the wind farms have not scarred the Wah Wah yet), and close to transportation and transmission lines. That is begrudgingly acceptable.

- Require that developers of these SEZs have an approved restoration plan that remains fully funded (to adjust for inflation, changing regulations, etc..) throughout the life of the project. A few isolated rusting hulks remaining from previous human activities may appear aesthetically pleasing to some, but thousands of acres of derelict solar panels (and windmills), may be hard to take for future generations, though it could serve as a lasting monument to monumental stupidity.

- No subsidies (including pricing guarantees). Maybe, just maybe, a solar farm can be economically justified if it provides high priced peak demand power during hot summer days -- but I doubt it.

Thank you for your comment, Alice Alexander.

The comment tracking number that has been assigned to your comment is SolarD10117.

Comment Date: March 15, 2011 10:32:38AM
Solar Energy Development PEIS
Comment ID: SolarD10117

First Name: Alice
Middle Initial: A
Last Name: Alexander
Organization: Pawnee Nation of Oklahoma
Address: Tribal Historic Preservation Office
Address 2: 657 Harrison
Address 3: Post Office Box 470
City: Pawnee
State: OK
Zip: 74058
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for submitting the referenced project proposal for our review and comment. Our comment on this project and its potential to affect historic properties is required by Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations 36 CFR Part 800.

Given the information provided, the Pawnee Nation has no known historic properties that would be affected by the project as proposed. Therefore, in accordance with 36 CFR 800.4(d) (1), you may proceed with the project(s) as planned.

Please retain this correspondence and your documented finding in order to show compliance with Section 106 of the National Historic Preservation Act, as amended. If you have any questions please do not hesitate to contact our office at (918) 762-3654 Ext. 24.

Thank you for your comment, Andrew Wang.

The comment tracking number that has been assigned to your comment is SolarD10118.

Comment Date: March 15, 2011 11:53:40AM
Solar Energy Development PEIS
Comment ID: SolarD10118

First Name: Andrew
Middle Initial:
Last Name: Wang
Organization: SolarReserve
Address: 2425 Olympic Blvd, Suite 500 East
Address 2:
Address 3:
City: Santa Monica
State: CA
Zip: 90404
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SolarReserve PEIS Comments 2011-03-15.pdf

Comment Submitted:

Attached PDF

SOLARRESERVE

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue - EVS/240
Argonne, IL 60439

March 14, 2011

To whom it may concern:

SolarReserve is a California-based developer of utility scale solar power projects. Our focus is to use molten salt power tower technology to capture the sun's energy, store it, and convert it into electricity both during times when sunlight is available and when it is not. SolarReserve is in the process of permitting projects on public land managed by the Bureau of Land Management (BLM) in California, Arizona and Nevada, and we are proud that our Crescent Dunes project in Tonopah, NV was one of the nine solar projects to receive a BLM right-of-way grant in 2010. We applaud the BLM's efforts to explore new ways to speed the development of solar on public lands by the implementation of new solar-specific policies in the Solar Programmatic Environmental Impact Statement (PEIS) and Record of Decision (ROD). SolarReserve believes its technology holds much promise in moving the country to a clean, reliable energy future and we urge the BLM to adopt policy choices in the Solar ROD and Final PEIS that support transparent, thorough, and efficient solar permitting in both Solar Energy Zones and other open areas of public land.

What worked right in the 2010 "Fast Track" Initiative

SolarReserve recognizes the importance of Secretary Salazar's leadership and focus on public land renewable energy as a Departmental priority. We understand that there are many competing resource demands on any individual BLM Field Office, but the consistent message from agency leadership of the importance of renewable energy to the country made the difference in 2010. Several procedural changes that were implemented to facilitate the development of the 2010 Fast Track projects were critical to success. These 2010 Fast Track initiatives should be retained and strengthened as a part of this PEIS. Among these were:

- BLM's Renewable Energy Coordination Offices,
- additional, trained BLM staff to assist in permitting,
- coordination *within* the Department (BLM, U.S. Fish and Wildlife Service) and *among* other federal (Departments of Defense and Transportation), state and local agencies,
- a clear permitting timeline – December 31, 2010 – to work towards, and
- Secretarial approval of right-of-way grants.

What is helpful in the Solar PEIS

SolarReserve supports the BLM's "Solar Energy Development", Preferred Alternative to identify and incentivize the use of Solar Energy Zones (SEZs) while continuing to provide for solar energy development in other otherwise compatible areas of public land. The Preferred Alternative would allow for the most efficient (time and cost) development of utility grade solar energy on public lands and it will provide a comprehensive analysis and mitigation recommendation for solar energy that should result in a more rapid recognition of both environmental benefits (reduced carbon/pollutants) and economic benefits (taxes, rents, clean tech jobs).

www.SolarReserve.com Tel: (310) 315.2200 Fax: (310) 315 2201
2425 Olympic Boulevard Suite 500 East Santa Monica, CA 90404

Although some argue that the SEZ acreage alone is sufficient, as solar project developers we would respectfully disagree. While the selected SEZ areas may be good sites for utility grade solar from BLM's land management perspective (i.e., resource conflict avoidance), from our perspective as a company trying to develop a new energy source and deliver it to the market at an economical cost, there are additional critical business considerations (e.g., transmission capacity, water availability, FAA and military coordination, site access, geotechnical, etc.) that could make some of the SEZ areas challenging. SolarReserve would also argue that there are other sites with pending applications that should be included as either additions to the SEZs or remain available for prioritized permitting as the situation warrants.

Maximum siting flexibility is critical to the solar industry at this stage of development. Utility scale solar energy is at an early stage, and there are still many unknowns that can only be answered as solar technology is implemented over time in a variety of locations. We are concerned that a more limited area of public land opened for solar energy development (SEZ-only alternative) may prove inadequate and inappropriately constrict the development of solar energy as these "unknowns" are answered over the next decade. These evolving issues include:

- *Technology* – how will solar technology gain in efficiency, reduce its footprint, or what new technological challenges may develop?
- *Economics* – what is the pace of economic recovery, how will the recovery of the economy be reflected in equity, debt and public financing for clean technologies?
- *Political Support* for – will renewable energy portfolio standards (RPS) and other support for renewable energy at state, local and national levels increase or decrease?
- *Transmission* – is there adequate capacity on existing transmission and when, where, and how will transmission be developed?
- *Utility Company Appetite* – is purchase of renewable energy it static, growing, or diminishing in a particular market?
- *Environmental Impacts* – a limitation today (e.g., water) may be addressed in time or as-yet unidentified environmental or resource constraints (e.g., new ESA listings or new DOD conflicts) may constrain development?

In addition to our successfully permitted Crescent Dunes Solar Energy Project, SolarReserve has BLM applications pending in non-SEZ areas that we believe are good sites from a business perspective and siting analysis – strong solar resource, few resource conflicts, adjacent to transmission, and a market for the power plant output. If a SEZ-only approach were followed or if the BLM direction was to only prioritize SEZ projects, SolarReserve is concerned that these non-SEZ projects would deprioritized and delayed due to inattention. SolarReserve believes at this comparatively early stage of solar energy development it is important to support sufficient project development so that we can more rapidly "learn by doing" and advance our industry to the level of efficiency and reliability that can best serve our nation's long-term energy demands.

We also generally agree with the areas that BLM has identified as not suitable for solar development, but approve of the agency's intent to allow the use of some of these "off-limit" areas for supporting infrastructure. In addition, in large measure, SolarReserve supports the Proposed Solar Energy Development Policies performance standards described in Appendix A. This type of broad siting guidance allows the solar industry to plan from the start of project development to meet standards that can reduce environmental impacts. We identify some areas below for improvement.

SOLARRESERVE

SEZ Incentives for Consideration in the Solar PEIS

SolarReserve suggests that BLM incentivizes the use of SEZs rather than prohibit development outside of SEZs. We have several suggestions that we believe support the use of SEZs by expediting and making more certain the permitting process on federal land. When the Solar PEIS process was initiated, the intent was to amend the relevant Resource Management Plans (RMPs) in a manner that would allow for solar development and expedite the permitting process by tiering from a project environmental document to the Solar PEIS. In June 2009, Secretary Salazar directed that the Solar PEIS be modified to also identify and analyze solar energy zones where solar development would be the priority for those lands. We are concerned that the level of environmental analysis in the Draft PEIS may not support significant tiering and offer some suggestions.

- First, three areas that are technically complex, costly and have a potential for project delay are compliance with the National Historic Preservation Act Section 106 consultation process, the Endangered Species Act Section 7 consultation process, and the Clean Water Act Section 404 wetlands delineation process. Each of these processes requires extensive, site-specific survey requirements, and consultation among federal agencies or in the case of NHPA, government-to-government consultation with tribal groups. A valuable incentive in the SEZ would be for a reduced survey requirement either on the basis of the environmental work that was conducted in the PEIS or as the result of government conducted baseline surveys (biological, wetlands and cultural). This survey information could be used by the BLM to both geographically guide and streamline the right-of-way application phase. Reimbursement for the survey work can be captured later in the cost-recovery agreement between the applicant and the BLM. In addition with the involvement of the solar industry/applicant, this BLM survey work could lead to the development of agreements that would improve the SEZ permitting process. For example, a NHPA Programmatic Agreement among the BLM, Advisory Council, state and tribes, ESA § 7 conservation plan with FWS and relevant state wildlife agency and a wetlands mitigation agreement or nationwide or state-wide rule developed with the Army Corps of Engineers.
- Second, as a solar power tower developer, visual resource management (VRM) class designations can restrict the development of our technology. We suggest that the final Solar PEIS provide that a SEZ, by definition, is a VRM Class IV – an area where high visual contrast is acceptable.
- Third, the Solar PEIS should also include an efficient process to add areas to the SEZ – for example, an expedited (Environmental Assessment) and targeted Plan Amendment process.
- Fourth, incentives around transmission and gen-tie connection need to be provided by the Solar PEIS to support and incentivize the use of the SEZs for transmission purposes. Limited transmission capacity is a major hurdle within renewable power industry.
- Fifth, the final Solar PEIS and ROD should accomplish the goal of "green-lighting" the SEZ for solar development and not require any further RMP Amendments to permit solar development. It is frustrating to discover at the permitting stage that an area identified in an RMP as appropriate for solar development has other resource constraints that will require a Plan Amendment for a solar project to move forward.

Thank you again for the opportunity to provide constructive comment during a pivotal stage of growth and development of the solar power industry. We would be glad to engage in follow on discussions to the extent that it would assist BLM through the PEIS process in 2011.

Sincerely,
SolarReserve

www.SolarReserve.com Tel: (310) 315.2200 Fax: (310) 315 2201
2425 Olympic Boulevard Suite 500 East Santa Monica, CA 90404

Thank you for your comment, Cynthia Jones.

The comment tracking number that has been assigned to your comment is SolarD10119.

Comment Date: March 15, 2011 20:46:01PM
Solar Energy Development PEIS
Comment ID: SolarD10119

First Name: Cynthia
Middle Initial: S
Last Name: Jones
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

To Whom it May Concern,

I have recently reviewed the map of proposed solar installations on BLM land surrounding Lake Tamarisk, Desert Center and the surrounding regions. I am not opposed to solar power, but I am highly concerned by the scale of the proposed installation.

I have several questions that I am hoping will lead to reconsideration of the scope of the proposed projects.

1. What will happen to the quality of life for the residents of that area?

My parents are in their 70's now. They lived in the Desert Center/Eagle Mountain area nearly 50 years. They choose to live there because of low population density, clean air and a generally high quality of outdoor life that is affordable. The proposed solar power installations around Desert Center will undoubtedly lead to a reduction in air quality that is likely to affect the elderly most significantly. Even more importantly, natural beauty has been shown to significantly enhance mental and emotional well-being and in fact is a fundamental precept of the field of Ecologial Psychology. These solar installations will have a dramatic and devastating effect on the natural beauty of this region, which will impact all permanent and seasonal residents in the community of Lake Tamarisk.

2. Dr. Robert J. Glennon, Morris K. Udall Professor of Law and Public Policy, University of Arizona, a leading scholar of water issues in the Southwest, has stated repeatedly that the energy issues in this country cannot be separated from fresh water issues. Where will the water come from that will be used to build and run these solar installations? I assume the water will be pumped from the Chuckawalla Valley Groundwater Basis. This aquifer currently supplies water for residents, plants and wildlife.

What will happen to groundwater levels in the region? In the region near XXX Arizona, the water table has been depleted to the point that the general level of the ground surface has dropped XX feet. The largest tree in the region, the Palo Verde, has declined dramatically in number because their roots can no longer reach the water table, which has had dramatic impacts on all of the species that depend on these trees, e.g. the unique Phainopepla, myriad and uncommon annual plants such as "Whispering Bells", and several species of bees and other insects. In the Desert Center area, centuries old creosote bushes and ironwood will be detrimentally impacted.

3. What is the plan for dealing with the spread of shade tolerant invasive species and the fire hazard that will result?

The solar panels, even if they are installed a few feet above ground level, will cast shade deep enough that the native shrub species are unlikely to survive. When this shade is coupled with the destruction of the soil crust (a unique community of microorganisms that takes years to form) during installation of the solar panels, the likely plants to return to the area will be invasive mustards that are highly flammable when they dry at the end of the season. Invasive species, particularly of grasses and other species such as the mustard, create sufficient fuel that fires in deserts are now a real and persistent threat. Unlike other regions of California, the deserts are not fire-adapted ecosystems and a single fire kill plants that are hundreds of years old, as has recently happened in Joshua Tree National Monument.

Why destroy wild land that offers maximum ecosystem services to the world when there is so much degraded and poorly used land

elsewhere? Why can't solar panels be placed over parking lots in cities, on top of large buildings or abandoned strip malls?

Thank you for your comment, Summit Lake Paiute Tribe.

The comment tracking number that has been assigned to your comment is SolarD10120.

Comment Date: March 15, 2011 22:12:59PM
Solar Energy Development PEIS
Comment ID: SolarD10120

First Name: Summit Lake
Middle Initial:
Last Name: Paiute Tribe
Organization: Summit Lake Paiute Tribe
Address: 1708 H Street
Address 2:
Address 3:
City: Sparks
State: NV
Zip: 894314337
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 031411 Comment on DOE BLM Draft Solar Energy PEIS.pdf

Comment Submitted:

The Summit Lake Paiute Council, governing body of the federally recognized Summit Lake Paiute Tribe hereby submits its Comment on the DOE-BLM Draft PEIS on Solar Energy Projects. The Tribe believes the PEIS falls far short of meeting the federal government's trust responsibility to Tribes and should give Tribes not only the same status as States but give Tribes a preference as set forth in the attached Comment.

SUMMIT LAKE PAIUTE TRIBE
Primary Administrative Office
1708 H Street, Sparks, NV 89431-4337
(775) 827-9670 (775) 827-9678 (fax)

SUMMIT LAKE PAIUTE COUNCIL
Chairman: Warner Barlese • Vice-Chairperson: Ernie Barlese
Secretary/Treasurer: Jerri Lynn Barlese • Council Member: Jerry L. Barr • Council Member: Randi DeSoto

March 14, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: Comment, Draft DOE-BLM Programmatic EIS for Solar Energy Development

Dear Madam or Sir,

By way of introduction, my name is Warner Barlese. I am the Chairman of the governing body of the Summit Lake Paiute Tribe (Tribe), the Summit Lake Paiute Council (Council).

In reviewing the Draft DOE-BLM (U.S. Department of Energy-Bureau of Land Management) Programmatic EIS (PEIS) for Solar Energy Development, I note that it appears that traditional territory of the Summit Lake Paiute Tribe, near the Summit Lake Reservation, is marked as "Lands available for Application – Solar Development Program". See Map Prepared December 2010, BLM-Administered Lands Being Analyzed for Solar Development and Proposed Solar Energy Zones in Nevada (Argonne National Laboratory (attached)).

The PEIS does not treat Tribes as a state relative to DOE's allocation of SEZ's (Solar Energy Zones) by state per renewable energy portfolio requirements as a driver for allocating solar project demand. This needs to be corrected not only as a matter of fairness but as a matter of the trust responsibility of the United States through DOE and BLM. This Tribe has an established renewable energy portfolio standard. For example the Tribe's Energy Portfolio in relation to long-term energy goals of the Tribe are:

- To guarantee the availability of affordable and reliable energy to all its members;
- To reduce the energy bills of tribal members and administration;
- To further the Tribe's goals for self-sufficiency;
- Self-Determination through empowerment in the Tribe's energy interests;
- To minimize the environmental impact of current and/or future development;
- To produce all of the Tribe's energy needs through renewable sources by 2025;
- To build sustainable homes and making existing buildings more efficient; and,
- To contribute to the Tribe's local economy consistent with the Tribe's cultural values.

Furthermore, the PEIS does not consider the interests of Tribes in getting first right of refusal/and or option for adjacent/proximate BLM surplus properties and the inherent ability of Tribes to acquire land or the right to use land for energy projects, including that was once their land before the United States stole same whether or not compensated by the U.S. Court of Claims or Indian Claims Commission. This needs to be corrected.

SUMMIT LAKE PAIUTE TRIBE
Primary Administrative Office
1708 H Street, Sparks, NV 89431-4337
(775) 827-9670 (775) 827-9678 (fax)

SUMMIT LAKE PAIUTE COUNCIL
Chairman: Warner Barlese • Vice-Chairperson: Ernie Barlese
Secretary/Treasurer: Jerri Lynn Barlese • Council Member: Jerry L. Barr • Council Member: Randi DeSoto

If you have any questions, please contact the Director of the Tribe's Environmental Protection Department, Ron Johnny.

Sincerely,

Warner Barlese
Chairman
Summit Lake Paiute Council

cc:
Members, Summit Lake Paiute Council
DOE Office of Indian Energy Policy and Programs by email: tribalconsultation@hq.doe.gov
BLM Winnemucca District Office: G Seidlitz, R. Mendez and M. Hall
BIA Western Nevada Agency Superintendent
Director, SLPT Natural Resources Department
Director, SLPT Environmental Protection Department

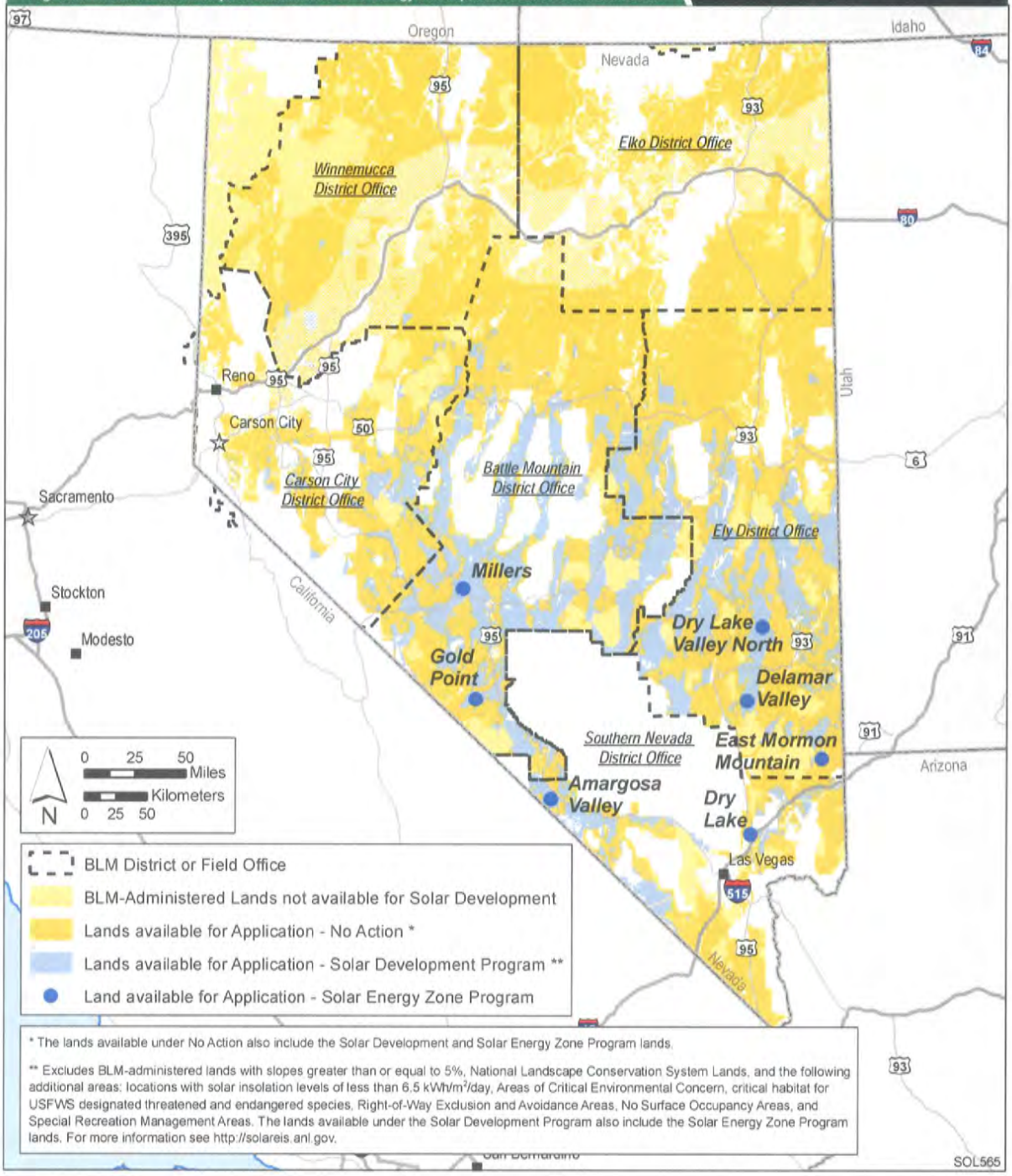
WB/rej

BLM-Administered Lands Being Analyzed for Solar Development and Proposed Solar Energy Zones in Nevada

Map Prepared December 2010

Property of the U.S. Departments of Energy and the Interior for use in preparation of their Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Argonne NATIONAL LABORATORY



Thank you for your comment, Milton Jones.

The comment tracking number that has been assigned to your comment is SolarD10121.

Comment Date: March 16, 2011 11:36:46AM
Solar Energy Development PEIS
Comment ID: SolarD10121

First Name: Milton
Middle Initial:
Last Name: Jones
Organization: Town of Saguache, Colorado
Address: PO Box 417
Address 2:
Address 3:
City: Saguache
State: CO
Zip: 81149
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Town of Saguache, Colorado, has no substantive comments on the Solar PEIS. However, the town trustees do want to go on record as saying that we expect to be very involved in any EIS and other planning that may take place on the De Tilla Gulch site, which is about four miles from the Saguache town limits.

We also share the concerns of Saguache County that at the present time the BLM does not appear to be factoring in a plan to share revenue from industrial-scale solar development with local governments.

Thank you for your comment, Hans Reolofs.

The comment tracking number that has been assigned to your comment is SolarD10122.

Comment Date: March 16, 2011 16:10:40PM
Solar Energy Development PEIS
Comment ID: SolarD10122

First Name: Hans
Middle Initial:
Last Name: Reolofs
Organization: Private citizen
Address: 449S 2050W
Address 2:
Address 3:
City: Cedar City
State: UT
Zip: 84720
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

In ref. to proposed SEZ in the BLM's Cedar City Ranger District, I am strongly opposed to approval of the listed acreage in the energy zones if the created energy is not totally being consumed in the State of Utah for the benefit of Utah residents.

Thank you for your comment, Christopher Lish.

The comment tracking number that has been assigned to your comment is SolarD10123.

Comment Date: March 17, 2011 00:21:26AM
Solar Energy Development PEIS
Comment ID: SolarD10123

First Name: Christopher
Middle Initial:
Last Name: Lish
Organization:
Address:
Address 2:
Address 3:
City: Olema
State: CA
Zip: 94950
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, Illinois 60439

Dear Ms. Ressequie,

As part of a clean energy future that includes energy efficiency, conservation, and rooftop solar panels, I support environmentally responsible solar projects on our public lands. If done right, renewable energy development on public lands can both meet our climate and clean energy needs and protect our beloved wildlands and crucial wildlife habitat.

"Every man who appreciates the majesty and beauty of the wilderness and of wild life, should strike hands with the farsighted men who wish to preserve our material resources, in the effort to keep our forests and our game beasts, game-birds, and game-fish--indeed, all the living creatures of prairie and woodland and seashore--from wanton destruction. Above all, we should realize that the effort toward this end is essentially a democratic movement."
-- Theodore Roosevelt

We have an historic opportunity to get solar development right on public lands, and the long-term plan for solar now under development will play a critical role. We zone uses in our towns and neighborhoods, and we should do the same for our public lands.

To ensure that solar development on public lands is really smart from the start, I recommend that:

- The BLM focus on siting projects properly in areas with the least amount of conflict or potential impacts on sensitive lands and wildlife. Science should guide the agencies decisions. Projects should be limited to these designated "zones;"

- The BLM should NOT open up an additional 21 million acres to development, including wildlands and important wildlife habitat. We simply do not need to develop such large areas and can reevaluate additional lands through a future process;

- The BLM should strongly consider recommendations from local stakeholders to eliminate proposed development areas in sensitive areas from the get-go.

By moving to a truly smart from the start process, the BLM can ensure that solar development avoids the many conflicts, controversies and impacts that have plagued oil and gas development on public lands. I urge you to take this common-sense approach of focusing on zones that will allow solar development that is faster, cheaper and better for the environment and consumers.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."
-- Aldo Leopold, The Conservation Ethic

Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources.

Sincerely,
Christopher Lish
Olema, CA

Thank you for your comment, Elizabeth Reece.

The comment tracking number that has been assigned to your comment is SolarD10124.

Comment Date: March 18, 2011 13:05:13PM
Solar Energy Development PEIS
Comment ID: SolarD10124

First Name: Elizabeth
Middle Initial: A
Last Name: Reece
Organization:
Address: 26250 Park View Dr Space 121
Address 2:
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: solar letter 1 EAR.wps

Comment Submitted:

see attached letter.

FROM
Elizabeth A. Reece
16250 Park View Dr. sp. 121
Desert Center, CA 92239

Date March 12, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

To Whom it May Concern,

I am a resident of Lake Tamarisk Desert Resort and I have just recently become aware of a proposal involving the development of **Solar Energy Zones** (SEZ), in the Desert Center California Area. This will undoubtedly disrupt the lives of residents and the fragile desert ecosystem alike. My understanding is that the types of concerns that may be addressed include, but are not limited to animal and plant life, noise, safety issues, proximity to the local community, I have many concerns about such a proposal and would like to have the following accepted as my official comment for matters that I would like to see addressed and mitigated.

I am in possession of the BLM map showing future (SEZ), and I am very concerned about the area between Lake tamarisk Desert Resort and Desert center which is covered with a considerable number of large trees. This (SEZ) is within ½ mile of approx. 200 families.
I would not like to see a (SEZ) within 3 miles of a populated area for all of the above mentioned concerns.

I would very much like you to schedule an information meeting at the Desert Center C.S.A. hall in March. We would like to get involved but not have to drive all the way into Indian Wells to the public meeting.

Sincerely,

Elizabeth A. Reece

Thank you for your comment, Roger Reece.

The comment tracking number that has been assigned to your comment is SolarD10125.

Comment Date: March 18, 2011 15:33:40PM
Solar Energy Development PEIS
Comment ID: SolarD10125

First Name: Roger
Middle Initial:
Last Name: Reece
Organization: Lake Tamarisk Desert Resort
Address: 26250 Parkview Drive
Address 2:
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Word doc with signatures.docx

Comment Submitted:

FROM
Roger T. Reece
16250 Park View Dr. sp. 121
Desert Center, CA 92239

Date March 12, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

To Whom it May Concern,

I am a resident of Lake Tamarisk Desert Resort and I have just recently become aware of a proposal involving the development of Solar Energy Zones (SEZ), in the Desert Center California Area. This will undoubtedly disrupt the lives of residents and the fragile desert ecosystem alike. My understanding is that the types of concerns that may be addressed include, but are not limited to animal and plant life, noise, safety issues, proximity to the local community, I have many concerns about such a proposal and would like to have the following accepted as my official comment for matters that I would like to see addressed and mitigated.

I am in possession of the BLM map showing future (SEZ), and I am very concerned about the area between Lake tamarisk Desert Resort and Desert center which is covered with a considerable number of large trees. This (SEZ) is within ½ mile of approx. 200 families.
I would not like to see a (SEZ) within 3 miles of a populated area for all of the above mentioned concerns.

I would very much like you to schedule an information meeting at the Desert Center C.S.A. hall in March. We would like to get involved but not have to drive all the way into Indian Wells to the public meeting.

Sincerely, Please see 2 attachments with 64 signatures that
Agree with this letter.
Roger T. Reece

Petition for 3 mile limit from Lake Tamarisk Desert Resort for Solar Energy Zones

NAME	ADDRESS ALL Desert Center CA 92239
Jim Coy	Lot 143 Lake Tamarisk Resort
JEAN FUTA	LOT 32 LAKE TAMARISK
SHARON KRIESE	" 8 " "
George Oliphant	LOT 115 Lake Tamarisk
Walter Sutter	" 29 " "
[illegible]	" 33 " "
John W. [illegible]	" 73 " "
[illegible] Boyd	21 & 22 " "
Betty Boyd	" " " "
Rick Crawford	Lot 05 " "
John [illegible]	43641 Tamarisk DR
Jack Miller	LOT #18 LTDR
Sandy Reid	LOT 131 LTDR.
Rod Reid	✓ ✓
Sharon Blankenship	Lot 130 LTDR
FRANK URBEKAR	LOT 87 "
Philip J HAUDEN	Lot 138 "
Doris M. Carroll	Lots 90 + 91 "
[illegible] Harden	Lot 138
[illegible]	Lot 42
[illegible]	Lot 20
Leslie A. [illegible]	LOT #20
Margaret Crawford	LOT #5 Lake Tamarisk Res.
Carolyn [illegible]	Lot #77 Lake Tamarisk
Edward [illegible]	LOT #77 Lake Tamarisk
Shirley Miller	LOT 18 " "
[illegible] Corner	LOT #57 " "
[illegible]	LOT #57 " "
Susan Fleming	#58 LTDR
Peggy [illegible]	#2 & 3 LTDR
George & Alice Thompson	Lot 89 LTDR
Jim & PEARL JOHNSON	Lot 69
[illegible]	Lot 80

Petition for 3 mile limit from Lake Tamarisk Desert Resort for Solar Energy Zones

NAME	ADDRESS all Desert Center CA. 92239
Roger Reece	26250 Parkview Dr sp 121
Shirley McRea	26250 Parkview #60
Helene Danley	26250 Parkview #61
Phillip Danley	26250 Parkview #61
Sharon Quigg	44071 Shasta Dr.
William Quigg	" " "
Carol Schlanch	26250 Parkview Dr. Sp 122
Ed Schlanch	" " " "
Larry Juttla	26250 Parkview Dr. Lot #59
[illegible]	26250 Parkview Dr (Lot 132)
Margit Esken	26250 Parkview Dr # 38
Ken Statler	26591 Oolalinway Dr.
Paul Willian	#44 LT
Bob Jacobson	Lot-24 L.T.
Ruth Oliphant	Lot 115 LT
[signature] MEL HAEGER	LOT 114 LT
Shari Dawn Brown	Lot 106
AL PALMER	LOT 8
Nancy Ray	Sp 55
Sandy Haeger	LOT 114
[illegible]	LoT 1
Kenneth Brown	Lot 106
Cheryl Henry	Lot 65
[illegible]	" 65
Marti [illegible]	" 113
[illegible] Ray	" 55
Joanne Kaszkow	" 113
Thomas [illegible]	# 113
E. M. Lundberg	# 139
[illegible]	# 139
Paul Bragg	103
Jim & Linda [illegible]	Lot #117
[illegible]	Lot 122
[illegible]	Lot 119

Thank you for your comment, Blaine Nay.

The comment tracking number that has been assigned to your comment is SolarD10126.

Comment Date: March 18, 2011 20:57:44PM
Solar Energy Development PEIS
Comment ID: SolarD10126

First Name: Blaine
Middle Initial: S
Last Name: Nay
Organization:
Address: 714 South 1175 West
Address 2:
Address 3:
City: Cedar City
State: UT
Zip: 84720
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Regarding solar energy development, I oppose government taking a role in any way other than necessary regulations and enforcement to protect the rights of the people and to protect the environment. I therefore urge the total rejection of using public funds to study the impact of any proposed solar energy zones or to prepare any form of impact statement. I urge the total rejection of any government subsidies for any form of alternative energy development and production. All those costs must be entirely born by the commercial and/or private entities that intend to profit from solar energy. If "green" energy is such a good idea, why hasn't any power company already established significant wind or solar farms at its own expense?

Experience shows that alternative energy technologies (ie solar and wind) are not profitable without government subsidies. Consequently, the government and the developers must anticipate that the equipment installed in the proposed solar energy zones will break down long before they break even, let alone make an unsubsidized profit. I therefore demand that prior to approval, any entity that installs any alternative energy system on public land be required to set aside sufficient funds to promptly remove and properly dispose of all obsolete, unused, damaged, and worn out equipment and restore the land to its natural condition. The California countryside is littered with broken-down wind turbines because they don't even produce enough reliable electricity to pay for repairs or removal. We must stop that taxpayer-subsidized nonsense!

Because the sun doesn't always shine and the wind rarely blows at optimum speed, both solar and wind power are so unreliable that conventional power sources (coal, gas, hydro, nuclear) must be sized to provide 100% of the energy needs of the customers. Therefore, to protect the consumer's expectation of constant, reliable, on-demand energy, any entity that installs any alternative energy project on public land must also install, maintain, and operate a conventional energy source to ensure that the facility, as a whole, always produces at least the rated output of the alternative energy source.

Any alternative energy project on public land must have no adverse effect whatsoever on other historical uses of that land such as wildlife habitat, grazing, hunting, recreation, mineral development, logging, etc.

Since alternative energy advocates consider conventional energy sources to be evil, I demand that any alternative energy development in the proposed solar zones be done entirely without using carbon-based fuel or other conventional sources of energy. That includes not using any energy whatsoever that is derived from carbon to manufacture, transport, install, and maintain any of the equipment, wiring, foundations, and other structures associated with the project.

Thank you for your comment, Connie Simkins.

The comment tracking number that has been assigned to your comment is SolarD10127.

Comment Date: March 19, 2011 12:28:21PM
Solar Energy Development PEIS
Comment ID: SolarD10127

First Name: Connie
Middle Initial: C
Last Name: Simkins
Organization: N-4 State Grazing Board
Address: P.O. Box 461
Address 2:
Address 3:
City: Panaca
State: NV
Zip: 89042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Figure_1_Ely_Springs_Allotment.pdf

Comment Submitted:

N-4 State Grazing Board comments are in three separate forms. 1. our letter which is 60 kB, 2. this map which is 693 kB, and 3. the LIncoln County Commission letter which is 14.6 MB five pages on colored letterhead. Please let me know if all three are NOT received.
Connie Simkins
775-962-1333

Maintain or Re-route Access Roads

Simpson

Ely Springs Sheep

Wilson Creek

Pasture 2

Pasture 1

Ely Springs Cattle

Rattlesnake

Pasture 3

Black Canyon

Oak Springs

Pasture 4

Maintain Access Roads

Klondike

Cliff Springs

Legend

- Corral
- Cattleguard
- Gate
- Gravel Pit
- Nat. Spring
- Imp. Spring
- Trough
- Tank
- Reservoir
- Well
- Exclosure
- Fence
- Pipeline
- Trail
- BLM Roads
- Paved Road
- DOE Proposed
- Bureau of Land Management Land
- Private Land
- Allotment Boundary
- DOE Proposed Caliente Rail Corridor (1000 ft. wide)
- Lincoln County Proposed Solar Energy Zone

N

0 0.5 1 2 Miles

Figure 1
Lincoln County Recommended SEZ Within Ely Springs Cattle Allotment

RESOURCE CONCEPTS INC.

R:\projects\Lincoln_County\10_164_3a\MXDs\Ely_Springs_Cattle_updated_feb2011.mxd 3/9/11

Thank you for your comment, Connie Simkins.

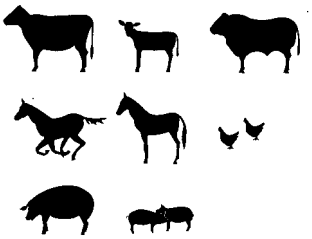
The comment tracking number that has been assigned to your comment is SolarD10128.

Comment Date: March 19, 2011 12:30:39PM
Solar Energy Development PEIS
Comment ID: SolarD10128

First Name: Connie
Middle Initial: C
Last Name: Simkins
Organization: N-4 State Grazing Board
Address: P.O. Box 461
Address 2:
Address 3:
City: Panaca
State: NV
Zip: 89042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 3-19-11 Solar DPEIS comments.doc

Comment Submitted:

This is the N-4 State Grazing Board letter. You are also being sent right now, the Ely Springs Cattle map, and the LIncoln County Commission letter 3-7-11.



N-4 State Grazing Board
P.O. Box 461
Panaca, Nevada 89042
775-728-4682
March 19, 2011

Ms Heidi M. Hartmann, Document Manager
Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 Cass Avenue – EVS/240
Argonne, Illinois 60439

Re: Grazing Board comments to Draft PEIS for Solar Energy

Dear Ms Hartmann

The N-4 State Grazing Board is a subdivision of the State of Nevada, organized under Nevada Revised Statute 568, Grazing and Ranging. Board members are elected from among those who pay grazing fees for livestock on the public land in the Ely Bureau of Land Management district which contains the Nevada Counties of White Pine and Lincoln. The Grazing Board has participated in the administrative review of this Draft Solar PEIS as a cooperating agency.

The goal of the Grazing Board is to assure wise multiple use of the public land in this BLM district. The Grazing Board advocates planning and managing projects and activities in such a way as there is no net loss of grazing forage. This beneficial forage is commonly known as AUMs (Animal Unit Month which means enough forage to feed one cow and one calf for one month). Development of solar plants in Delamar Valley, East Mormon Mountain, and Dry Lake Valley North will result in serious impacts to all of the public land uses in this area, the most detrimental to the public lands grazing permittees that this board represents. There are fifteen ranching families impacted in these three SEZs.

On September 1, 2009 we submitted five pages of comments during the scoping period for this Solar DPEIS. This letter is attached for your reference. The Grazing Board supports the use of this PEIS to identify lands that are appropriate for utility solar development; identify generic impacts of such actions and potential mitigation measures; and establish policies and practices that will implement such solar projects while minimizing impacts to public lands for all multiple uses by tiering site-specific recommendations to this Solar PEIS.

As a result of the thorough study of some 1200 pages of the Draft Solar PEIS, coupled with dozens of meetings with BLM, Lincoln County Commissioners, Nevada Department of Wildlife, individual ranchers, hunters, sportsmen, recreation enthusiasts, and members of the public in these two Nevada counties, the N-4 State Grazing Board supports the recommendations and positions of the Lincoln County Commission as evidenced in their five page letter dated March 7, 2011 and Figure 1 "Lincoln County Recommended SEZ Within Ely Springs Cattle Allotment". We have attached a copy of the Lincoln County letter and map for your information.

This SEZ was developed through the involvement in the above-mentioned meetings and sessions with those most directly and negatively impacted. The efforts of this Board have been to try to find a way to locate the SEZ in a place that would have the least impact to the land and resources, while allowing the development of renewable energy projects in site-specific and technology specific locations.
The Ely Springs Cattle allotment owners have invited the location of the SEZ on their private property and grazing land. The N-4 Board strongly supports this proposal to locate solar energy facilities only inside this one grazing allotment where it has been invited. As detailed in the Lincoln County letter, this would allow more than enough land for solar development that would create more renewable energy than can be carried by the current and four Future planned transmission lines.

The N-4 Board representatives were pleased to participate in the Delamar and Dry Lake Valley tour on February 17, 2011 with you and your Argonne associates along with Dr. Jane Summerson and Linda Resseguie. We were able to submit spoken comments at the Cedar City, Utah public hearing on March 9, 2011. You are invited to seriously consider our written and spoken comments on this important issue. Please feel free to contact our range consultant, Jeremy Drew with Resource Concepts at 775-883-1600 or our secretary Connie Simkins 775-962-1333 for any further information you may need.

Sincerely,

(signed) Gracian Uhalde

Gracian Uhalde, Chairman
N-4 State Grazing Board

Encls 2
Scoping comments 9-1-2009
Lincoln Co. Comm. letter and Figure One Ely Springs Cattle SEZ 3-9-11

Governor Brian Sandoval
US Senator Harry Reid
US Senator John Ensign
Congressman Dean Heller
Congressman Joe Heck
Congresswoman Shelley Berkley
Senator Dean Rhoads
Senator John Lee
Assemblyman Ed Goedhart
Assemblyman Pete Goicoechea
Bob Abbey, Director BLM
Amy Lueders, Acting Nevada BLM Director
Rosemary Thomas, Ely BLM Manager
Victoria Barr, Manager Caliente BLM
Steve Boies, Chairman, Grazing Board Central Committee
Ron Cerri, Nevada Cattlemen's Association
Jeff Fontaine, Nevada Association of Counties
Doug Busselmann, Nevada Farm Bureau
Dr. Jane Summerson, NEPA Compliance, DOE
Linda Resseguie, Realty Specialist, BLM

Thank you for your comment, Connie Simkins.

The comment tracking number that has been assigned to your comment is SolarD10129.

Comment Date: March 19, 2011 12:38:26PM
Solar Energy Development PEIS
Comment ID: SolarD10129

First Name: Connie
Middle Initial: C
Last Name: Simkins
Organization: N-4 State Grazing Board
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Address 2:
Address 3:
City: Panaca
State: NV
Zip: 89042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: LC DPEIS Solar letter.pdf

Comment Submitted:

This is the Lincoln County Commission letter dated March 7, 2011 sie 14.6 megabytes. I hope this goes through your 15 megabyte system. You are also receiving two other submissions that should be combined to be the submission for the N-4 State Grazing Board. They are map of Ely Springs Cattle SEZ and the N-4 letter

Board of County Commissioners
Lincoln County, Nevada
P.O. Box 90 – Pioche, Nevada 89043
Telephone (775) 962-5390
Fax (775) 962-5180

March 7, 2011

Solar Energy Draft Programmatic EIS
Attn: Ms. Heidi M. Hartmann, Document Manager
Argonne National Laboratory
9700 Cass Avenue – EVS/240
Argonne, Illinois 60439

RE: Comments to Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Hartmann:

Lincoln County, Nevada has completed a comprehensive review of the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) and provides the following comments thereto. Lincoln County has participated extensively in the National Environmental Policy Act (NEPA) process leading to release of the DPEIS for public comment. During the summer of 2009, Lincoln County, through the Bureau of Land Management's Nevada State Director, requested that proposed Solar Energy Zones in Delamar Valley, Dry Lake Valley (North) and in the vicinity of the East Mormon Mountains be included in the scope of the Programmatic Environmental Impact Statement for Solar Energy Development (PEIS). The Board of Lincoln County Commissioners believe that utility-scale solar energy development on BLM-administered land, if done in the right locations, at an appropriate scale and in a manner which avoids, minimizes and/or otherwise mitigates impacts to other multiple uses, particularly to permitted grazing of livestock, can contribute to energy security in the United States and provide important economic and fiscal benefits in Lincoln County.

At BLM's invitation, Lincoln County executed a Memorandum of Understanding with the Bureau of Land Management and Department of Energy on August 3, 2009 wherein Lincoln County became a Cooperating Agency regarding preparation of the DPEIS. In a letter dated September 8, 2009, Lincoln County provided BLM's PEIS contractor with

extensive comments on the scope of issues to be addressed with the DPEIS. In this letter, Lincoln County also requested that BLM significantly reduce the size of and recommended specific locations for the boundaries of the Delamar Valley SEZ, the Dry Lake Valley North SEZ and the East Mormon Mountains SEZ. Over the past year, Lincoln County has, in its role as a Cooperating Agency, reviewed and provided extensive written comments to Chapters 3, 5, 6, 7, 11.2, 11.4 and 11.5 of the Administrative Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (ADPEIS). Lincoln County's comments have consistently sought to encourage BLM to identify and evaluate SEZs in Lincoln County of appropriate scale and location, which avoid or minimize impacts to other multiple uses, particularly to permitted grazing of livestock and recreation. Lincoln County's many previously submitted comments have also been intended to improve the accuracy and scientific defensibility of the Programmatic Environmental Impact Statement for Solar Energy Development. Lincoln County desires that the PEIS serve to facilitate expeditious utility-scale solar development on select public lands in the County.

Unfortunately, review of the DPEIS by Lincoln County has revealed a document which has failed to respond to many of the substantive comments offered over the past many months by Lincoln County. Most importantly, the DPEIS proposes SEZs in Lincoln County at a scale and in locations which will not effectively avoid or minimize adverse impacts to the environment and permitted public land uses, especially range livestock grazing. Lincoln County encourages BLM and the Department of Energy (DOE) to consider and address the following comments when preparing the Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (FPEIS).

General Comments

1. The County recognizes the value of combining solar development activities into an energy park (SEZ) rather than widely dispersed solar installations and existing right-of-way application processes. As such, the County OPPOSES the "Solar Energy Development Program Alternative (the Preferred Alternative)" but SUPPORTS the "Solar Energy Zone Program Alternative" provided that SEZs are located in areas that limit the impacts to other multiple uses, critical habitats and resource values. **Lincoln County recommends that the FPEIS and any related Record of Decision identify the Solar Energy Zone Program Alternative as the BLM Preferred Alternative.**

SEZs should be located in areas with "Low Potential for Conflict" per the Screening Criteria listed in Instruction Memorandum No. 2011-061 regarding Right-of-Way Management for Solar and Wind Energy issued by the Department of the Interior on February 7, 2011.

The SEZ Program Alternative will limit the exorbitant amount of time, money and energy (on behalf of the County, local stakeholders and State and Federal Agencies) that goes into making sure that solar development rights-of-way are "smart from the start" and sited in appropriate locations.

2. The County has previously advocated for approximately 2,775 acres of the southern portion of the Delamar Valley SEZ (near and including Delamar Lake) to be designated as a priority area for solar development. However, after careful consideration and further input from solar developers, BLM Specialists and grazing permittees, the County has revised its stance and now advocates that the entire Delamar Valley SEZ be classified as "lands excluded from utility-scale solar energy development". **Lincoln County recommends that the FPEIS and any related Record of Decision classify the entire Delamar Valley SEZ as "lands excluded from utility-scale solar energy development".**

3. The County fully supports the Renewable Energy Goal found on page 73 of the Ely District Record of Decision and Approved Resource Management Plan dated August 2008 (BLM/NV/EL/PL-GI08/25+1793) that states "Goals – Renewable Energy: Provide opportunities for development of renewable energy sources such as wind, solar, biomass and other alternative energy sources while minimizing adverse impacts to other resources."

The proposed Delamar Valley SEZ does not "minimize adverse impacts to other resources" including, but not limited to: Water Resources, Soil Resources, Vegetation Resources, Visual Resources, Recreation, Livestock Grazing, and County Socioeconomics.

From the County's perspective, development in any portion of the proposed Delamar Valley and East Mormon Mountain SEZs would have unacceptable impacts to the above listed resources. Therefore, both the Delamar Valley and East Mormon Mountain SEZs should be classified as "lands excluded from utility-scale solar energy development". **Again, Lincoln County recommends that the FPEIS and any related Record of Decision classify the entire Delamar Valley SEZ and East Mormon Mountain SEZ as "lands excluded from utility-scale solar energy development".**

4. The County does not support solar development (total acres proposed for development within SEZs) in excess of the capacity of existing or reasonably foreseeable power transmission facilities. North-south running power lines common to both the Dry Lake Valley North and Delamar Valley SEZs, include:

- An existing 69 kV LC Power District #1 Line
- The proposed 500 kV LS Power / NV Energy One Nevada Line (600 MW Capacity per LS Power)
- The proposed 500 kV NV Energy Line
- The proposed 230 kV SNWA Line

Generally the maximum transmission line capacity is 1,500 MW for a 500 kV line, 500 MW for a 230 kV line, and 75 MW for a 69 kV line. Therefore, the maximum capacity of existing transmission lines or those under consideration in the reasonably foreseeable future is approximately 3,575 MW. In reality the line capacities would likely be much less (approximately half of the maximum capacity ratings) given the line length, which results in approximately 1,800 MW of line capacity. It should also be noted that access

to these lines by project developers will be expensive, as it will require development of new power substations and associated infrastructure.

Assuming half of this maximum capacity would be available for solar (a very generous assumption) and assuming production of 9 acres / MW for a solar development (per the assumptions used in the Draft PEIS), the maximum solar acres supported by existing or foreseeable transmission line capacity within the Dry Lake Valley North and Delamar Valley SEZs is approximately 8,000 combined acres.

Assuming an 80% build-out of the designated SEZ areas (per the assumptions used in the Draft PEIS), the combined SEZ area for both the Dry Lake Valley North SEZ and the Delamar Valley SEZ combined should NOT exceed 10,000 acres. **Lincoln County recommends that the FPEIS and any related Record of Decision identify no more than 10,000 acres of BLM-administered land within the western half of the Ely Springs Cattle Allotment in Dry Lake Valley North for SEZ designation. It is important to note that** the owner of the grazing permit for the Ely Springs Cattle Allotment supports solar development within the allotment and the owner's adjacent private land. **Further, Lincoln County recommends that the Final PEIS and any related Record of Decision classify all portions of the proposed Delamar Valley SEZ as "lands excluded from utility-scale solar energy development".**

As shown on Figure 1, Lincoln County has identified an area within the Ely Springs Cattle Allotment portion of the Dry Lake Valley North SEZ. This above-mentioned area exceeds the 10,000-acre required maximum area per reasonably foreseeable transmission capacity. Therefore, designating the Delamar Valley SEZ as "lands excluded from utility-scale solar energy development" should have no impact on the overall feasibility of solar energy production within Lincoln County, nor should it encumber the renewable energy goals of the State of Nevada or the current Federal Administration based on the need for renewable energy and available transmission capacity.

5. After careful consideration of the characteristics of the East Mormon Mountains proposed SEZ and review of the impacts of developing the East Mormon Mountain SEZ described in the Draft Solar PEIS, Lincoln County has concluded that it can not support designation of any portion of the proposed East Mormon Mountains SEZ. Lincoln County is particularly concerned with significant impacts to existing permitted livestock grazing; excessive slopes in many areas of the SEZ; and impacts to desert tortoise and sensitive plant species which will result from solar development with the East Mormon Mountain SEZ. Removing 8,900 acres from the middle of what is left (after devasting wildland fires) of the Gourd Springs allotment will likely result in termination of the livestock ranching operation of the existing permittees. This is an unacceptable consequence of developing the proposed East Mormon Mountains SEZ for solar energy development. **Therefore, Lincoln County recommends that the Final PEIS and any related Record of Decision classify all portions of the proposed East Mormon Mountains SEZ as "lands excluded from utility-scale energy development".**

Specific Comments

Attachment 1 contains Lincoln County's comments to specific chapters of the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

I and my staff look forward to working with BLM, DOE, Argonne National Laboratory and their staffs in preparing a Final PEIS which facilitates utility-scale solar energy development on BLM-administered land in Lincoln County in site-specific and technology-specific locations, at an appropriate scale and in a manner which avoids or minimizes impacts to other multiple uses, particularly to permitted grazing of livestock, and which contributes to energy security in the United States while providing economic and fiscal benefits in Lincoln County.

Sincerely,

George T. Rowe

George T. Rowe
Chairman

cc: US Senator Harry Reid
US Senator John Ensign
Congressman Dean Heller
Congressman Joe Heck
Congresswoman Shelley Berkley
Bob Abbey, Director, Bureau of Land Management, Washington, D.C.
Dr. Jane Summerson, Department of Energy, Wash, D.C.
Linda Resseguie, Bureau of Land Management, Wash, D.C.
Jim May, Argonne National Laboratory
Amy Leuders, Acting Director, Nevada BLM, Reno, Nevada
Rosemary Thomas, District Manager, Ely BLM
Victoria Barr, Field Manager, BLM Caliente Field Office
State Senator Dean Rhoads
State Senator John Lee
State Assemblyman Ed Goedhart
State Assemblyman Pete Goicoechea

Attachments Seven: Chapter 3, Chapter 5, Chapter 11.2 Delamar, Chapter 11.4 Dry Lake North, Chapter 11.5 East Mormon Mountains, Appendix A and M, and
Lincoln County Recommended SEZ within Ely Springs Cattle Allotment pdf map

Thank you for your comment, Gerald Grey.

The comment tracking number that has been assigned to your comment is SolarD10130.

Comment Date: March 19, 2011 12:48:56PM
Solar Energy Development PEIS
Comment ID: SolarD10130

First Name: Gerald
Middle Initial: L
Last Name: Grey
Organization:
Address: 26250 Parkview #145
Address 2:
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

After viewing your Solar Energy Zones in our Desert Center Area, I am extremely concerned that BLM has approved an area surrounding our community. Please do not allow the establishment of solar panels surrounding us. I request that you maintain a 3 mile exclusion zone around populated areas. I am concerned not only from the aesthetic point of view, but also from the damage to our desert around us and the impact of our atmospheric conditions with the installation of solar panels in our area.

Why did you not have any meetings in our area to discuss this dramatic change to our environment?

Thank you for your consideration in this matter.

Gerald Grey

Thank you for your comment, Beau McClure.

The comment tracking number that has been assigned to your comment is SolarD10131.

Comment Date: March 20, 2011 12:07:57PM
Solar Energy Development PEIS
Comment ID: SolarD10131

First Name: Beau
Middle Initial:
Last Name: McClure
Organization: Public Lands Foundation
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Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 850837406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 2011-03-17 Letter-Solar Energy DPEIS.doc

Comment Submitted:

I am submitting the attached letter from Henri Bisson, President, Public Lands Foundation, to BLM Director Robert Abbey regarding the Solar Energy DPEIS on behalf of the Public Lands Foundation. Your careful consideration would be greatly appreciated.

PUBLIC LANDS FOUNDATION
For America's Heritage

Public Lands Foundation
P.O. Box 7226 Arlington, Virginia 22207

March 17, 2011

Robert Abbey, Director
Bureau of Land Management
1849 C Street NW, Room 5665
Washington, D.C. 20240

Dear Director Abbey:

The Public Lands Foundation wishes to compliment you and your staff, along with the Department of Energy and Argonne National Laboratory, who developed the Draft Programmatic Environmental Impact Statement (DPEIS) on Solar Energy Development in Six Southwestern States. It is an outstanding example of how National Environmental Policy Act (NEPA) documents should be developed. We commend you for the work done to collect and analyze the information about the land, the technology and the impacts of solar energy development on BLM lands. And, we also appreciate the process that has been provided for public input during the 90-day comment period.

As you know, the Public Lands Foundation is a national non-profit conservation organization formed in 1987 that advocates and works for the retention of public lands in public hands, professionally and sustainably managed for the responsible common use and enjoyment of the American people. Our members are predominantly retired former Bureau of Land Management (BLM) employees with many years of experience in natural resources management.

Three alternatives are considered in the DPEIS. They are:

- No Action Alternative,
- Solar Energy Development Program Alternative (the Preferred Alternative), which would allow solar energy facility applications on nearly 22 million acres of BLM lands in six states (Arizona, California, Colorado, Nevada, New Mexico and Utah), and
- Solar Energy Zone (SEZ) Alternative, which would allow utility scale solar energy developments on 677,400 acres of BLM lands in 24 Solar Energy Zones in the same six states.

The Public Lands Foundation believes these provide an appropriate range of alternatives for consideration. And, we endorse the SEZ Alternative. There is no need to allow solar energy developments to scatter across nearly 22 million acres of BLM lands in these six western states at this early stage of the federal government's solar energy initiative. The BLM has identified 677,400 acres in 24 Solar Energy Zones in these six states where solar energy developments can be concentrated and probably approved without significant conflicts with other environmental and public values. And, these SEZ areas should be used for the first stage of this solar energy initiative. We also believe that any leasing in the SEZs should be done competitively.

520-360-8813 www.publicland.org hbisson47@yahoo.com

The Reasonably Foreseeable Development Scenario (page ES-12 of the Executive Summary of the PEIS), estimates the amount of solar energy generation on BLM-administered lands in the study area over the 20-year study period to be about 24,000 megawatts (MW), with a corresponding dedicated use of about 214,000 acres of BLM-administered lands. This is evidence that the SEZ Alternative, which includes 677,400 acres, is more than adequate for the 20-year study period. To address the situation where additional solar energy development is required, we recommend that a process be developed to designate additional SEZ areas as the need arises in the future.

If a decision is made to adopt the preferred alternative, then we believe that a modification to that alternative be considered. We believe that the approach being analyzed in Arizona BLM's Restoration Design Energy Development Project EIS should be applied for areas outside the SEZs in all six states. This approach considers suitable disturbed lands across all ownerships and is a much better approach for considering additional new development areas. This approach is very reasonable, focuses on disturbed lands, and would provide greater certainty for potential developers by eliminating much of the conflict being experienced currently in California. We also believe that any areas identified through this process should only be made available for competitive leasing after being nominated by potential developers for consideration. These lands should not be made available through application.

We recently learned that the Bureau of Reclamation (Reclamation) is considering and planning for the development of renewable energy facilities on its Project lands. We have been told that solar facilities at pump stations and hydraulic generation along canals are being examined. In a state like Arizona, we are told that 14 percent of energy consumption is used to move water for the Central Arizona Project. This is quite significant! A West-wide look by Reclamation at replacing traditional energy usage with new renewable energy sources seems to us to be something that should be considered in the Reasonably Foreseeable Development Scenario. It is not currently mentioned.

The DPEIS does not address or consider renewable energy development on public lands withdrawn by the military. We know that there are many obstacles to planning and actually accomplishing this development, but those obstacles need to be overcome. There are very many disturbed areas on these withdrawn lands, some areas are clearly suited for solar and wind development and others could be leased for geothermal energy. Some of the challenges are legal requirements that could be changed; others involve the need to develop an approach that rewards the military by allowing revenue sharing from the leases to be used for Base Operations. We believe that the Defense Department, Department of Energy and the Department of the Interior must put aside their differences and work together to present Congress with a recommended solution. The Country needs these agencies to resolve this issue!

The Public Lands Foundation endorses the criteria that are used to identify public land areas that should be off limits for solar energy facilities (pages ES-8 and 9). In addition to these criteria, the

PUBLIC LANDS FOUNDATION
For America's Heritage

Public Lands Foundation
P.O. Box 7226 Arlington, Virginia 22207

PLF strongly urges the BLM to consider the following three suggestions in siting and developing solar energy facilities:

- siting facilities near existing transmission line corridors, and as close as possible to the urban centers which use the energy,
- authorizing low water use facilities rather than those which require large quantities of water for steam generation of energy, and
- only permitting the use through issuance of rights-of-way or competitive leases, not by sale of the land, and with strong requirements and bonding to ensure that the facilities are removed and the lands are again made available for new technology and the needs of future generations.

PLF Position Statement 2010-20, *"Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands,"* which was approved by our Board of Directors on December 3, 2010, is enclosed for your consideration.

Thank you for the opportunity to provide input.

Sincerely,

/s/ Henri Bisson

Henri Bisson, President

Enclosure

PLF Position Statement 2010-20, *"Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands"*

520-360-8813 www.publicland.org hbisson47@yahoo.com

Thank you for your comment, Beau McClure.

The comment tracking number that has been assigned to your comment is SolarD10132.

Comment Date: March 20, 2011 12:16:42PM
Solar Energy Development PEIS
Comment ID: SolarD10132

First Name: Beau
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City: Phoenix
State: AZ
Zip: 850837406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SEDD10132.doc

Comment Submitted:

Please give careful consideration to the attached Public Lands Foundation Position Statement No. 2010-20, Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands, which was referenced in our letter to BLM Director Robert Abbey that was submitted to you earlier today.

Public Lands Foundation Position Statement

Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands

December 3, 2010

PLF 2010-20

Executive Summary

Development of large-scale renewable energy projects on the National System of Public Lands administered by the Bureau of Land Management (BLM) is relatively new. There is broad support for pursuing alternative energy sources both to reduce carbon emissions and to reduce the reliance on foreign oil, but development must be done smart from the start. This means early coordination and involvement among all interested parties, and seeking ways to minimize impacts. Public lands administered by the BLM that have less-significant natural/cultural resource values or are located close to urban areas or existing transmission line corridors are more suitable for renewable energy development than are public lands in remote areas or those with wilderness or other high natural/cultural resource values. Proposed renewable energy developments on public lands must also be viewed from a regional or even national perspective.

Background

At the Annual Meeting of the Public Lands Foundation (PLF) in September 2010, PLF invited representatives of government agencies, conservation organizations, and renewable energy industries to Reno, Nevada to discuss the impacts of solar and wind energy development and production on BLM-managed public lands. Speakers and panelists presented information on wind and solar technology, potential impacts, the permitting process and potential strategies for development.

From these presentations, several themes emerged. There was broad agreement that a need exists to develop renewable energy sources both as a way to reduce CO_2 emissions and as a way to reduce the United States' dependence on foreign oil. The importance of early and frequent participation and involvement of all interested parties was universally recognized. This included early agency notification of plans, early inventories, early involvement of regulatory agencies such as the State Historic Preservation Offices (SHPO) and state and federal wildlife agencies, and early identification of public land areas that have significant natural and cultural resources that should not be disturbed by solar and wind energy developments.

Solar energy production and water uses are, in many cases, closely connected. For example, the BLM is working to find ways of minimizing impacts by looking for opportunities to use previously disturbed sites, as well as exploring the potential to use waste water rather than groundwater in solar energy facilities. Speakers expressed concern about the impacts of the additional transmission line corridors that will be needed to transport the energy from wind and solar sites to urban areas, particularly since many of the wind and solar sites on public lands are in remote areas, far removed from existing transmission line corridors. Speakers also suggested there is a need to look at the big picture through the use of regional assessments, programmatic Environmental Impact Statements (EISs), etc. Finally, speakers expressed

concern over the adequacy of the EISs related to the newness of analyzing potential wind and solar developments.

Discussion

Oil, gas and coal will continue to be the mainstay of the United States energy portfolio for some time, even though they are producing greenhouse gases that are contributing to climate changes. Renewable energy sources—solar, wind and hydropower—are seen by some as the answer to the impacts caused by non-renewable energy development. It has been estimated that every 1,000-megawatt-hours of wind generated power would reduce CO_2 emissions by 2 to 2.5 million tons. In addition, high gasoline prices are adding to the desire to pursue alternative energy sources in order to reduce our dependence on foreign oil. These two factors are driving speculative applications and fueling fears of a land rush on public lands.

In order to deal with mounting pressures for renewable energy development, early and frequent interaction is needed among all interested parties. State and Federal permitting and regulatory agencies are often very busy and reluctant to invest much time until many of the project details are known. Industry, on the other hand, is often reluctant to invest a lot of money in project design and planning until they know what the likelihood of approval is. Many times a full year of inventory information is needed prior to even beginning the National Environmental Policy Act (NEPA) documentation process.

Siting is the key to doing renewable energy development right. Some public lands are simply not appropriate for renewable energy development, while others are much more suitable. Disturbed lands, lands with low resource values, and lands close to urban areas or close to existing transmission line corridors are more suitable for renewable energy development than lands in remote areas, lands with wilderness or other high natural resource values, or lands far from existing transmission line corridors. Siting in suitable areas will help minimize controversy, maximize public support, and lead to timely approval of developments. Projects proposed on unique and sensitive lands will surely generate controversy and result in delays.

A series of BLM maps showing "avoidance areas" of sensitive public lands would aid developers in finding suitable locations, and may cut down on agency workload by reducing the number of speculative applications. Such maps could be developed based on existing information and updated as new information becomes available. Areas not shown as "sensitive" would still have to undergo the NEPA process and there would be no guarantees for approval, but at least the known sensitive areas could be avoided.

Environmental groups want to be involved in the process. The Nevada Wilderness Project is advocating a "Smart from the Start" approach to dealing with renewable energy development in Nevada. This approach recognizes that to gain the benefits of renewable energy sources and to reduce climate change impacts, there is no way around the fact that renewable energy generation and transmission impacts will occur. This acceptance allows for an acknowledgement that there will be some land-disturbing activities that are necessary to achieve the greater-good benefits associated with renewable energy development. This proactive approach moves the organization from saying "no" to development to being able to say "yes" to some projects. With this common sense approach, conservation groups can assist the agencies and developers in choosing the right locations that are economically viable for the developer, and at the same time, be conservation minded.

Because large scale solar and wind developments on public lands are relatively new, many of the impacts are not widely understood. Federal land managers must look for ways to better understand and minimize potential impacts. Identifying "avoidance areas" in advance would also provide for increased efficiency

in conducting inventories and evaluating impacts by focusing efforts on areas with higher potential for development.

In many places, State and private lands are available to meet the need for renewable energy development. The BLM in Arizona has embarked on a Restoration Design Project, which is looking at disturbed/damaged lands as sites for renewable energy projects. Examples include former mining sites, abandoned agricultural fields, and closed sanitary landfills, most of which are on non-federal lands. The advantages include reduced impact to undisturbed public lands, placement of energy projects near where the energy loads are located, and increased use of private and state lands for generating jobs and tax revenues.

Renewable energy developments can be large-scale, and almost certainly will eventually be widespread. In addition to large-scale commercial developments, there is potential for and interest in smaller scale distributed generation projects to benefit local communities. In either case, it is critical to be smart and deliberative in developing solar and wind energy resources. Regional Assessments of the public lands best suited for renewable energy development have the potential to provide a big picture view, and improve coordination between interested parties. However, in order for regional assessments to be successful, high-level policy agreements need to be developed and adhered to at all levels. Programmatic EISs are also a potential tool in looking at broader landscapes. In order to be successful, however, they need to be done very carefully.

While many current activities would be able to continue on the National System of Public Lands in wind energy development areas, large-scale solar developments represent a long term, possibly permanent disturbance of large areas of land. Many of these developments will be located in the desert. Some developments may eventually be abandoned as technology changes. Reclamation of desert environments is an extremely long process, particularly when left to nature. Bonding for development and application of restoration techniques would provide some recourse for abandoned developments. A reclamation bond fund should be established and payments made during operation of the project to assure an adequate bond at the time of the anticipated reclamation date. Clustering developments near high demand areas would help reduce the impacts in less developed areas.

The BLM has many years of experience doing EISs. But, renewable energy development is a relatively new area. Many of the specific impacts are not as well understood as impacts encountered in historic agency programs such as livestock grazing and water resource protection. In addition, many of the employees, particularly at the field level, may be new to preparing EISs and may not have the experience to fully understand some of the legal requirements. Clear Purpose and Need Statements and cumulative impact discussions are critical. Using experienced regional EIS teams is one way to improve the quality and consistency of EISs.

PLF Position

1. Public lands with low natural/cultural resources, or located close to urban areas or existing transmission line corridors, are more suitable for renewable energy development than are public lands in remote areas or with wilderness or other high natural/cultural resource values.
2. Regional “avoidance area” maps showing sensitive public lands that are considered unsuitable for renewable energy development should be compiled, based on existing data, current land use plan decisions and current policy.
3. Early coordination among the BLM, the proponents of renewable energy projects and other interested parties is vital.

4. Policies should be developed to encourage and even provide incentives for developing solar and wind energy projects on previously disturbed sites, and on private and state lands to avoid or minimize impacts on public lands.
5. Renewable energy developments should be clustered in areas that make sense in order to avoid large-scale projects scattered throughout the BLM-administered public lands in the West.
6. Smaller scale distributed generation projects should be considered in rural communities without access to transmission facilities.
7. A Memorandum of Understanding providing a framework and guidelines for eco-regional assessments of the public lands best suited for renewable energy developments should be developed and agreed on by the Secretary of the Interior, the Secretary of Commerce, and the Secretary of Agriculture.
8. Regional EIS teams should be developed to provide for the preparation of consistent, high quality environmental documents.
9. Reclamation bonds should be required for all renewable energy development projects on public lands.

Thank you for your comment, Maxwell DeHaven.

The comment tracking number that has been assigned to your comment is SolarD10133.

Comment Date: March 21, 2011 14:43:02PM
Solar Energy Development PEIS
Comment ID: SolarD10133

First Name: Maxwell
Middle Initial: R
Last Name: DeHaven
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

whats the hold up, why are we not building these projects yet? Lets put union Ironworkers back to work. Everyone needs to come out of there tiny ass little bubbles they live in. and face reality, we need the energy now. or should we wait for lakemead to dry completely up,or waite for the bleeding hart enviramentals to have all are nuclar plants shut down.Good luck. Wake up people you dont pull energy out of your ass, it takes time to build these projects. So lets get on it. Its a win win for everyone. Isnt that whats its about? The money wheel.and who well make the most of it. your union ironworker brother Maxwell DeHaven

Thank you for your comment, Steve Steelman.

The comment tracking number that has been assigned to your comment is SolarD10134.

Comment Date: March 21, 2011 21:51:09PM
Solar Energy Development PEIS
Comment ID: SolarD10134

First Name: Steve
Middle Initial:
Last Name: Steelman
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is a great opportunity for this valley to help provide alternative sources of energy.

Solar as well as wind should be considered.

Thank you for your comment, Steve Steelman.

The comment tracking number that has been assigned to your comment is SolarD10135.

Comment Date: March 21, 2011 21:52:19PM
Solar Energy Development PEIS
Comment ID: SolarD10135

First Name: Steve
Middle Initial:
Last Name: Steelman
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is a great opportunity for this valley to help provide alternative sources of energy.

Solar as well as wind should be considered.

The valley should benefit in use of the electricity produced from these sources, as well.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10136.

Comment Date: March 22, 2011 18:55:24PM
Solar Energy Development PEIS
Comment ID: SolarD10136

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There is no way that alternative energies can supply our energy needs for many, many years. It's ludicrous to act as if alternative energies are here. It is all well and good to try to develop solar energy but not at the expense of millions of acres of public lands. In the meantime, until alternatve energy is a reality, let's develop the oil and gas natural resources that we have in abundance. Why, why, why are we willing to help Brazil drill but refuse to drill in our own country????? Granted, I would much rather have drilling supported in our own hemisphere than in the middle east but it makes no sense not to support the oil and gas industry in the United States. Many thousands of jobs would be instantly created. How hypocritical on the part of this adminstration and extreme environmentalists!!

Thank you for your comment, steve ramirez.

The comment tracking number that has been assigned to your comment is SolarD10137.

Comment Date: March 24, 2011 21:32:42PM
Solar Energy Development PEIS
Comment ID: SolarD10137

First Name: steve
Middle Initial:
Last Name: ramirez
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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I think it is impressive that the BLM is addressing the need for renewable energy sources in the form of solar panels, but I do not agree that this step forward needs to come at the expense of the natural landscape of New Mexico, such as the Chihuahuan desert ecosystem. I attended the hearing in Las Cruces last month and I heard mentioned the fact that effort was made to exclude cultural and historical sites, as well as biologically sensitive areas, but I was by no means convinced that this effort resulted in success. The representatives who spoke to us were from Albuquerque and Washington DC, and had never set foot in the city and surrounding areas before that day. They are not familiar with the fact that every single living creature in the desert and other ecosystems throughout the state are of major cultural significance and very valuable members of our community.

One lady at the hearing made an excellent point: Why are we letting our need for energy affect the desert wildlife, which has no need for electricity? Why not instead put the solar panels inside cities, where less development and destruction of the land will occur? Has it even been proposed to the public whether they would accept and embrace the opportunity to make a positive change to the way they obtain energy? I have already witnessed many examples of people taking initiative upon themselves by installing solar panels on their rooftops, and many people would agree solutions such as these are much more friendly to the environment. There is even area along major highways throughout the state that could be considered for solar panel placement.

I am very excited and hopeful about this proposed project, I am just very concerned for the natural landscape of the southwest. This is not an objection to the solar panels, it is merely a voice for the creatures and plants in the surrounding areas that cannot speak for themselves. It is also a voice for all the members of the community who were not able to respond with their opinions because they were not informed of this solar energy project. The natural landscape of this country is truly what makes it so beautiful and magnificent, and we would all be devastated to loose it. Please consider these statements very carefully, and know that if effort was made to contain solar panels to cities and already developed areas there would be many people open and willing to help in any way possible.

Sincerely and thank you from the great southwest

Thank you for your comment, norma escobedo.

The comment tracking number that has been assigned to your comment is SolarD10138.

Comment Date: March 24, 2011 21:33:40PM
Solar Energy Development PEIS
Comment ID: SolarD10138

First Name: norma
Middle Initial:
Last Name: escobedo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

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Sincerely and thank you from the great southwest

Thank you for your comment, siba escobedo.

The comment tracking number that has been assigned to your comment is SolarD10139.

Comment Date: March 24, 2011 21:34:32PM
Solar Energy Development PEIS
Comment ID: SolarD10139

First Name: siba
Middle Initial:
Last Name: escobedo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

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Sincerely and thank you from the great southwest

Thank you for your comment, luis escobedo.

The comment tracking number that has been assigned to your comment is SolarD10140.

Comment Date: March 24, 2011 21:35:33PM
Solar Energy Development PEIS
Comment ID: SolarD10140

First Name: luis
Middle Initial: g
Last Name: escobedo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

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Sincerely and thank you from the great southwest

Thank you for your comment, ernie escobedo.

The comment tracking number that has been assigned to your comment is SolarD10141.

Comment Date: March 24, 2011 21:36:10PM
Solar Energy Development PEIS
Comment ID: SolarD10141

First Name: ernie
Middle Initial:
Last Name: escobedo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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Sincerely and thank you from the great southwest

Thank you for your comment, nancy harlow.

The comment tracking number that has been assigned to your comment is SolarD10142.

Comment Date: March 24, 2011 21:36:43PM
Solar Energy Development PEIS
Comment ID: SolarD10142

First Name: nancy
Middle Initial:
Last Name: harlow
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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Sincerely and thank you from the great southwest

Thank you for your comment, troy harlow.

The comment tracking number that has been assigned to your comment is SolarD10143.

Comment Date: March 24, 2011 21:37:23PM
Solar Energy Development PEIS
Comment ID: SolarD10143

First Name: troy
Middle Initial:
Last Name: harlow
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

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Sincerely and thank you from the great southwest

Thank you for your comment, krysta ramirez.

The comment tracking number that has been assigned to your comment is SolarD10144.

Comment Date: March 24, 2011 21:38:06PM
Solar Energy Development PEIS
Comment ID: SolarD10144

First Name: krysta
Middle Initial:
Last Name: ramirez
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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Sincerely and thank you from the great southwest

Thank you for your comment, rosario escobedo.

The comment tracking number that has been assigned to your comment is SolarD10145.

Comment Date: March 24, 2011 21:38:49PM
Solar Energy Development PEIS
Comment ID: SolarD10145

First Name: rosario
Middle Initial:
Last Name: escobedo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

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I am very excited and hopeful about this proposed project, I am just very concerned for the natural landscape of the southwest. This is not an objection to the solar panels, it is merely a voice for the creatures and plants in the surrounding areas that cannot speak for themselves. It is also a voice for all the members of the community who were not able to respond with their opinions because they were not informed of this solar energy project. The natural landscape of this country is truly what makes it so beautiful and magnificent, and we would all be devastated to loose it. Please consider these statements very carefully, and know that if effort was made to contain solar panels to cities and already developed areas there would be many people open and willing to help in any way possible.

Sincerely and thank you from the great southwest

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10146.

Comment Date: March 27, 2011 18:26:55PM
Solar Energy Development PEIS
Comment ID: SolarD10146

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Greetings,

Hello. My name is Mark Burgum and I am a member of IBEW Local 477. I am commenting today on behalf of myself, not the IBEW, my local, or our membership. I am very pleased to hear of the steps forward the CEC has taken regarding solar plants in California. These critical steps that the CEC have taken gives myself lots of hope for a number of reasons. I am happy to know that our state is taking the necessary steps to produce clean energy. I am aware that the size of these projects can have a slight impact on local enviroments, but, as the commitee concluded with the Ivanpah project, in the long run, the good that this project will produce definately out-weighs the bad. I am happy to know that the men and women constructing these projects will be, for the most part, Californian. That means that people like myself, living in southern California, will have an opportunity to take on a long-term, good paying job, enabling us to purchase property such as homes and new vehicles. The money put into the pockets of most of the craftsmen constructing the project will also be spent here in California.

After feeling and witnessing the effects of the recession, I would like to encourage more and more companies to construct clean energy facilities, not only here in my area, but all over the country. As long as the local enviroments do not get devastated, projects like Ivanpah will put people to work, generating revenue in the areas in which the projects are being constructed. In the wake of energy disasters like the oil spill in the gulf, and the Nuclear crisis in Japan, I believe the time is right to get projects like Ivanpah up and running, so our way of life can continue normally, under renewable sources. A solar plant cannot cause an oil spill or spill radiation into our bodies.

I, myself, am ready and willing to show up to any solar project and give 100% effort, 100% of the time. If our local building trades can produce on a project of these magnitudes, it will only open more doors, for more approved projects, keeping men and women employed, and taking the necessary steps towards a state that is running off of renewable sources. I, like many others, will be very proud to put in a days work, for a days pay, and being a crucial part of California's economic and enviromental recovery.

Thank you for your time.

Mark Burgum
Journeyman Wireman, IBEW Local 477
sicboy760@aol.com

Thank you for your comment, Julie Smiley.

The comment tracking number that has been assigned to your comment is SolarD10147.

Comment Date: March 28, 2011 18:13:57PM
Solar Energy Development PEIS
Comment ID: SolarD10147

First Name: Julie
Middle Initial: D
Last Name: Smiley
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State: CA
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Privacy Preference: Don't withhold name or address from public record
Attachment: PEIS response letter.doc

Comment Submitted:

Julie Smiley
PO BOX 473
Desert Center California
March 6, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

To Whom it May Concern

I was born and raised in Desert Center California which is a small unincorporated city in California's Colorado Desert. It is located between Indio and Blythe on Interstate 10. Over the years, I have witnessed numerous attempts by organizations to encroach on this small community and have just recently become aware of yet another such proposal involving the development of solar farms. This will undoubtedly disrupt the lives of residents and the fragile desert ecosystem alike. I have many concerns about such a proposal and would like to have the following accepted as my official comment for matters that I would like to see addressed and mitigated.

CONCERNS

Ecosystem Concerns- Desert Tortoise

Desert Center and the surrounding desert area is home to a host of delicate, protected, and endangered plant and animal life which will be affected by the large, utility scale solar project development suggested and approved for this area. The PEIS documents list a number of plant and animals that were considered and of those, there is the Desert Tortoise. The proposal is to relocate the tortoises as they have been in so many other instances. My concern was just how these animals fare when moved and found the following.

" During an Evidentiary Hearing on September 20, 2010 in which the California Energy Commission sought final comment on their plan to approve the gigantic solar sprawl at Calico, CEC biologist Chris Huntley stated that, " For the control site for a tortoise that's just handled, blood tested, and radio tagged, we placed a 5 percent mortality rate on that based on feedback from the Fish and Game. For the Tran located tortoise, the tortoise physically moved from the project site and placed in a translocation site, we

assumed a 50 percent mortality figure."

http://faultline.org/index.php/site/item/desert_tortoise_relocation_is_desert_tortoise_eradication/)

- **My question concerning the tortoises is what types of consideration have been given to minimizing or forgoing the relocation of the tortoises given this potential mortality rate***?*

Ecosystem Concerns- Ironwood Trees

My understanding is that, the Midland Ironwood Forest is the largest concentration of desert ironwood trees (Olneya tesota) in California. The area is in the Palen-McCoy Wilderness area between the Palen Mountains and the McCoy Mountains, a few miles northwest of Blythe, California. It is my understanding the project slotted for this area has already been approved by the BLM. According to www.desertmuseum.org/programs/flora, it is believed these trees are as much or more than 800 years old and it just kills me that there would any consideration of clearing this area!! I am concerned about the Ironwood Forest in the Desert Center area as well. It may not be recognized as Wilderness area, but it is a very densely populated stand of ancient Ironwood. It would be a travesty to bulldoze these trees. The desert takes so very long to recover from grading and clearing. This is evident by the abandoned jojoba farms in the area. It has taken more than 20 years since this abandonment for even the more opportunistic shrubs to grow in the area, but you won't see Palo Verde, Ironwood or smoke trees. It will be hundreds of years before the desert looks like it did before clearing for agriculture. It just doesn't make sense to me to destroy an ecosystem to generate green energy.

In table ES.2-5 Summary-Level Assessment of Potential Environmental Impacts by Alternative it states under "Vegetation" that this project would require total removal of vegetation which could result in significant direct impacts in terms of increased invasive species introduction and habitat loss. And under the mitigation measures "invasive species control programs" and the statement "**could** significantly reduce many of these impacts" do not seem adequate in my mind. You seem to address the invasion of opportunistic vegetation but do not address the destruction of other indigenous vegetation, like the 800 year old Iron Wood Trees etc.

- **How will you mitigate for the complete destruction of the indigenous vegetation and the resulting loss of habitat culminating in the demise of entire species of plant and animal life?**

- **Given the noted decline in Ironwood, the extended maturation period, and the importance of the Ironwood tree to so much of the desert wildlife, what are plans to avoid or minimize the tree's destruction during this development? Will areas be excluded or will they all are be cleared for development?**

The following comments are going to be directed specifically toward the Riverside East Project.

In the Executive Summary you mention a variety of location specific factors the PEIS will be looking at, some of those being habitat, and public sentiment. First of all let me address habitats. In Table ES.2-5 Summary-Level Assessment of Potential Environmental Impacts by Alternative under Wildlife and Aquatic Biota it is stated "Numerous wildlife species would be adversely impacted by loss of habitat, disturbance, loss of food and prey species, loss of breeding areas, effects on movement and migration, introduction of new species, habitat fragmentation, and changes in water availability." And your mitigation measures "limiting land disturbance, (you already state under vegetation"total removal of vegetation") conducting pre-disturbance surveys, controlling surface water run off" (more grading?) are inadequate when you consider the long term impact the loss of habitat will have on the area.

- **How will you determine the impact of destroying 202,000 acres of desert habitat and the effect that will have on the wildlife in that area?**

- **What can we do as citizens if the mitigation measures are not found to be adequate?**

As for public sentiment, WE ARE OPPOSED!! And I hope we make our voices loud and clear through this process.

The summary does not consider those of us residing in the area. Taken from the BLM Website concerning the PEIS

"While the lands to the north and west of the SEZ are generally undeveloped mountains, the lands to the southeast are agricultural, and there is development along I-10 just south of the SEZ, though areas south of the SEZ beyond I-10 are generally undeveloped. There are isolated ranches, homes, and associated structures located on private lands near the SEZ, as well as local roads and airstrips. Scattered tanks and other structures associated with ranching and farming are visible from the SEZ, as well as the abandoned Eagle Mountain Mine and Ironwood State Prison."

The document fails to mention parts of the Riverside East proposed SEZ sit less than 100 yards from a resort community called Lake Tamarisk which by the way houses approximately 300 people. We have a golf course, fire department, library, lake, clubhouse, schools and various small businesses. Our economy depends and is vicariously balanced upon our winter visitor population. If the areas are developed as close as they are laid out right now to this community, we will most certainly lose our economic base….our winter visitors. They come, in part, for the wide open spaces, clean air, views and ATV activity, all of which will be affected by the projects. So, YES I do believe public sentiment will be in strong opposition to the project.

If all BLM land (or even part) in and around I-10 in the Desert Center, Lake Tamarisk, Rice Road, and Eagle Mountain area are designated for Solar Projects all potential future development will have been halted. Due to the particular dynamics of that area we have lost our gas station and grocery store and many other commercial prospects. The only property left with road front access for potential development is the triangle of land between 177 and Kaiser Road, and the land down 177 and possibly the land around the Corn Springs Exit. The community is working hard to develop its Chamber of Commerce and in the development of that we are working toward a Strategic Plan. We have hopes of obtaining some of that property to be used in the development of commercial property to be used for expansion and growth.

I feel for this particular community that land would be better served for public use as such. A project on the scale of these solar initiatives this close to the population and growth corridor will most certainly cause the collapse of our community.

Please consider moving the boundaries much further from Desert Center, Lake Tamarisk, Eagle Mountain and communities on Rice Road (177). If your view is that you will bring growth to our area you are dead wrong. You have left us no where to grow.

- **My question is how will you mitigate for the negative economic impact this will have on our area?**

Final Comments

I am very concerned for the desert. It seems to me we are not taking enough time to think this through. We need every aspect of our world, it's all interconnected. Many people don't see the desert as a contributing factor, but it is. I accept the desert is a perfect place for solar farming, but it needs to be reasonable. Why isn't there more talk about putting solar on roof tops and using abandoned agriculture land first. I know it's a logistical nightmare, but the effects of destroying the desert will leave a similar or worse nightmare in the hands of a generation whose voices were unheard.

And these Solar Energy Zones, if utilized to its potential, would decimate the desert. And although people argue that just because the zone has been approved doesn't mean they will be developed, my feeling is once the infrastructure is in place; it's only a matter of time before they develop the land for solar use.

I am also concerned with the "fast tracking", it is just giving the government permission to cut corners. They have been given the incredible responsibility of preserving public lands for future generations. The following statement best sums up how I feel.

Jim Andre, Ph.D. University of California Riverside botanist, and Director of the Sweeney Granite Mountains Desert Research Institute states, "Rather than be smart from the start by utilizing ecologically degraded sites first, a reckless and scientifically unmerited decision has been made to instead race into our most pristine desert and obliterate some of the most botanically significant lands in California." With over 250 projects in application in California alone, over 2 million acres of desert would be graded if all of the projects now in application were to be approved. Dr. Andre continues, "This scale of an impact has never occurred before. When you consider the importance of these (eco) systems to provide corridors for species to move as climate changes, whether its human caused change, or just the natural course of variation in climate change, you've really done in the entire ecosystem at that scale."

Sincerely,

Julie Smiley

Desert Center, California Concerned

Thank you for your comment, Kerry Hart.

The comment tracking number that has been assigned to your comment is SolarD10148.

Comment Date: April 1, 2011 10:02:05AM
Solar Energy Development PEIS
Comment ID: SolarD10148

First Name: Kerry
Middle Initial: S
Last Name: Hart
Organization: Concerned U.S. Citizen
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Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

First, I would like to state that I am an advocate of renewable energy resource development, but renewable energy development based on well thought out and methodical scientific decision making processes, not uniformed or emotional political decisions.
My recommendations are:
1) Utility scale solar energy develpment on public lands should be the last alternative considered. Utility scale solar energy development requires vast acreages of land and their construction is more destructive to landscapes, ecosystems, and negative view shed impacts than open pit mining activities.
2) The first alternative to be considered should be the development of utility scale solar projects on private lands or previously disturbed areas of the public domain. Siting should be first considered on private fallow or abandoned agricultural lands where the landscape aspect is usually low gradient and ideally suited for solar energy development as demonstrated by the Abengoa Solar Energy Development project adjacent to Harper Lake in California. Abandoned agricultural lands have usually been left idle due to excessive pumping and lowering of precious ground water resources in the arid southwest. Thus Concentrated Solar Power (CSP) energy plant approvals should be based on air-cooled systems, or hybrid dry-wet systems as a worst case second alternative.
3) As a last case alternative utility scale renewable energy projects should only be considered on public lands in close proximity to cities or large towns. This will reduce disturbance in remote public lands that will continue to fragment and damage fragile desert ecosystems and view sheds. First consideration should also be given to previously disturbed areas such as landfills and abandondened mine sites, airports, or heavily damaged areas by previous military activities such as the Nevada Test Site. Placing these plants close to existing communities on public lands will reduce transmission loss of the already tenuously economic renewable energy systems technology of today. This last resort alternative placing these large land area consuming projects close to existing communities will also reduce additional contributions of greenhouse gasses by reducing employee transportation and construction materials haulage distances and commutes.
4) The federal government agencies should invest greater thought and support to distributed Photovoltaic renewable energy projects and providing tax incentives to U.S. citizens instead of large and mostly foreign corporations that develop large scale utility solar projects. In the end citizens will foot the bills for higher costs of renewable energy through local tax revenue losses and higher energy costs. Distributed Photovoltaic renewable energy will better contribute to truly independent energy development, not only transmission grid-wise, but geographic electrical energy independence from local potential catastrophic electrical system failures due to earthquakes and other natural hazards.
5) If utility scale renewable energy projects are to be developed on public lands, rigerous NEPA and EIS processes need to be followed to the letter of the law. As recent law suits and requests for injunctions against Federal and State approved "Fast-Track" renewable energy projects in the Colorado and Mojave Deserts of California and Nevada have demonstrated, there is great disatisfaction and disapproval of this short-circuiting process. The EIS documents concerning these fast-tracked approved projects appear hypocrytical from my perspective as these are "solar" mining projects. In reality these large utility scale renewable energy projects consume the same amount of raw natural resources to manufacture the plant equipment, the consumption of precious ground water resources for cooling and collector washing, as conventional coal-fired, petroleum, or natural gass electrical generating plants. This in conjunction with the tremendously large land area footprints and ecosystem destruction that are larger than open pit gold and base metal mining operations (which are required to generate the raw materials from which to build solar energy plant equipment). From that perspective these large utility scale solar energy projects would not be approved based on the historic record and present public attitudes in general.

Thank you for considering my suggestions,
Kerry S. Hart, Geologist

Thank you for your comment, Janine Blaeloch.

The comment tracking number that has been assigned to your comment is SolarD10149.

Comment Date: April 1, 2011 15:44:33PM
Solar Energy Development PEIS
Comment ID: SolarD10149

First Name: Janine
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Last Name: Blaeloch
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Attachment: SDR PEIS LETTER FINAL 3-31.pdf

Comment Submitted:

SOLAR DONE RIGHT

March 31, 2011

Contact: Janine Blaeloch, Western Lands Project
PO Box 95545 Seattle, WA 98145

US Bureau of Land Management
Draft Solar PEIS Comments
Argonne National Laboratory
9700 S. Cass Avenue, EVS/240
Argonne, IL 60439

Submitted electronically via: http://solareis.anl.gov/involve/comments/index.cfm

RE: Comments of Solar Done Right on Draft Solar Programmatic Environmental Impact Statement

To whom it may concern:

On behalf of Solar Done Right, its members and associates, we submit the following comments on the Draft Solar Programmatic Environmental Impact Statement (DPEIS).

Solar Done Right is a coalition of public land activists, solar power and electrical engineering experts, biologists and renewable energy advocates who view with great concern the industry and government momentum behind siting industrial scale, centralized solar power stations on large swaths of ecologically valuable public lands.

We have come together to urge government, utilities, the mainstream environmental movement and the public to abandon this destructive path, and to work toward generating the power we need in the built environment.

Solar Done Right holds that there is a proper hierarchy of priority for strategies to end our nation's addiction to fossil fuels. We should start the switch by using the most cost-effective strategies for renewable energy production, which also happen to be the least environmentally destructive. In descending order of priority:

1. Reduce demand. According to some estimates, an aggressive program of conservation and energy efficiency using currently available technology could reduce US power consumption by nearly one third.[1]

2. Generate renewable energy at or near the point of use. Distributed solar generation on homes and businesses is cost-competitive and does not incur the energy loss of distribution through transmission lines. Users can benefit through reduced utility bills

[1] http://www.grist.org/article/2009-09-11-how-much-energy-does-the-us-waste/

or sales of power into the grid, or both. Installation time from project conception to completion is measured in weeks rather than years.

3. Generate renewable energy on a larger scale within the built environment. Most cities possess large industrial spaces including warehouse roofs, brownfields, large parking lots, airports, and other areas that could be either converted to or augmented with renewable energy production using existing technology. Emerging technologies offer promise for additional methods to incorporate solar energy production into new residential and commercial construction.

We maintain that a mixture of these techniques can meet our electrical energy needs without sacrificing biologically valuable desert and grassland ecosystems with large scale concentrating solar power plants.

Should these common-sense methods fail to meet our society's long-term demand for renewable energy, centralized solar power plants should be sited only on available disturbed, degraded and contaminated lands that offer little carbon sequestration, wildlife habitat or other natural resource values. Renewable technologies that do not deplete scarce arid land water resources should be prioritized. In any event, prudent and responsible renewable energy development should always steer large-scale renewable energy production away from intact public and private wildlands and prime agricultural lands.

I. Background

The need to make a rapid transition to a renewable-based energy economy is urgent. Global warming threatens to unwind the relatively stable climate regime that has supported the evolution of present human and ecological systems.[2] At the same time, our economy has been rocked by global financial market crises that threaten to undermine our long-term economic security. It is imperative that we target the most efficient, rapid and cost-effective path to a renewable energy future that creates quality employment, revitalizes local economies, protects the environment and renews our communities.

The beauty of renewable energy is its ubiquity. Solar in particular is available globally at the point of use. Advances in renewable energy, including smart grid technologies, are revolutionizing our energy systems. Many experts agree that decentralized generation and distribution is the wave of the future. If we are to realize our full renewable energy potential, we must make a major departure from the old energy business model dependent on a constantly expanding, centralized utility system.

In the US, utility monopolies have dominated our energy sector for more than half a century. Resistance to change permeates the highest echelons of government. The adoption of Renewable Energy Portfolio Standards (RES) in many states, including the six states analyzed for solar resources in the PEIS, reflects this old energy paradigm.

Reducing CO2 emissions has been cited by the California Energy Commission as an "overriding consideration" for permitting solar projects that have otherwise failed to meet environmental standards. DOI and DOE need to review the effectiveness of RES's in reducing emissions before pursuing a national RES policy. By mandating a market "add-on," rather than a substitution, RES's may be ineffective in reducing emissions or climate change. Because there is no requirement to reduce fossil-fuel-generated power by an equivalent megawattage, RES mandates are being used by Investor Owned Utilities (IOU's) to create an artificial market above existing generation, even as efficiency and conservation reduce overall demand. In addition, utilities are playing the green card to justify lucrative new transmission infrastructure.[2] If left unchecked, RES policies could undermine efforts to reduce CO2 emissions, unnecessarily increase the cost of renewable energy, and delay by decades our transition to a new energy economy.

II. Business as usual

"Leading" in the wrong direction

Against this backdrop, the Administration claims to be making sweeping changes in the way we generate energy in this country, yet there is nothing new or innovative about this policy other than that it uses solar in place of traditional fossil fuel energy to power massive centralized generation stations on a scale never before seen.

Even many purported progressives have taken the approach that we must "do it all, everywhere" in order to confront the climate crisis—yet ignored in the analysis are the environmental damage and counter-productivity of siting industrial-scale solar development on carbon-sequestering, ecologically valuable intact public lands. Though allusions are frequently made to the need to site solar power plants wisely and in an "environmentally responsible" manner, serious efforts to act on these concerns are sorely lacking.

There is a severe lack of proper leadership on renewable energy policy in the US. Solar Done Right believes this leadership vacuum will endure as long as the Bureau of Land Management remains in charge of solar energy development. As long as remote, pristine and near-pristine desert in the public sphere is the centerpiece of solar development siting, the BLM remains indispensable and has no reason to relinquish its current role.

Same old energy interests

By offering up public resources, the BLM is subsidizing the same energy interests that have profited by oil and gas development on public lands and waters (BP, Chevron). Taxpayer-funded subsidies in the form of cash grants and federal loan guarantees are going to the same financial players that helped bring the country to the edge of financial meltdown (Morgan Stanley, Goldman Sachs).

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[2]Overland, Carol A, Attorney, "Transmission: It's all connected," Slide 13, public presentation, January 20, 2011, Adams State College, Alamosa, Co, http://legalectric.org/?s=San+Luis+Valley

By converting public lands to industrial energy factories in fragile, remote areas with massive requirements for transmission at great cost to ratepayers and the environment, our renewable energy policy is taking the least enlightened path possible, staying close to the status quo while attempting to create the illusion of change.

Fourteen solar projects on over 60,000 acres and more than 750 miles of new high-voltage transmission projects have been fast-tracked on public lands.[3] The projects range from 516 to 7,840 acres, with the average power plant exceeding 4,300 acres. This scale and intensity of development on public lands is unprecedented. Massive solar power plants pose irreversible, long-term, cumulative ecosystem and species-level threats to fragile desert and grassland biomes.

In addition, expediting so many fast-tracked projects all at once has rendered public review of environmental impact studies nearly impossible.

Failure to meet environmental standards

Numerous deficiencies in meeting National Environmental Policy Act (NEPA) legal requirements have been documented by agencies and environmental groups[4], including, but not limited to:

- Inadequate or completely lacking biological surveys
- Failure to adequately assess indirect impacts
- Failure to consider a reasonable range of project alternatives
- Narrow purpose and need statements
- Absence of baseline visual and noise resource analysis
- Inadequate cumulative impacts analysis
- Deficient underlying planning documents that never contemplated this scale of development and have no relevant guidelines that limit acceptable change
- Unresolved, deferred, and inadequate mitigation measures

The fast-track process puts enormous pressure on responsible agencies and staff to rush through evaluations of largely unknown technologies on an unprecedented scale. In acknowledgement of the serious shortcomings of the fast-track process, even otherwise compliant environmental groups issued the following "disclaimer" of the fast-track process:[5]

> "We urge the BLM and the Interior Department to acknowledge publicly the deficiencies of the current [fast track] process and to commit publicly to improving it. More specifically, we urge both entities to affirm that neither the current process, nor any of the project sites, nor any of the environmental documents, establish any legal or procedural precedents for future decision-making, siting or environmental review."

[3] US Department of Interior, Bureau of Land Management, Fast-Track Renewable Energy Projects, updated: January 6, 2011: http://www.blm.gov/wo/st/en/prog/energy/renewable_energy/fast-track_renewable.html

[4] Al Weinrub, *Community Power: Decentralized Renewable Energy in California*, November 2010, page 26: http://www.localcleanenergy.org/Community-Power-Publication

[5] NRDC, Sierra Club et al, *Comments on Chevron Energy Solutions Lucerne Valley Solar Project*, May 2010.

As of this writing, Secretary Salazar has approved nine of the fourteen fast-tracked utility-scale solar developments on public land, six in the deserts of California and three in Nevada, the proposed plants' maximum generating capacity totalling approximately 3,200 MW on more than 29,000 acres.

In many cases, agency staff determined projects to have multiple, unmitigatable adverse environmental impacts. Rather than reducing the scale, redirecting projects away from sensitive habitats, or denying project approvals, agencies invoked subjective "overriding considerations" to push otherwise unwarranted approvals through. The move was based on a hypothetical assertion that reduced greenhouse gas emissions resulting from solar generation would offset negative environmental impacts. The Imperial Valley Solar Project offers a point in case:

> "…Staff believes that the direct project impacts to biological resource, and soil and water resources, and visual resources, and the cumulative impacts associated with biological resources, land use, soil and water resources, and visual resources for the Imperial Valley Solar (IVS) Project will be significant. There is no feasible mitigation that would reduce the impacts to a level that is less than significant given the scale of the project, and other projects that were cumulatively considered…staff recognizes that due to a lack of information regarding the long-term performance of this new technology, it is uncertain whether the applicant's claims regarding reliability will be met."[6]

Agency staff nevertheless concludes:

> "Notwithstanding the unmitigatable impacts…it will provide critical environmental benefits by helping the state reduce its greenhouse gas emissions, and these positive attributes must be weighed against the projects adverse impacts. It is because of these benefits and the concerns regarding the adverse impacts that global warming will have upon the state and our environment, including desert ecosystems, that staff believes it would be appropriate for the Commission to approve the project based on a finding of overriding considerations…"[7]

No scientific evidence has been presented to support the claim that these projects reduce greenhouse emissions. Indeed, recent evidence suggests that the opposite may be true. In a seven-year monitoring study, researchers at the University of Nevada, Las Vegas found that carbon sequestration rates in Mojave Desert ecosystems rival or exceed that of some forest and grassland ecosystems.[8]

More recent work at the Center for Conservation Biology, University of California, Riverside, suggests that soil disturbance from large-scale solar development may disrupt Pleistocene-era caliche deposits that release carbon to the atmosphere when exposed to the elements, thus

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[6] California Energy Commission Staff, *Staff's Comments Regarding a Possible Energy Commission Finding of Overriding Considerations – Imperial Valley Solar Project* (08-AFC-5), July 27, 2010: http://faultline.org/images/uploads/TN_57759_07-27-10_Staffs_Comments_to_Override_Considerations.pdf

[7] Ibid.

[8] Richard Stone, "Have Desert Researchers Discovered a Hidden Loop in the Carbon Cycle?" *Science*, June 16, 2008: http://www.allianceforresponsibleenergypolicy.com/CarbonCyclereport.pdf

"negat[ing] the solar development C gains." Allen, et al. call for more studies on groundwater depletion, landscape fragmentation, vegetation type conversion and regional carbon budgets. The researchers warn that "moving forward with industrial-scale solar developments in undeveloped desert habitats without quantifying the array of impacts…may unknowingly compromise biodiversity and ecosystem functioning."[9]

In addition, sulfur hexafluoride (SF6), used primarily as an electrical insulator in high voltage transmission of electricity, is the most potent of the six greenhouse gases regulated by the EPA, with a global warming potential 23,900 times that of CO2. One pound of SF6 is equivalent to eleven tons of CO2, nothing sequesters it and the chemical has a half-life in the atmosphere of 3,200 years.[10] The cost and effect of adding over 750 miles of new transmission infrastructure on SF6 emissions must also be factored into carbon-balance equations.

Unlike other forms of energy extraction, concentrating solar development entails use of 100 percent of the surface of a site. Environmental impacts are long-term (decades to centuries) [11] and the prospect of either short- and long-term reclamation remains purely speculative.

Until sound scientific research confirms the untested assumption that displacing intact, carbon sequestering desert and grassland ecosystems with solar power plants will, in fact, result in a net CO2 reduction, evocation of categorical exclusions or other environmental waivers is arbitrary and unwarranted.

Offsite mitigation and translocation of affected federally threatened and endangered species, including the desert tortoise, Mojave fringe-toed lizard, flat-tailed horned lizard, golden eagle and desert bighorn, is another severe, unresolved concern. Translocation efforts for sensitive species are still experimental.[12] Inadequately assessed and mitigated impacts from developing large swathes of desert are highly likely to undermine vital conservation and recovery efforts.[13]

It is impossible to determine how much land would be required as mitigation habitat for affected species such as the desert tortoise, because it is not known how many projects could ultimately be permitted. Further, there is little suitable habitat available on private lands in the areas most heavily targeted for industrial solar development, providing narrow opportunities to acquire whatever mitigation habitat might be needed.

The prospects for the species survival, upon which "takings" permits are based, are likely overly optimistic. The overall impact of multiple projects will be devastating to vulnerable species

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[9] Allen, Michael, F., McHughen, A, Barrows, C., *Impacts of Large-scale Solar Development on Regional Ecosystem Dynamics: Critical Research Gaps*, Desert Tortoise Council, 36th Annual Meeting and Symposium, Feb. 18-20, 2011, Las Vegas, NV, http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf

[10] US EPA. SF6 *Emission Reduction Partnership for Electric Power Systems*: http://www.epa.gov/electricpower-sf6/basic.html

[11] Ibid.

[12] Field, Kimberleigh, Desert Tortoise Recovery Office, US Fish and Wildlife Service, Reno, NV, *Minimizing Risks When Translocating Desert Tortoises*, Desert Tortoise Council, 36th Annual Meeting and Symposium, Feb. 18-20, 2011, Las Vegas, NV, http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf

[13] Belenky, Lisa, *Fast-Tracking the Death by a of Thousand Cuts: How Sprawling Industrial Renewable Energy Development in the Desert is Undermining Conservation of the Desert Tortoise*, Desert Tortoise Council, 36th Annual Meeting and Symposium, Feb. 18-20, 2011, Las Vegas, NV, http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf

dependent on these habitats, particularly to unique populations restricted to narrow habitat conditions.

There is a broad misconception among the public (and to some extent among scientists and land managers), that scientists have completed the floristic inventory of the California desert, and that the remaining hotbeds for botanical discovery are limited to places like Indonesia and the Brazilian Amazon. Yet the California desert is, in fact, one of the remaining floristic frontiers in the United States. Using the trends from the past 50 years and extrapolating forward in time, we can expect to discover another 200 native plant species in the California deserts over the next 50 years. Thus, approximately nine percent of today's California desert plants are not yet named by science. Given the scale and rapid pace of energy development in the desert regions, we are likely to incur extinctions, and many will be species we never had the opportunity to discover and name.[14]

In addition, cultural resource conflicts are rife, as underscored by the concerns expressed by Native Americans and their legal challenges based on lack of consultation by the BLM on six of the nine projects permitted by DOI to date.

Public risk, private gain

Adding to the public burden are government cash grants to private, for-profit consortiums of up to 30 percent of a project's total cost. Much of the momentum behind fast tracking was to meet the December 21, 2010 deadline for solar projects to quality for American Recovery and Reinvestment Act (ARRA) funding. Under industry pressure, Congress is considering extending recovery funds for solar development.

ARRA funds have also been allocated for loan guarantees — that is, loans by US taxpayers through the Treasury Department, guaranteed by taxpayers through the Department of Energy. Two have been issued so far — $1.37 billion to BrightSource for three plants in the Mojave, and $1.45 billion to Abengoa for a plant on private land in Arizona. Solar Millennium is seeking a $1.9 billion loan/guarantee for its projects in Blythe.

The President's proposed budget also includes $73 million to review and permit renewable energy projects on federal lands. In addition to these generous federal subsidies, states have waived millions of dollars in permit-processing fees for private utility-scale solar developers, with no provision for reimbursement.[15]

The Department of Interior has set as its goal "to permit at least 9,000 megawatts of new solar, wind, and geothermal electricity generation capacity on DOI-managed lands by the end of 2011." Reaching this goal before the end of the year would require fast tracking of an additional 5,800 MW on more than 70,000 acres. Whether or not there are more fast-track proposals, it is clear that the Administration is strongly committed to the current, expedited policy.

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[14] Andre, Jim Email communication to Solar Done Right, February 17, 2011.
[15] Jessica Cejnar, "County could establish position on green energy projects," *Desert Dispatch*, April 2010: http://www.desertdispatch.com/news/board-8265-position-energy.html

Staying the wrong course

Six of the nine fast-tracked projects are currently under litigation in response to inadequate, expedited reviews and potentially unwarranted approvals. In addition, some fast tracked projects depend on approvals of new long-distance transmission lines that are, themselves, under litigation. Rather than expediting solar energy generation, the "fast track" process has complicated and delayed our country's progress on renewable energy. Agency deference to entrenched, old energy interests and business models have created policy mire that could be decades or longer to resolve before these projects ever go online.

In an October 2010 conference call to which environmental representatives were invited, Secretary Salazar expressed ambivalence regarding the previous fast-tracked projects, admitting that the "process had not been perfect." The Secretary rationalized project approval on the basis that there had been no renewable energy program before he came in. He alluded to setting aside 1,000 square miles (640,000 acres) for solar—about the amount of land in the Solar Study Areas mapped out prior to issuance of the Draft PEIS.

We expected the problems identified in the course of the fast-track process to be remedied through the Solar PEIS, which DOI and DOE began in 2008, to "establish environmental policies and mitigation strategies (e.g., best management practices and siting criteria) related to solar energy development." Maps of the solar study areas (SSAs), encompassing 676,000 acres, were offered for public review.

Late in 2010, as the release of the draft PEIS approached, in the wake of the Secretary's approval of several fast-track projects, we looked ahead to the PEIS for what we hoped would be a more rational and acutely focused analysis. This would in turn result in a legally and biologically defensible program. It was widely assumed, and regularly reinforced through statements from Interior, that the PEIS would begin with the 676,000 acres of SSAs and work from there to narrow appropriate lands for solar development, in the six states.

Thus, the public was unprepared for the choice of a Preferred Alternative that would keep 22 million acres of public land—about 33 times as much acreage as the SSAs—open to lease applications.

The Preferred Alternative is directly counter to the intent of the PEIS, which was to introduce some limits and predictability on how development of solar on public lands was to proceed. Caving into industry demands,[16] Interior has essentially said, "We do not wish to establish any meaningful limits on what is available to industry."

[16] Paul, Hastings, Janofsky & Walker, LLP, *Comments of Large-scale Solar Association (LSA), the Solar Energy Industry Association (SEIA), and the Center for Energy Efficiency and Renewable Technologies (CEERT)*, Solar Energy PEIS Scoping letter submitted to BLM, September 14, 2009.

III. Applicable Federal Orders and Inapplicable "Mandates"

The myth of the mandate

By pledging to put a "bulls-eye" on public land for solar development and calling on Congress to make a long-term commitment to billions of dollars in public loan guarantees and grants to large-scale solar developers, Interior Department Secretary Salazar is in keeping with a time-honored tradition of offering up federal land as a dumping ground for yet another single-use, environmentally damaging form of energy exploitation.

Much of the drive behind solar development on public lands has been predicated on what is often referred to as a "mandate" in the 2005 Energy Policy Act (PL 109-58). Policymakers, agencies, industry, the press, and environmentalists all make reference to it. Yet the short provision regarding renewable energy on public lands in the legislation (Section 211), establishes an aspiration, not a mandate:

"It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity."[17]

A Sense of Congress resolution has no force of law. The fact that this provision does not establish a mandate does not render it irrelevant, but it does mean that the Secretary of the Interior is not required to promote and sign off on permitting for utility-scale solar power plants. To do so is a policy choice, not a legally binding Congressional mandate.

Amended Federal Order 3285A1, issued by DOI Secretary Salazar on February 22, 2010, is also cited as the basis for using public lands for solar development. The Order takes its authority from the Energy Policy Act of 2005 (Section 3) and therefore also constitutes a DOI policy choice, rather than a legally binding Order. Nevertheless, the Order states that "as the steward of more than one-fifth of our Nation's lands," the department has a significant role in coordinating and ensuring environmentally responsible renewable energy production… [Emphasis added]." The Order clearly states that the department should pursue solar leasing "while protecting and enhancing the Nation's water, wildlife, and other natural resources."

Given the significant impacts from large-scale concentrating solar that cannot be mitigated, the goal of "protecting and enhancing the Nation's water, wildlife, and other natural resources" while implementing large scale "environmentally responsible" solar development, cannot be met through any of the alternatives being analyzed in the DPEIS.

When considering the big picture of renewable energy development, technology and market trends, we believe that the discretionary targeting of intact public lands for industrial solar development is a grave mistake in need of reversal.

[17] PL 109-58, Section 211.

IV. Scope, purpose, need and alternatives

Narrow, industry-driven alternatives

The National Environmental Policy Act (NEPA) requires agencies to "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. § 1502.14. The courts have found that "The `existence of a viable but unexamined alternative renders an environmental impact statement inadequate.'" And that the "touchstone for our inquiry is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation."

As currently defined, the BLM's scope to analyze "use of multiple solar energy technologies at utility-scale over the next 20 years on lands within six southwestern states," and DPEIS purpose and need, "to respond to the high interest in siting utility-scale solar energy development on public lands," reflect the priorities of the solar industry to gain maximum access to public lands for industrial-scale development,[18] rather than the public interest in identifying the wisest approach to renewable energy development that preserves the long-term value of public lands.

According to the BLM NEPA Handbook H-1790-1 (Section 6.2) and reiterated in Instructional Memorandum No. 2011-059, "The purpose and need statement for an externally generated action must describe the BLM purpose and need, not an applicant's interests and objectives or external proponent's purpose and need (40 CFR 1502.13) (emphasis added), but rather "the problem or opportunity to which the BLM is responding and what the BLM hopes to accomplish by the action." [19]

The foregone conclusion of all of the alternatives analyzed in the DPEIS is the sacrifice of huge swaths of public lands for another wave of energy exploitation. The DPEIS fails to consider whether siting large-scale solar on public lands is the highest and best use of those lands, nor does it explore alternatives to public lands solar.

Siting industrial scale solar power plants on high-value, intact public lands has come under increasing scrutiny as the public becomes aware of viable alternatives such as large-scale solar "roof-top" PV in the built environment, or siting solar development on the nation's millions of acres of disturbed, degraded and contaminated lands.

Distributed generation

While the DPEIS acknowledges that "[distributed generation] will be an important component of future electricity supplies," it rejects the analysis of a distributed generation alternative based on outdated and incorrect assumptions.

[18] Paul, Hastings, Janofsky & Walker, *op. cit.*
[19] US Department of Interior, BLM, Instructional Memorandum No. 2011-059, *National Environmental Policy Act Compliance for Utility-Scale Renewable Energy Right-of-Way Authorizations*, Expires: 09-30/2012.

The DPEIS conclusion that only "23% of required of required electricity supplies could be met with roof-top PV systems" is refuted by numerous studies. For example, a 2007 Navigant study prepared for the California Energy Commission (CEC) estimated the combined solar PV capacity potential of residential and commercial rooftops in California to be 50,255 megawatts in 2010 and 67,889 megawatts in 2016.[20]

A 2009 Black & Veatch and Energy and Environmental Economics, Inc. (E3) report to the CPUC, found 11,543 megawatts of large (greater than 1/3 acre) urban rooftop capacity and 27,000 megawatts of ground-mounted capacity near existing substations. [21]

A June 2010 update of the study found that California has a capacity of 55,000 megawatts of decentralized solar PV (over 100,000 GWh/year). [22] This is more than enough to meet the estimated 40,000 to 56,000 GWh/year net short in the state. The potential for DG goes well beyond the numbers cited in these studies that only account for the most accessible commercial sites.

It is common knowledge that solar PV prices have fallen dramatically in the past two years. In a recent filing to the state's PUC, Southern California Edison asked for approval of 20 solar PV projects worth 250 MW – all of which are expected to generation 567 gigawatt-hours of electricity for less than the price of natural gas.[23] Five years ago, solar PV and concentrated solar power were comparable in price, but solar PV is now indisputably cheaper than concentrated solar power.[24]

Solar PV with battery storage has a lower levelized cost than concentrating solar with storage,[25] and many small installations spread widely over a larger geographic area, are far less vulnerable than large central-station solar generation that can be entirely shut down by a single cloud.

Advocates of utility-scale solar commonly omit from their calculations avoided costs of new transmission, and the 7.5–15 percent losses from moving solar-generated electricity hundreds of miles to urban demand centers when comparing the cost of centralized vs. distributed solar generation.

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[20] Navigant Consulting, California Energy Commission, *California Rooftop Photovoltaic (PV) Resource Assessment and Growth Potential by County*, September 2007, Table B.1: http://www.navigantconsulting.com/downloads/knowledge_center/CECReport-500-2007-048.pdf

[21] Black & Veatch, *Summary of PV Potential Assessment in RETI and the 33% Implementation Analysis*, December 2009: http://www.cpuc.ca.gov/NR/rdonlyres/FBB0837D-5FFF-4101-9014-AF92228B9497/0/ReDECWorkshopPresentation1ExistingAnalyses.ppt.

[22] Ryan Pletka, Black & Veatch, LTPP Solar PV Performance and Cost Estimates, prepared for CPUC as input to Long-Term Procurement Proceeding, June 18, 2010, slide 37: http://wwwcpuc.ca.gov/NR/rdonlyres/A0CBE958-E2C4-4AC7-9D56-3-AB4D14D723D/)/BVE3PVAssessment.ppt.

[23] Stephen Lacey, "Solar PV Becoming Cheaper than Gas in California?," *Renewable Energy World*, February 8, 2011, http://www.renewableenergyworld.com/rea/news/article/2011/02/solar-pv-becoming-cheaper-than-gas-in-california

[24] John Farrell, "Busting 4 myths about solar PV vs. concentrating solar," *Grist*, February 17, 2011, http://www.grist.org/article/2011-02-15-busting-4-myths-about-solar-pv-v.-concentrating-solar

[25] Ibid

In cloudy Germany, 8,000 MW of distributed PV were installed in 2010 alone,[26] more than 80 percent of it on rooftops.

A strategy focused primarily on distributed PV would be the most cost-effective approach to rapidly expanding solar power production in the United States. Germany has demonstrated that a spectacularly high, distributed PV installation rate is sustainable when an appropriate contract structure, the feed-in tariff, is utilized.

Approximately 17,000 megawatts of PV were installed worldwide by the end of 2009. Only 664 megawatts of the global total solar was concentrating solar thermal. Ironically, most of this solar thermal capacity was built in California in the 1980s and early 1990s.[27]

In a recent publication, "Federal Government Betting on the Wrong Solar ,"Horse," engineer and PV expert Bill Powers points out:

> The United States is wasting billions of dollars of American Recovery and Reinvestment Act (ARRA) cash grants and loan guarantees on very large, high-cost, high-environmental-impact, transmission-dependent desert solar thermal power plants that will be obsolete before they generate a single kilowatt-hour of electricity…
>
> The Department of Energy (DOE) is in the process of completing a potentially landmark study, the Solar Vision Study (SVS). It maps out a strategy to provide the United States with 10 to 20 percent of its electric energy from solar power by 2030. The document appears to be intended to serve as technical support for a national strategic commitment to solar thermal development….
>
> …The SVS proposes that half of the nation's solar power will come from solar thermal installations, based on a low and unsupported cost-of-energy forecast for solar thermal plants. The SVS also presumes that the Southwest will be the hub from which this solar power is generated and transmitted to other parts of the country, while estimating an almost trivial transmission expense to make this happen.
>
> … A revised and corrected SVS would envision a solar future that is effectively 100 percent solar PV. This PV future would also be predominantly smaller-scale PV connected at the distribution level, to avoid the expense of transmission. Otherwise, enormous costs for the new transmission capacity would be necessary to move remote Southwest solar power to demand centers around the country. [28]

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[26] Kirshbaum, Erik, "Germany to add record 8 GW of solar power in 2010," *Reuters*, December 6, 2010, http://www.reuters.com/article/2010/12/06/us-germany-solar-idUSTRE6B53L220101206

[27] Powers, Bill. Federal government betting on the wrong solar horse, *Natural Gas & Electricity Journal*, December 2010: http://solar.ehclients.com/images/ uploads/01-dec-10_Nat_Gas_ Elec_Journal_Powers_federal_government_bets_on_wrong_solar_horse-1.pdf

[28] Powers, Bill, "Federal Government Betting on the Wrong Solar Horse," *Natural Gas & Electricity*, December 2010, http://www.google.com/search?client=firefox-a&rls=org.mozilla%3Aen-US%3Aofficial&channel=s&hl=en&source=hp&biw=856&bih=797&q=Federal+Government+Betting+on+the+Wrong+Solar+Horse&btnG=Google+Search

Generally speaking, "rooftop" solar is shorthand for solar PV installed on commercial and residential rooftops, parking lots, highway easements, and virtually any site in the built environment that has suitable space for distributed generation. When all costs are factored in—including new transmission infrastructure and transmission line losses—local, distributed solar PV is comparable in efficiency, faster to bring online, and more cost-effective than remote utility-scale solar thermal power or remote utility-scale PV plants.[29]

Local installations such as rooftop or parking lot solar PV reduce peak load at the source of demand and thus reduce or eliminate the need for additional conventional generation and transmission infrastructure. Yet, because investor-owned utilities are guaranteed a high rate of return for transmission and new generation infrastructure, they oppose large-scale deployment of rooftop solar[30] and thus work to perpetrate the myths surrounding point-of-use solar. [31]

Environmental Protection Agency – RE-Powering America

The Environmental Protection Agency (EPA), which is obligated to review all environmental impact statements, stated strongly in its scoping comments on the PEIS that the BLM should include a DG alternative in its analysis. In addition, the EPA "strongly [encouraged] BLM, DOE, and other interested parties to pursue siting renewable energy projects on disturbed, degraded, and contaminated sites, before considering large tracts of undisturbed public lands."[32]

The EPA's Office of Solid Waste and Emergency Response has been identifying abandoned mine lands, brownfields, Resource Conservation and Recover (RCRA) sites, and federal and non-federal Superfund cites that may be suitable for solar and other non-fossil-fuel energy projects.[33]

In its original scoping letter on the Programmatic EIS, EPA identified hundreds of thousands of acres of contaminated sites around the country. Following the same methods used by the National Renewable Energy Lab to identify suitable concentrating solar generation sites, EPA identified a "technical potential" of 920,000 MW of solar generation.[34]

In April 2009, several environmental organizations issued draft recommendations for solar energy development study areas consistent with their own siting criteria. These areas, just in California,

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[29] Powers, Bill, and Sheila Bowers, Solar Done Right Coalition. Distributed Solar PV – Why It Should Be The Centerpiece of US. Solar Energy Policy, http://solardoneright.org/index.php/briefings/post/distributed_solar_pv_why_it_should_be_the_centerpiece_of_u.s._solar_energy_/

[30] Haugen, Dan, "Why Isn't the U.S. Embracing Feed-in Tariffs?," *Solve Climate News*, March 24, 2009, http://solveclimatenews.com/news/20090324/why-isnt-us-embracing-feed-tariffs

[31] Philips, Matthew. *Newsweek,* Taking a Dim View of Solar Energy, Who could possibly be against homeowners using solar panels to power their homes? Utility Companies, August 25, 2009. http://www.newsweek.com/2009/08/24/taking-a-dim-view-of-solar-energy.html

[32] Scoping letter from EPA Region IX dated September 8, 2009, signed by Ann McPherson, Environmental Review Office.

[33] http://www.epa.gov/renewableenergyland/docs/repower_contaminated_land_factsheet.pdf

[34] http://www.epa.gov/renewableenergyland/docs/repower_technologies_solar.pdf. Technical potential is defined as "Potential that is technically possible, without consideration of cost or practical feasibility." Given the hidden financial and externalized environmental costs of the current policy led by the Interior just to site 10,000 MW, we believe it is credible to use the EPA's optimistic estimate for comparison purposes.

comprised 53,400 acres of BLM-managed public land and 242,200 acres of adjacent private lands.[35]

In its Environmental Impact Reviews for fast-track solar projects, the California Energy Commission also identified disturbed public and private land sites as suitable alternatives to some of the proposed undisturbed public land sites. In a compilation of the CEC's comments on these sites and some of his own research, engineer Bill Powers shows yet more alternative sites for several of the projects.[36]

Westland's Solar Park in California's central valley includes approximately 30,000 acres of disturbed land targeted for renewable energy development within the Westland's Water District, where agricultural land has been rendered unusable by salt buildup from long-term, intensive irrigation. The project is believed to be suitable for up to 5 GW of solar power generation.[37]

None of the examples above offers the entire solution, but they do demonstrate the lack of imagination and innovation that is currently guiding site selection. This primitive approach—using public land as the "easy call" for siting renewable energy—is not necessary. There are alternative for siting both large- and small-scale renewables.

Failure to take a "hard look"

Billions have been invested in cash grant and loan guarantees to prop up proposals using 1980s- and 1990s-era technologies in remote, intact desert landscapes, when a push for widespread deployment of DG on pavement and rooftops would serve the public interest far better.

Thus we have an exploitive, outmoded approach to siting mired in 19th Century attitudes toward public land, coupled with financially- and environmentally-subsidized, outmoded technology that will fail to achieve a responsible energy future.

There is vast potential to get outmoded and environmentally damaging solar off public lands by prioritizing distributed generation from solar PV installations in the built environment.

The purpose and need for the PEIS fails to take a hard look at distributed generation and siting alternatives that "minimize adverse impacts or enhance the quality of the human environment" in order to inform decision-makers and the public, as required by NEPA.

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[35] California Desert & Renewable Energy Working Group, *Recommendations to Secretary of the Interior Ken Salazar on Ways to Improve Planning and Permitting for the Next Generation of Solar Energy Projects on BLM Land in the California Desert*, December 22, 2010, http://

[36] http://solardoneright.org/images/uploads/31-jan-_1_BLM_fast_track_projects_list_of_preferred_disturbed_land_alternatives1.pdf

[37] Woody, Todd, "Recycling land for green energy ideas," *New York Times*, August 10, 2010, http://www.nytimes.com/2010/08/11/business/energy-environment/11solar.html *and* http://westlandssolarpark.com/Westlands_Solar_Park/Project_Overview_and_General_Information.html

Instructional Memorandum No. 2011-059[38] issued by the Director of the BLM acknowledges that in limited circumstances the agency may choose to evaluate a non-federal land alternative or different technology alternative raised through scoping, "to the extent necessary to support a decision regarding the pending application." The BLM's dismissive stance regarding alternatives to its own narrow proposals, however, suggests that this would be used exclusively to point up the (false) superiority of the public-land, remote, concentrated solar projects it favors. To comply with NEPA, the BLM must analyze these sites and technologies as the legitimate alternatives they are.

The DC Circuit Court of Appeals has found an EIS inadequate for failing to consider eliminating oil import quotas as an alternative to the sale of oil leases on the Outer Continental Shelf, even though the alternative was outside the jurisdiction of Interior. No PEIS was prepared in that instance, but here there is an even stronger case to consider broader alternatives, as a PEIS is meant to address broader policy decisions rather than a specific proposed action.

As the Council on Environmental Quality has stated,

> "Section 1502.14 [of the NEPA regulations] requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."

And,

> "An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered. Section 1506.2(d). Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a)[emphasis added]."[39]

V. Conclusion

In addition to turning to degraded, contaminated sites, there is vast potential to get outmoded, environmentally damaging solar off public lands in the alternative of distributed generation through solar PV installations in the built environment.

The PEIS dismisses alternatives such as Distributed Generation, restricting solar development to populated areas, or conservation and demand-side management, on the basis of defining the

[38] Ibid.
[39] http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm

purpose and need as "[responding] in a more efficient and effective manner to the high interest in siting utility-scale solar energy development on public lands." This, in turn, the agency relates to "the requirements for facilitating solar energy development on BLM-administered lands established by the Energy Policy Act…"

This approach renders the Draft Solar PEIS fundamentally flawed. The DOI, DOE and BLM are required to consider a far broader range of alternatives. While the Energy Policy Act—upon which Interior leans—expressed Congress' "sense" that Interior "should seek to have approved" a stated amount of non-hydropower renewable energy on public land, it did not establish a mandate. Interior is not required to establish this footprint on public lands, and in light of the evidence regarding the environmental damage it would cause, has the discretion to, and must, change course.

Sincerely,

Janine Blaeloch, Western Lands Project

On behalf of **Solar Done Right co-founders, and affiliates:**

Terry Weiner, Desert Protective Council

Ceal Smith, San Luis Valley Renewable Communities Alliance

Bill Powers, Powers Engineering

Laura Cunningham, Basin & Range Watch

Kevin Emmerich, Basin & Range Watch

Jim Andre, Sweeney Granite Mountains Desert Research Center, UC Natural Reserve System

Chris Clarke

Sheila Bowers

Thank you for your comment, Linda Taunt.

The comment tracking number that has been assigned to your comment is SolarD10150.

Comment Date: April 4, 2011 10:50:21AM
Solar Energy Development PEIS
Comment ID: SolarD10150

First Name: Linda
Middle Initial:
Last Name: Taunt
Organization: Arizona Department of Environmental Quality
Address: Water Quality Division
Address 2: 1110 W. Washington Street
Address 3:
City: Phoenix
State: AZ
Zip: 85007
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: BLM PEIS.pdf

Comment Submitted:

Comment letter attached.

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Janice K. Brewer
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Henry R. Darwin
Director

April 1, 2011

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
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Argonne, IL 60439

SENT VIA E-MAIL: http://solareis.anl.gov/involve/comments/index.cfm

Re: Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

We received notice regarding the availability of the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States. Under the new Solar Energy Program, the Bureau of Land Management (BLM) would establish administration and authorization policies and required design features to replace certain elements of its existing Solar Energy Policies, including:

- Excluding certain categories of land that are known or believed to be unsuitable for utility-scale solar development;
- Identify a number of solar energy zones (SEZs) which are areas with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development;
- Establish comprehensive program administration and authorization policies and design features to be applied to all utility-scale solar energy projects on BLM-administered lands; and
- Establish additional SEZ-specific design features that would represent the most widely accepted methods to avoid and/or minimize potential impacts from the types of activities associated with solar energy development and to successfully administer solar energy development on public lands.

The Arizona Department of Environmental Quality, Water Quality Division (ADEQ) is responsible for ensuring the delivery of safe drinking water to customers of regulated public water systems under the Safe Drinking Water Act, permits for proposed discharges to surface waters of the United States under the federal Clean Water Act (CWA), permits under the State aquifer protection program, and water quality certifications of certain federal licenses and permits. ADEQ has no comments directly related to the Draft PEIS and supports the preferred alternative of the Solar Energy Development Program and the location of the three SEZs in Arizona. ADEQ's comments relate to water quality issues would likely need to be considered by the future project developers.

1. Clean Water Act Permits

As of December 5, 2002, Arizona has authorization from the U.S. Environmental Protection Agency (EPA) to operate the National Pollutant Discharge Elimination System (NPDES) Permit Program (Section 402 of the CWA) on the state level. The NPDES program, and the surface water permits issued, are referred to as the Arizona Pollutant Discharge Elimination System (AZPDES) Permit Program. The program includes individual permits as well as general permits for construction, deminimis discharges, and municipal and industrial stormwater (Multi-Sector General Permit) discharges.

Under A.R.S. § 49-255.01, any point source discharge to waters of the U.S. (including ephemeral washes and their tributaries) requires AZPDES permit coverage. Discharges from industrial facilities, such as the parabolic trough facilities to produce electricity using a steam turbine generator described in Chapter 3, would likely require an individual AZPDES permit if the discharges were to a water of the U.S.

The Draft PEIS is correct that stormwater discharges associated with activities, such as clearing, grading, or excavating, that disturb one acre or more must obtain permit coverage under the AZPDES Construction General Permit. Permit coverage also is required for construction activities that will disturb less than one acre of land but the project is part of a larger common plan of development or sale and the entire project will ultimately disturb one or more acres. As part of permit coverage, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented before ground disturbance begins.

The Draft PEIS is correct that if project activities occur inside the Ordinary High Water Mark of any water of the U.S., then a CWA section 404 permit (a.k.a. dredge and fill) from the U.S. Army Corps of Engineers may be required. If a 404 permit (or any other federal permit) is required for the project, a state-issued CWA section 401 certification of the permit may be required to ensure that the permitted activities will not result in a violation of Arizona's surface water quality standards.

Certain activities described in Chapter 3, such as cleaning mirrors or photovoltaic panels, subterranean dewatering, and well development, that create discharges that have potential to reach waters of the U.S may require AZPDES permit coverage. ADEQ issued a De Minimis General Permit (DMGP), which is designed to cover specified types of discharges that meet the applicable Surface Water Quality Standards, are generally of limited flow and/or frequency, are managed using appropriate best management practices, and do not last continuously for longer than 30 days unless otherwise approved in advance by ADEQ.

Chapter 3 also mentions that pesticides and herbicides could be used for vegetation and insect control. ADEQ is developing an AZPDES general permit for discharges from the application of pesticides on and near waters of the U. S.. ADEQ's permit is based on EPA's draft general permit. ADEQ expects to issue its AZPDES pesticides general permit sometime in late 2011. ADEQ is developing this general permit under authority of the CWA and A.R.S. § 49-255.01. The Pesticide Contamination Prevention (A.R.S. § 49-301 et seq) cited in Appendix H requires that any pesticide used in Arizona also be approved through an Arizona review.

2. Drinking Water

The Draft EIS mentions the use of drinking water to support the workforce. A water system that has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year must comply with state drinking water regulations. As part of the regulatory requirements, an applicant for a new drinking water system, or modifying an existing system, must submit plans for review and approval before construction begins. Future drinking water systems may require that ADEQ approve the source water as a drinking water source. Also, ADEQ may need to evaluate and approve an Elementary Business Plan to ensure that the water system has and can maintain adequate technical, managerial, and financial capabilities to consistently provide safe drinking water.

ADEQ has delegated permitting and enforcement responsibilities of state rules for drinking water systems to some counties, meaning the owner of the public water system contacts the county where the project is located for drinking water approvals, except when a government entity is the owner or applicant. Maricopa County Environmental Services Department (MCESD) is delegated permitting and enforcement responsibilities for drinking water systems, except for ADEQ's evaluation and approval of an Elementary Business Plan. Yavapai County is delegated permitting and enforcement responsibilities only for installing line extensions for existing drinking water systems. La Paz County does not have delegated authority related to drinking water systems.

3. Aquifer Protection Program

Facilities that discharge, meaning add a pollutant either directly to an aquifer, to the land surface or the vadose zone in such a manner that there is a reasonable probability that the pollutant will reach an aquifer, generally must obtain an Aquifer Protection Permit (APP). Arizona Revised Statutes Section 49-241(B) establishes types of facilities that are considered to be discharging facilities, and therefore require an APP. Chapter 3 of the Draft EIS mentions discharging facilities that may require an APP, such as blowdown cooling towers and evaporation ponds. ADEQ offers individual and general permits. If a facility cannot meet the rule requirements for a general permit, then an individual APP is required. Also, both the individual and general APPs establish specified closure requirements.

Wastewater treatment facilities, including on-site treatment facilities, require an APP. A general APP is available for most sewage collection systems and on-site systems (septic) that have a design flow less than 24,000 gallons per day. ADEQ has delegated permitting and enforcement responsibilities for general permits regarding septic/wastewater and wastewater treatment facilities to Arizona counties, meaning the owner of the wastewater treatment facility contacts the county where the project is located for approvals, except when a government entity is the owner or applicant. La Paz County does not have delegated authority related to all types of general permits for on-site wastewater systems, particularly systems requiring alternative treatments. Any on-site system that cannot qualify for a general APP will require an individual APP, which can be issued only by ADEQ.

ADEQ supports the preferred alternative of the Solar Energy Development Program and the location of the three SEZs in Arizona. We appreciate the opportunity to review and provide comments. If you need further information, please contact Wendy LeStarge of my staff at (602)

771-4836 or via e-mail at wl1@azdeq.gov, or myself at (602) 771-4416 or via e-mail at lc1@azdeq.gov.

Sincerely,

Linda Taunt, Deputy Director
Water Quality Division

Thank you for your comment, Michael Fitzgerral.

The comment tracking number that has been assigned to your comment is SolarD10151.

Comment Date: April 5, 2011 13:06:42PM
Solar Energy Development PEIS
Comment ID: SolarD10151

First Name: Michael
Middle Initial:
Last Name: Fitzgerral
Organization: Sherwood Valley Rancheria
Address: 190 Sherwood Hill Drive
Address 2:
Address 3:
City: Willits
State: CA
Zip: 95490
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Non-THP_NTMP.doc

Comment Submitted:

SHERWOOD VALLEY RANCHERIA

April 5, 2011

Solar Energy Draft PEIS
Argonne National Laboratooy
9700 S. Cass Avenue – EVS/240
Argonne IL 60439

RE: Comment on the Draft PEIS

To Whom It May Concern:

This letter is in response to your February 22, 2011 correspondence regarding Programmatic Environmental Impact Statement – Department Of Energy (DOE)/Bureuar of Land Management (BLM). Extensive and aggressive natural resources extraction activities have occurred throughout the aboriginal territories of many tribes for the last 150 years, leaving many ancestral villages, sacred sites, places of worship, and burial places desecrated.

The area of potential effect is not located on/near the aboriginal territory boundaries of the Sherwood Valley Rancheria (Tribe). However, some properties of the BLM are located near the Tribe i.e. Cow Mountain, Mendocino County, and the Tribe would like to be notified and involved with any activity occurring on these properties.

I apologize for such a late response. We appreciate your efforts in contacting our Tribe. If you have any further questions or additional comments, please contact Misty Cook, Cultural Resource Manager by phone (707) 459-9690 or by email sherwoodvalleyCRM@gmail.com , or Hillary Renick, Sherwood Valley Tribal Historic Preservation Officer via email at chishkinmen@gmail.com.

Sincerely,

Michael Fitzgerral
Tribal Chairperson

cc: Sherwood Valley Cultural Committee
Sherwood Valley Tribal Council
Misty Cook, Cultural Resource Manager

file

190 Sherwood Hill Drive • Willits, California 95490
(707) 459-9690 • Fax (707) 459-6936

Thank you for your comment, Jennifer Hall.

The comment tracking number that has been assigned to your comment is SolarD10152.

Comment Date: April 5, 2011 14:43:53PM
Solar Energy Development PEIS
Comment ID: SolarD10152

First Name: Jennifer
Middle Initial: M
Last Name: Hall
Organization:
Address: 4018 S. Sherman St.
Address 2:
Address 3:
City: Spokane
State: WA
Zip: 99203
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

BLM & Dept. of Interior,

I strongly protest the development of public BLM lands for solar development of any kind. While I am pro-solar, and have panels on my own home, I do not consider wide open landscape and habitat an ethical or ecological way to honor our Nation's vision and ability to preserve open space.

Installations should definitely be made at BLM buildings, to cover their needs and add back to the grid, but I do not support development of land-based solar.

The resources should be redirected to urban environments, bringing some benefit to the areas that have already been covered with development.

If this is a mute point, and the conversation is just about which option, I begrudgingly favor the SEZ version of action.

Thank you for your time and consideration.
Jennifer M. Hall

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10153.

Comment Date: April 6, 2011 21:03:53PM
Solar Energy Development PEIS
Comment ID: SolarD10153

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Selling out public lands is irresponsible and all at the helm that let it happen do not care about posterity and will pay for their sellout. The solution is to build a village. Use rooftops with virtually no transmission lines, no roads, no vehicles maintaining the monstrosity that will forever scar our land. This ridiculous, unnecessary infrastructure spoils, and steals our public lands. I know why you're doing it, to cowtow to the utility companies that fear the village and their loss of control. But you will go the usual way of government and that is "follow the money." Be careful because the short term move will cost you in the long run in more ways than you know. This is your moment of truth to fight the insanity of remote energy plants and the burden it will place on the world. Go Village or Go Home!

Thank you for your comment, BRIAN HIRES.

The comment tracking number that has been assigned to your comment is SolarD10154.

Comment Date: April 7, 2011 12:48:25PM
Solar Energy Development PEIS
Comment ID: SolarD10154

First Name: BRIAN
Middle Initial:
Last Name: HIRES
Organization:
Address: 2530 10th Street
Address 2: 104
Address 3:
City: Boulder
State: CO
Zip: 80304
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I’m writing to express my support for Solar PEIS Solar Energy Zones alternative, and concerns regarding other alternatives.

Although I am a vocal advocate for renewable energy as a way of growing American energy independence and sustainability, the devil is always in the details.

When it comes to renewable energy projects, such as utility scale solar projects on public lands, siting them within Solar Energy Zones (SEZs) is the most reasonable and sustainable option. As your plan states, not only does this option minimize red tape for developers and streamline the environmental review processes, it will simplify the required transmission infrastructure. But perhaps most importantly, siting projects in SEZs will help protect our treasured open space and natural resources in the West.

If Secretary Salazar directly oversees the SEZ processes, he clearly has an opportunity to make history, in launching a robust solar energy plan while balancing important protects for the public lands and multiple uses we all enjoy in the West. For this to happen, utility-scale projects must be clustered within SEZs, provide the criteria for adding, modifying, or eliminating zones based on feedback from local communities.

Thank you for your leadership and attention to this critical issue!

Thank you for your comment, Martin Neunzert.

The comment tracking number that has been assigned to your comment is SolarD10155.

Comment Date: April 7, 2011 18:55:38PM
Solar Energy Development PEIS
Comment ID: SolarD10155

First Name: Martin
Middle Initial:
Last Name: Neunzert
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It's not quite possible to absorb all the information in the Draft Solar PEIS, but one thing I'm sure of is that the BLM has once again done a truly outstanding job of understanding the issues, investigating the details and proposing reasonable strategies.

I have always believed the BLM has not done enough to expand alternative energy on federal land. More land should be proposed for development, and the approval process should be streamlined so that expansion can proceed more efficiently.

For background, I spend a considerable amount of time traveling in the western U.S., exploring, photographing, skiing, hiking, cycling and canoeing. I certainly understand the value of select lands, and I would be the first one to advocate the conservation of wilderness areas. But as an engineer and scientist, I am convinced there is a desperate need to work toward energy independence. Let's move forward!

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10156.

Comment Date: April 7, 2011 20:24:04PM
Solar Energy Development PEIS
Comment ID: SolarD10156

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Several SEZ study areas are extremely large and development of less than 80% of these areas would effect a major conversion of landscape character in the regions in which they are located. These most prominently include Riverside East, Iron Mountain, Dry Lake Valley North, Afton, and Amargosa Valley.
Less than 80% development in all the SEZs, particularly the largest ones, could also lead to substantial negative impacts for both known and undiscovered sensitive species. This will especially be so if the PEIS does not mandate thorough biological surveys for these areas and if individual projects are allowed to proceed with abbreviated environmental analysis. The SEZs in California, in particular, probably contain large numbers of desert tortoises and rare plants.

At most locations where solar facilities may possibly be built, re-establishment of native vegetation is often very slow as a result of aridity and interactions with invasive weeds. To aid in partial ecological and biodiversity restoration after temporary disturbance and project decommissioning, the use of supplemental irrigation from available groundwater developed in association with individual projects could be required. Irrigation (including agriculture sprinkling systems) could help re-establish seeded or transplanted late successional species such as succulents that are slow growing, as well as primary successional species. Application of water only two or three times a year at any one location for two to three years could be of benefit. Any such action would be guided by research on effective methods of restoration using irrigation in conjunction with weed suppression.

Jared Fuller
Provo, Utah

Thank you for your comment, Edward Waldheim.

The comment tracking number that has been assigned to your comment is SolarD10157.

Comment Date: April 8, 2011 13:12:37PM
Solar Energy Development PEIS
Comment ID: SolarD10157

First Name: Edward
Middle Initial: h
Last Name: Waldheim
Organization: California Trail User Coatlition
Address: 3550 Foothill blvd
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Address 3:
City: Glendale
State: CA
Zip: 91214
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This process has not taken into account the mitigation component of projects. If you make a decision what can and what cannot have Solar, you failed to even consider that the mitigation consequences would be and where would they come from. Public lands have been spoken for over and over and over. Recreation is who uses these public lands and federal government shamelessly continues to give away the access for the public to recreate in what ever form they wish, Key here is access. With your plan, you must identify where you will mitigate if at all, but it must be identified and NEPA has to provide the consequences of any take of public land for mitigation. Please make sure you have a clear understanding of this and follow NEPA, failure to do this would be a flawed plan.

Thank you for your comment, Bill Harper.

The comment tracking number that has been assigned to your comment is SolarD10158.

Comment Date: April 8, 2011 14:57:55PM
Solar Energy Development PEIS
Comment ID: SolarD10158

First Name: Bill
Middle Initial:
Last Name: Harper
Organization: Friends of Old Growth Ironwoods
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment: Attachment A.Michael Allen paper.pdf

Comment Submitted:

This is an attachment A to my other comments

UC RIVERSIDE UNIVERSITY OF CALIFORNIA

College of Natural & Agricultural Sciences
Center for Conservation Biology
1303 Webber Hall
Riverside, CA 92521

DESERT DEVELOPMENT ISSUES

Solar Power in the Desert: Are the current large-scale solar developments really improving California's environment?

Gaps in Desert Research

Michael F. Allen, Director
Professor of Biology, and Plant Pathology and Microbiology

Alan McHughen, Cooperative Extension Specialist
Department of Botany and Plant Sciences

California deserts are faced with unprecedented anthropogenic change. Impact factors range from expanding urban centers and military bases, to potential significant habitat loss from solar and thermal power expansions (including ground water exploitation and depletion beyond recovery, land stripping for power generation units, and fragmentation from power and associated transportation corridors), and climate change. Together these factors threaten remaining suitable habitat for endangered and for other endemic desert species. Other individuals and studies have commented on the use of out-moded technologies employed in the current American Recovery and Reinvestment Act of 2009 (ARRA) projects, and the economic subsidies that are enabling individual site development and the creation of new transmission corridors in remote, previously undisturbed, areas rather than focusing on existing degraded lands and power corridors. We want to be clear that although we question the current project implementation in this article, we strongly support a transition from a fossil-fuel based energy system to one that will not further exacerbate our current trajectories of anthropogenic climate change, as well as providing energy independence and economic stimulus for our country.

Our goal here is to outline the scope of environmental changes that are underway, and to outline research needs necessary to provide long-term sustainability of federally- and state-listed species and their habitats, ensuring that energy developments are also fully compliant with the letter and intent of state and federal resource protection statutes. We identified several topic areas that are of concern to land managers and project developers in the California deserts. These represent topic areas badly in need of research using state-of-the-art techniques coupled with known expertise, tailored to the desert areas to be impacted by the proposed developments. These include the following issues and their interactions:

- Climate change and shifts in endangered species habitat location and migration potential
- Sources, recharge, and loss of groundwater from large-scale solar steam generator systems
- Persistence of endangered, threatened, and unlisted endemic species in current protected areas, and in new areas where habitat suitability is altered from climate and anthropogenic land-use change
- Exotic invasive species migration pathways, competitive abilities and productivity
- Interactions among vegetation composition, production, fire, pollution and climate change
- Carbon budgets and net carbon loss or sequestration.

Unfortunately, many federal and state agencies, as well as several non-government organizations, whose goal is to protect habitats appear to have overlooked previous results suggesting unacceptable levels of "take" for endangered species, and overlooked existing literature addressing net carbon fluxes that would be affected by the proposed solar developments. Nor have they employed state-of-the art research tools capable of integrating new ecosystem and habitat modeling approaches coupled with carefully-collected spatial and temporal data.

Most of the large-scale solar power projects utilize large quantities of water as steam power generators. The largest of these plants are steam-based thermal plants, using up to 2.9 to $3m^3$/MWh (US DOE 2006). Assuming 12h/day of active use, a 1,000MW would drain $35,280m^3$/day, or 28.6 acre-feet of water per day, or 10,435 acre-feet/year. One groundwater basin, such as the Palo Verde Mesa Groundwater Basin recharges only 800 acre-feet per year, largely from recharge by underflow from the Chuckwalla Valley (Department of Water Resources 2003). Even with a low water system, with less energy efficiency, the water use may still likely be well more than the recharge rates. The use of water affects agriculture, existing housing and businesses, the mining industry, military training grounds, and wildlife habitats. Plant species, such as the *Amargosa niterwort* (Hasselquist & Allen 2009), and animals including the desert pupfish populations in Ash Meadows (Deacon et al. 2007, Martin 2010) that are dependent upon surface waters and a high groundwater level are once again threatened this time by solar development. Despite the Department of Interior's call that conservation is a high priority, this is not apparent for these developments.

While researchers in the region, including UC Riverside scientists, have been addressing factors that challenge the ability of desert ecosystems to sustain themselves with state-of-the-art analyses, many state and federal agencies have continued to employ outdated models and decision tools (e.g., see "Harness sun wisely" Riverside Press-Enterprise 12/26/2010, and "energy developers need better tortoise counts, officials say" Riverside Press-Enterprise 11/4/10).

Federally-listed species such as the desert tortoise and those of concern like the Mohave fringe-toed lizard (Fig 1) are already impacted by new energy developments (e.g., the Ivanpah bulldozing of prime tortoise habitat), roads and urbanization, invasive plants, and changes in military base activities. Relocating species like the tortoises to unoccupied habitats, even those postulated "suitable" by experts, is conceptually flawed. Over 50 percent mortality is reported in short-term experiments (Desert Tortoise Council 2010). If environmental factors like climate change is included, the potential habitat in the desert is reduced even further (Fig 2).

Figure 1. Species that are directly impacted by the current and proposed developments in the California deserts, include the desert tortoise (a federally-listed endangered species) and the Mojave fringe-toed lizard (local populations are of concern to ecologists) (photographs by Cameron Barrows).

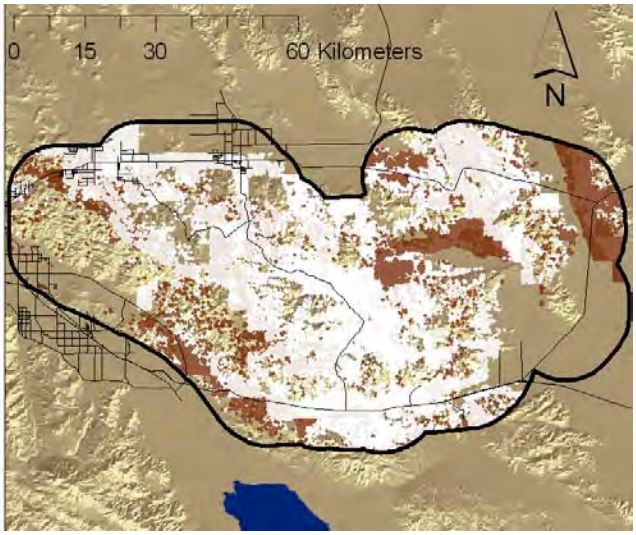

Figure 2. Potential response of desert tortoise to projected climate change at Joshua Tree National Park (C. Barrows). The white plus brown areas represents current habitat. White is the area lost with a 1°C increase in temperature, and a 75mm drop in precipitation, with the brown showing the remaining habitat. Transplanting animals, such as the desert tortoise is conceptually suspect, and the data presented to date suggest that this is not a viable approach. Even if accepted, "unoccupied" habitats are both currently suspect, and certainly have not been vetted against future climate change.

Solar development is essential to reduce carbon inputs to the atmosphere and global warming. But solar development needs to incorporate the best available science into planning and production efforts. The proposed large scale solar developments in California will impact dramatically current habitat and potential habitat of species of concern. We already understand that development patterns can dramatically affect current and potential habitat, as published for the Coachella Valley fringe-toed

lizard (Barrows et al. 2010). Coupling climate change and development impacts could easily lead to local extinction for many populations of these species, and even extinction in some cases (Barrows et al. 2010).

Infrastructure and transportation associated with urban expansion and energy development is likely to impact significantly desert environmental quality. Almost all areas outside of the National Parks, and the existing military bases are among areas potentially subject to these developments (Fig 3). A decade ago, we demonstrated that in developed areas, such as along highway 62, nitrogen in the

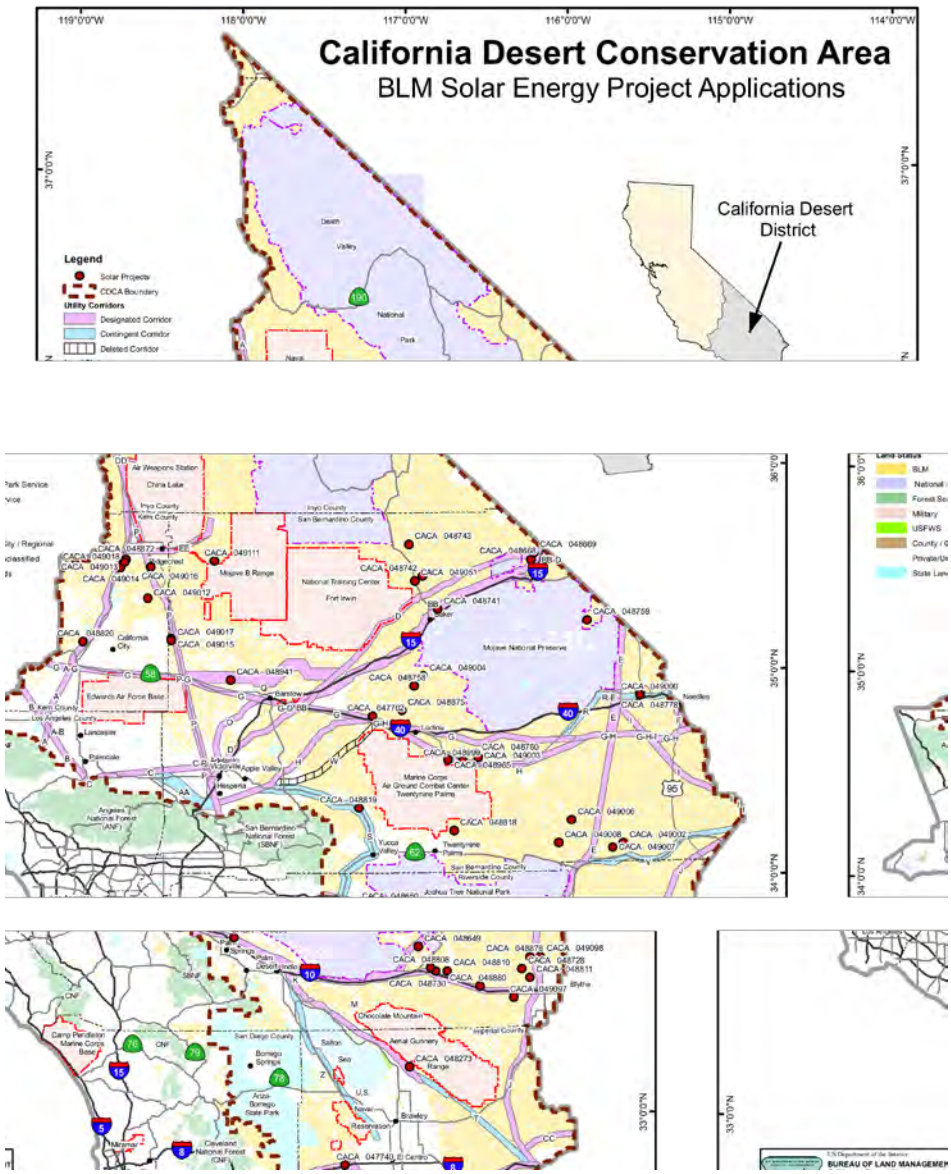

Figure 3. Proposed large-scale energy projects (http://www.energy.ca.gov/siting/solar/cdd_energy_points_8_5x11_solar.pdf). These areas will be subject to increased habitat fragmentation, vehicular traffic and development resulting in significantly increased air pollution, and N deposition.

soil accumulated during the dry season from vehicular-derived air pollution (Fig 4, M. Allen unpublished data). These soil depositions functioned as fertilizer and were subsequently leached and absorbed by vegetation during the wet season, contributing to the massive increase in exotic grass production, to a level capable of carrying fire (Rao et al. 2010). Regional nitrogen deposition models (Fig 5) show that the military bases and solar developments are in locations undergoing increasing air pollution, threatening endangered species and land management protocols. Continued disregard of these changes likely will have dramatic impacts on the natural resource management issues of the region.

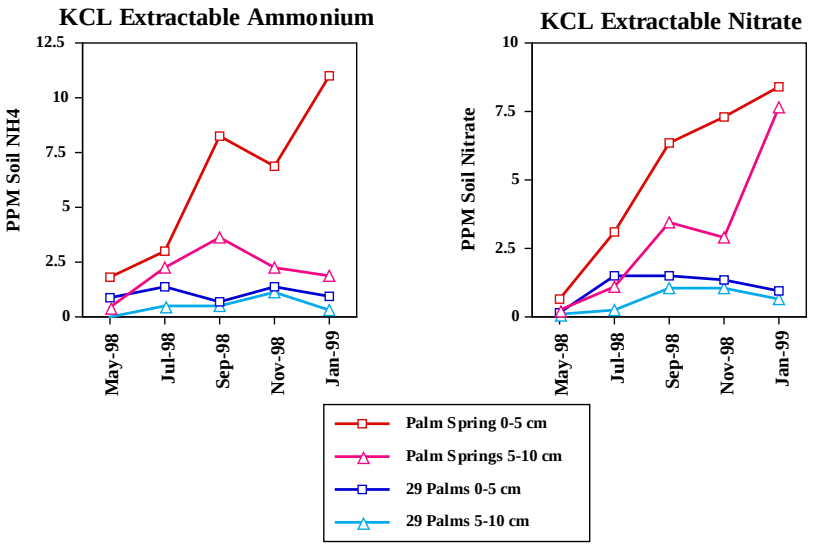

Figure 4. N changes in soil in response to development activity (M Allen unpublished data) showing seasonal increase in N in a developed area (near Palm Desert) versus a remote site (29 Palms Marine Corps base) in 1998. As the Yucca Valley and other desert regions continue to develop, and new energy developments are placed, the potential for more problems with N deposition, fire, and invasive species continues to grow.

Many of the areas that are proposed to be developed for the solar development include Microphyll woodlands (Fig 6). The dominant plants (legume trees) have deep roots capable of reaching groundwater (several meters). When desert plants grow, they absorb carbon dioxide (CO_2). The carbon (C), as sugars, moves into roots and soil organisms. Carbon dioxide is respired back into the soil, part of which reacts with calcium (Ca) in the soil to form calcium carbonate. This is how our deserts sequester large amounts of C and thus function to reduce atmospheric CO_2. ***The magnitude of this carbon storage process is still a crucial research question and remains unknown for our California deserts.*** However, values of up to 100g/m2/y of C-fixation are reported for deserts in Baja and Nevada (Serrano-Ortiz et al. 2010). After vegetation is removed to make

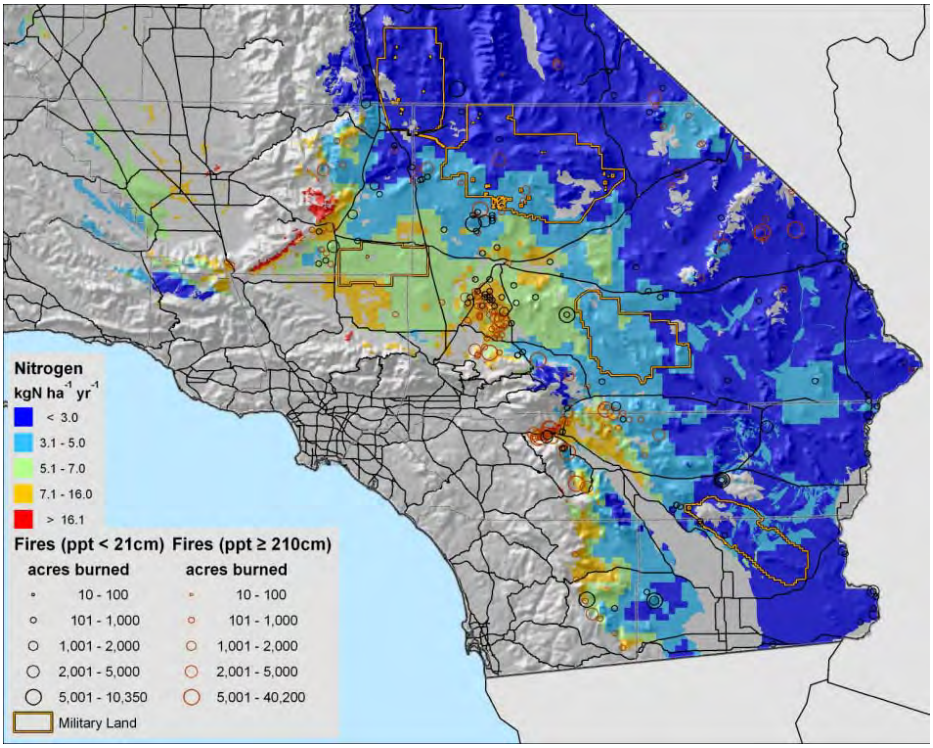

Figure 5. Fire in the desert and nitrogen deposition (from CCB, R. Johnson and E. Allen). Research in the Mojave desert (Rao et al. 2010) shows that in these regions, N deposition (largely from transportation and suburban development) above 3-9 kg/ha/y is above the "critical load" that facilitates exotic grass production, can result in fire and permanent ecosystem degradation. As development increases surrounding these areas, the potential for invasive species, land degradation, and risk of fire increases as it has in other developing areas.

Figure 6. Microphyll woodlands are among the most productive ecosystems that will be affected by solar power facilities. There are no data documenting the amount of carbon sequestration that will be lost with the loss of these stands. However, because these stands access groundwater, they are among the most productive of desert ecosystems.

way for solar arrays, carbon dioxide will be left to return to the atmosphere that ordinarily would have been used to form soil organic matter buried up to several meters deep, or released by roots and soil microbes as soil CO_2, which in turn, binds with soil Ca to form caliche.

Our deserts have large amounts of CO_2, stored as caliche ($CaCO_3$). The amount of C in caliche, when accounted globally, may be equal to the entire C as CO_2 in the atmosphere. This caliche is formed from weathering of Ca in desert soils binding to carbonates that originate in large part from respiration of roots and soil organisms. Most of the caliche in our deserts was formed during the ice ages, when vegetation was more dense and more productive. These deposits likely have been stable since (Schlesinger 1985). Being stable, though, means that inputs equal exports. Carbon in caliche may in fact be released, especially when vegetation and soils are disturbed. Mielnick et al. (2005) reported losses of up to 145g $C/m^2/y$. Additional research is needed to understand and quantify these exchanges (Schlesinger et al. 2009, Serrano-Ortiz et al. 2010), as there are C exchanges in desert ecosystems that we do not understand. This loss may be especially critical following removal of the vegetation for thermal solar power units. The net C loss due to a loss of native desert vegetation could be as high as 50g $C/m^2/y$ plus weathering and dissolution of carbon dioxide from caliche up to 150g/m^2/y for an area of 7,000 acres (a common size for solar plants of 1,000MW). This translates to an annual loss of nearly 6,000 metric tons of C released by caliche, or retained in the atmosphere due to the loss of vegetation. This does not include the land disturbed by transmission corridors and maintenance roads through desert lands.

Solar power units that generate 1,000MW would save nearly 560,000 metric tons of C per year. However, we do not know the life-span of these solar power units. This net loss of caliche could continue or even increase as temperatures warm for centuries or more, given the incredibly large amount stored in our California desert valleys and vegetation recovery following disturbance for developing desert lands can also take a century or more (Fig 7). If we include the C savings from an active use of photovoltaic cells in the locations where demand is heavy (see Warmann and Jenerette 2010), then the entire regional C balance becomes even less weighted toward the large desert thermal developments.

Finally, what is the life-expectancy of a thermal solar energy development? A common presumption is that these extend indefinitely into the future. But water quality is a crucial issue for solar development, because water from both the Colorado River and the groundwater basins of the regions are highly corrosive to the project plumbing. This means additional land disturbance from maintenance and replacement activities, and a reduced lifespan of these solar projects. Given changes in government subsidies, the over-exploitation of groundwater supplies, and the heavy replacement and maintenance costs associated with the corrosive water quality, this may not be a reasonable assumption. Even when plant re-establishment occurs, disturbed lands will be dominated by annual grasses and

forbs with shallow roots instead of deep-rooted shrubs, potentially for a century or more. Soil organic C likely will rapidly cycle back to the atmosphere. We do not know how soil inorganic C behaves. Understanding the lifespans of the solar plants, compared with this long-term slow C balance is a critical need for determining if these solar developments represent a net long-term reduction in greenhouse gases. Does calcium carbonate then weather back into CO_2 with no plants to replenish the soil CO_2? Could large-scale solar developments in our deserts actually increase atmospheric greenhouse gas levels over the next centuries?

Figure 7. Overlook from Desert Center, CA, looking eastward across lands designated for solar power development. The combination of developments has the potential to fragment populations of desert species, degrade soils, and reduce carbon sequestration potential of these arid lands.

The areas of the California deserts where the mega- solar projects are to be built are mainly in areas where water is the limiting factor for production and organism survival. Precipitation is highly variable in space and time, and hydrology is not well documented. The basins are interconnected. Yet we know little about the rates or even directions of the subsurface flows and small transient perched water pockets created by earthquake fault lines that support plants whose roots must reach the groundwater, such as palms, ironwood and mesquite. Water extraction at large scales could have critical impacts on desert ecosystems, including animal species like deer, bighorn sheep, and mountain lions, more than just tortoises. Microphyll woodlands and mesquite stands support various endangered species and species of concern, both directly as habitat and food, and indirectly by supporting annual forbs that serve as food sources as the soil dries out. We do not know how or where water is connected between basins, nor if the water used for individual projects is continually recharged, or comprised of water laid down in the Pleistocene.

Concluding Remarks

These development impacts are particularly questionable given the incredible surface area located in regions with high solar radiation such as southern California. Warmann and Jenerette (2010) estimated that 10 percent of the rooftop areas suitable for solar photovoltaic systems could supply 80 percent of the annual energy requirements for the region. Given the large acreages of private, already disturbed lands scattered across the California deserts, use of more pristine habitat of endangered species like the desert tortoise and the *Amargosa niterwort* seems counterproductive.

Again, we are not objecting to renewable energy development in the California deserts. Indeed, we have worked for decades with military installations and with energy companies to enhance environmental management and restoration. We can do the same with renewable energy projects. However, without careful planning and management, massive detrimental impacts over extremely large areas could result from the current energy development proposals. For society to benefit from solar energy while preserving our desert ecosystems, we must obtain and use sound existing scientific methods, and fund credible new science based on accepted review and award principles, as practiced by agencies with experience in peer-reviewed funding such as National Science Foundation or National Institute of Health. We must apply principles as judged by published peer-reviewed literature in top journals, and defendable, innovative ideas judged by scientific experts without conflicts of interest.

If the construction of poorly placed solar arrays in California leads to the loss of endangered species, destruction of plant and animal habitat, increased environmental contaminants, diversion of water and increased global warming due to more carbon dioxide in the atmosphere, then any justification for placing solar arrays in our deserts is seriously undermined.

Relevant Readings

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Thank you for your comment, Bill Harper.

The comment tracking number that has been assigned to your comment is SolarD10159.

Comment Date: April 8, 2011 15:14:05PM
Solar Energy Development PEIS
Comment ID: SolarD10159

First Name: Bill
Middle Initial:
Last Name: Harper
Organization: Friends of Old Growth Ironwoods
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment: Final PEIS commenword doc.doc

Comment Submitted:

Here are my main comment attachment A was submitted as SEDD10158

I will attept a small pdf file which is attachment B

Subject: Final PEIS comments
Date: Friday, April 08, 2011 11:52 AM

Bill Harper

bharper@pacific.net

Communications Director for Friends Of Old Growth Ironwoods

Member of Desert Survivors

My comments in bold

Introduction to PEIS comments.

Friends of Old Growth Ironwoods is not against solar power. We are for distributed solar in the right places. Several members have rooftop solar at home.

The symptoms of the energy situation in the United States are stated often throughout the Solar PEIS however the cause is not. That is; profit for few, with massive subsidies passing the costs onto the environment and the public.

We have created the situation today, with profit foremost, sources far from the need and bottleneck transmission between. The subsidies and environment costs have been put on all citizens and governments. The Solar Peis does the same; passes the costs off to citizens, local governments and health providers, the current and future desert recreations and some of the most intact environments in the United States. It is these subsidies that make it viable, otherwise they would not be built there.

Every move we make from now on will matter factorally, because there are so many needs, there is so little intact natural systems left and costs are rising as fast as we can make decisions. Natural systems including the ancient Ironwood forest are fixing carbon at no costs with no inputs from us. They are sustaining the desert tortoise, migrating birds and many yet to be identified, little understood animals and processes without costly and dubious mitigations (Attachment A).

Leasing of public lands does nothing to help the local governments financially deal with the impacts. The costs of the transporting construction workers and supplies on county and state maintained roads are not addresed.

The PEIS does not address the considerable risk of Valley Fever, which is especially high for construction work in previously undisturbed land. In this setting, Valley Fever can affect 5 – 10% of exposure construction workers.

Impact on emergency services not addressed. First responders are often volunteers in rural areas.

These are excerpts from the Rice solar EIS:

RSEP EIS: In two letters from the RCFD (Riverside 2010b and 2010e), Captain Neuman of the
RCFD has stated that the RSEP would have an impact on RCFD's ability to respond to

fire, hazmat, and EMS emergencies at the RSEP.

" Although the initial response time for a fire would be approximately one hour and 45 minutes from Station # 49 and approximately two hours from Station # 43, both those stations would only be able to send out one engine each with three firefighters each (Riverside 2010e). "

RSEP EIS: 6.14-22 "While staff summarized records readily available from the existing solar plans, …"

The available records did not include documentation of a major fire at the SEGS 8 facility in January of 1990 that required a large regional force four different fire districts including the San Bernardino County, California Department of Forestry and Fire Protection (CDF), and the Kern County Fire Departments, Edwards Air Force Base . This fire is the largest incident that has occurred at a solar thermal plant in California and demonstrates the amount of resources that can be required to respond to a fire at a large thermal solar facility."

Specific Comments

VOL. 1 Chap. 1

1.3.6.1. The PEIS evaluates the potential environmental, social, and economic effects of

establishing broad solar energy program elements and strategies across the six-state study area.

The programmatic analysis will provide the basis for future utility-scale solar energy

development decisions. Because the proposed program involves environmental effects over a

broad geographic and time horizon, the depth and detail of the impact analysis is fairly general,

focusing on major impacts in a qualitative manner.

The PEIS does not assess site-specific issues associated with any future individual solar

energy development projects. A variety of location-specific factors (e.g., soil type, watershed,

groundwater availability and presence of jurisdictional waters, habitat, vegetation, viewshed,

public sentiment, the presence of threatened and endangered species, and the presence of cultural

resources) would vary considerably from site to site, especially over a six-state region. In

addition, the variations in technology and project size and design would greatly determine the

magnitude of the impacts from given projects. The effects of these location-specific and project

specific factors typically cannot be fully anticipated or addressed in a programmatic analysis;

such effects must be evaluated at the project level. This PEIS identifies the range of potential

impacts and identifies relevant mitigation requirements applicable to utility-scale solar energy

development in general. Site-specific and species-specific issues would be addressed during

individual project reviews, where resolution of these issues is more readily achievable. NEPA

analyses for site-specific solar energy proposals would tier to the Solar PEIS (see Section 1.3.8,

BLM Requirements for Further Environmental Analysis).

The above statement is in direct conflict with this statement, note the use of "in depth":

1.3.6.2. In addition to the programmatic analysis described above, the Solar PEIS also provides

in-depth environmental analysis to inform the identification of the BLM's proposed SEZs within

the six-state study area as those locations that are best suited for utility-scale solar energy

development (i.e., high resource value and low [or limited] resource and/or environmental

conflicts).

It is not "in-depth" if it ignores the natural gas components unsustainable and atmospheric carbon input. Why is this very significant fossil fuel environmental impacts not evaluated? Is so we can pretend it is sustainable? It is clearly a lack of information.

App. F-4:

For informational purposes, the potential array of fossil fuel and

10 parabolic trough or power tower hybrid systems is discussed in Section F.2.4.5, although the

11 environmental impacts of the fossil fuel–fired portions of such combinations are not evaluated in

12 this PEIS.

1.3.8 BLM Requirements for Further Environmental Analysis

As discussed previously, the Solar PEIS will not eliminate the need for site-specific

environmental review for future individual utility-scale solar energy development proposals

(see Section 1.3.6.1, Programmatic Scope). The BLM will make separate decisions whether or

not to authorize individual solar energy projects in conformance with the existing land use

plan(s) as amended by the Solar PEIS. Site-specific environmental reviews for utility-scale solar

energy projects commenced after the ROD for the Solar PEIS is signed will be tiered to the

Solar PEIS. All site-specific environmental reviews will include a requirement for additional

project-specific public involvement. The BLM retains the discretion to reject solar ROW

applications based on site-specific issues and concerns, even in those areas available or open for

application in the existing land use plan.

In cases where a broad policy, plan, program, or project will later be translated into site

specific projects, subsequent analyses are referred to as “tiered” analyses. Tiering refers to the

coverage of general matters in a broader EIS (such as national program or policy statements)

with subsequent narrower EISs or environmental assessments (EAs) (such as regional program

statements or ultimately site-specific statements) incorporating by reference the general

discussions and concentrating solely on the issues specific to the EIS or EA subsequently

prepared (40 CFR 1508.28).

How does this simplify things?

On the danger of fires: App. F:

Finally, although the choice of both HTF and TES media is based primarily on

39 performance, the selection also involves cost, safety, and environmental considerations. Large,

40 utility-scale CSP facilities with long-term TES capability can be expected to have substantial

41 quantities of HTF and/or TES material present in their respective systems (hundreds of

1 thousands of gallons or more). Consequently, failures of those systems can lead to accidental

2 releases or fires.11

The fire can produce Benzene further threatening the health of firefighters.

App. F-11
1 The material that has been used exclusively to date is a formulation of synthetic organic

2 oils, sold commercially as Dowtherm A®, manufactured by Dow Chemical, or Therminol® VP1,

3 distributed by Solutia, Inc. Both products are mixtures of diphenyl oxide (~ 73.5%) and biphenyl

4 (~ 26.5%). Both formulations have been used successfully in CSP plants for many years. The

5 mixture is ideal for CSP applications in regions with high insolation. However, over time

6 (i.e., within the typical facility’s 30- to 40-year design basis lifetime), the material has been

7 shown to thermally decompose to produce hydrogen and other organic species such as benzene

8 and dibenzofuran (Moens and Blake 2008). The hydrogen that forms has also been shown to

9 permeate the stainless steel tube containing the HTF and move into the evacuated annular space

10 between the stainless steel tube and the glass outer tube, thus reducing the thermal efficiency of

11 the HCE. Consequently, it is necessary to either capture the hydrogen in special chemical

12 sponges placed in the annular space or provide for the venting of hydrogen from the HTF as it

13 is formed. Venting is typically selected as the simplest strategy for preserving the performance

14 of the HCE and the HTF over the long term. Experience suggests that the extent of thermal

15 decomposition of the HTF is minimal, and replacing the entire volume of HTF within the

16 operating lifetime of a facility is not expected to be necessary.

Venting a Vacuum? Venting can be also called releasing these toxins to the environment.

As to Tortoises:

Vol. 3 part 1

9.2-156:

13 The overall impact on the desert tortoise from construction, operation, and

14 decommissioning of utility-scale solar energy facilities within the Iron Mountain SEZ is

15 considered moderate, because the amount of potentially suitable habitat for this species in the

16 area of direct effects represents between 1% and 10% of potentially suitable habitat in the SEZ

17 region. The implementation of programmatic design features alone is unlikely to substantially

18 reduce these impacts. Avoidance of all potentially suitable habitats for this species is not a

19 feasible means of mitigating impacts, because these habitats (desert scrub) are widespread

20 throughout the area of direct effects.

If it can’t be mitigated because there is so much of it in the way then is clearly the wrong place to do it. The choice of "desert scrub", the most loaded, dismissive term for a misunderstood habitat reflects a prejudice built into the document.

32 There are inherent dangers to tortoises associated with their capture, handling, and

33 translocation from the SEZ. These actions, if done improperly, can result in injury or death.

34 To minimize these risks (and as stated above), the desert tortoise translocation plan should be

35 developed in consultation with the USFWS and the CDFG and follow the Guidelines for

36 Handling Desert Tortoises During Construction Projects (Desert Tortoise Council 1994) and

37 other current translocation guidance provided by the USFWS and CDFG. Consultation will

38 identify potentially suitable recipient locations, density thresholds for tortoise populations in

39 recipient locations, procedures for pre-disturbance clearance surveys and tortoise handling, as

40 well as disease testing and post-translocation monitoring and reporting requirements. Despite

41 some risk of mortality or decreased fitness, translocation is widely accepted as a useful strategy

42 for the conservation of the desert tortoise (Field et al. 2007).

Admittedly ineffective mitigation is not mitigation but a paperwork sham. It is "acceptable" because no one is monitoring the results.

9.2.12.3 SEZ-Specific Design Features and Design Feature Effectiveness

13 The implementation of required programmatic design features described in Appendix A,

14 Section A.2.2, would greatly reduce or eliminate the potential for effects of utility-scale solar

15 energy development on special status species. While some SEZ-specific design features are best

16 established when project details are being considered, some design features can be identified at

17 this time, including the following:

9.4.16.2 Impacts

20 Indirect impacts on paleontological resources outside of the SEZ, such as through looting

21 or vandalism, are unknown but unlikely because any such resources would be below the surface

22 and not readily accessed. Programmatic design features for controlling water runoff and

23 sedimentation would prevent erosion-related impacts on buried deposits outside of the SEZ.

In the west the primary soil movement is erosion by wind. This leaves artifacts exposed where they are is most cases. excavation for concrete pedestals also makes that statement a gross oversimplification. I personally have seen pottery and tools in sight of the proposed SEZ's scattered on top of the ground surface. More intrusion means more collecting not less.

Vol. 8 app. I
1 I.1.22 Sonoran Basin and Range

2

3 The Sonoran Basin and Range ecoregion occurs in Arizona, California, and New Mexico.

4 Within the six-state study area analyzed in the PEIS, this ecoregion is approximately

5 28,875,100 acres (116,854 km2), and the elevation ranges from –243 to 6,569 ft (–74 to

6 2,002 m). This ecoregion includes the Sonoran Desert and scattered low mountains. The climate

7 is slightly hotter than the Mojave Desert to the north. The potential natural vegetation of this arid

8 ecoregion is predominantly creosotebush-bur sage with large areas of palo verde–cactus shrub

9 and giant saguaro cactus. Land uses include grazing, agriculture, mining, and recreation. The

10 development program alternative includes 3,140,682 acres (12,709.9 km2) of this ecoregion; the

11 SEZ program alternative includes 324,127 acres (1,311.70 km2).

No mention of ironwoods.

The BLM proposes to exclude many categories of lands from utility-scale solar energy development. These categories, listed in Chapter 2, Table 2.2-2, include a number of resources and resource uses for which GIS data are not consistently available across the six-state study area. Examples include areas designated in land use plans for seasonal restrictions, Visual Resource Management Classes I and II, and areas with important cultural or archaeological resources. As a result, the maps and acreage estimates showing lands that would be available for ROW application include some areas that would be excluded from development. The BLM intends that all categories of lands listed in Table 2.2-2 would be excluded, and exclusions that could not be mapped in the Draft PEIS would be identified during the ROW application process.

The BLM proposes to exclude many categories of lands from utility-scale solar energy development. These categories, listed in Chapter 2, Table 2.2-2, include a number of resources and resource uses for which GIS data are not consistently available across the six-state study area. Examples include areas designated in land use plans for seasonal restrictions, Visual Resource Management Classes I and II, and areas with important cultural or archaeological resources. As a result, the maps and acreage estimates showing lands that would be available for ROW application include some areas that would be excluded from development. The BLM intends that all categories of lands listed in Table 2.2-2 would be excluded, and exclusions that could not be mapped in the Draft PEIS would be identified during the ROW application process.

Table 2.2.2 item 24 lists Old Growth Forest yet nearly all of Riverside East is old growth Ironwoods.

Vol. 8; Methodology

18 M.3.2 Analysis Approach and Information Sources

Although the impact analysis for specially designated areas focused on areas within a 25-mi (40-km) radius of the individual SEZs, in a few instances, more distant areas were considered if there was some unique reason to do so (on the basis of professional judgment).

Several factors were considered in identifying areas that could be affected by solar development within the SEZs. These included the proximity of the SEZs to the specially designated areas, the view from the areas of potential development within an SEZ, and the nature of the resources and resource uses that were identified as the reason(s) for the special designations. In general, depending on the resources and resource values present, the closer a SEZ is to a specially designated area, the more! likely the area and its resource values would be adversely affected by solar development. While there is an inherent subjectivity in this type of analysis, impact assessments of these special areas draw heavily on the visual analysis completed and recorded in the Visual Resource sections in this PEIS and on the professional judgment of the analysis team with respect to the potential sensitivity of the area to the presence of solar energy development.

Key sources of information supporting this analysis were the project-specific GIS system, SEZ-specific visual resource analysis, and Google Earth visualizations. In many cases it was not possible to make a determination of potential effects, but generally, where solar development would be within 5 mi (8 km) of a! specially designated area, the impacts of development on areas with high visual sensitivity were considered to be “large.” There were also instances in which

39 specially designated areas might be farther than 5 mi (8 km) from an SEZ, but because of the

40 potential for extensive and continuous solar energy development over a large percentage of the

41 viewshed of a specially designated area, this would also be classified as a large level of impact.

42 For areas located farther than 5 mi (8 km) from the SEZ and/or where the viewshed would be

43 dominated to a lesser degree by development in the SEZ, impacts could range from negligible to

44 moderate

The SEZ's are all visible from wilderness areas with very little else in viewshed.

One of the very significant assets of desert wilderness is that 40 to 65 mile views are common. There is also 'linked" views with the unique property of being able to see and travel to the next wilderness. That is what makes them irreplaceably unique.

Maps in App. N. are deceiving by not showing wilderness boundaries are right against the SEZ. Placing only the name without boundaries obfuscates the impacts to these wilderness.

A very deceiving map of Iron Mountain and Riverside East SEZs occurs because both SEZs are on the map but only the impact of one is shown. The BLM is proposing both SEZs. The impacts of both should be shown on one map. The maps' brown zone where direct line of sight is would cover vastly more land when even with the limited and incorrect assumptions of desert viewshed size. This would radically change the maps for even the lowest height assumptions such as App. N. 3.2-1; 24 ft.

The following appears to make excuses for not covering the important details the irreplaceability of ancient desert pavement, cyptobiotic soil, sand flow, and carbon fixing all interconnected to unique desert soils:

15 M.7.3 Soil Resources Impacts Assessment

16

17 The impacts assessment for soil resources relied on field observations, reviews by and

18 consultations with BLM field office personnel, and academic and professional literature reviews

19 to characterize site-specific soil conditions. No soil boring samples were collected, and no field

20 or laboratory tests for soil properties were conducted at any of the proposed SEZs as part of this

21 assessment. At this time, only general project locations (as delineated by the site boundaries for

22 each prop osed SEZ) are known; footprints of specific solar projects to be developed within the

23 proposed SEZs are not yet available. As a result, impacts on soil resources are discussed in this

24 PEIS only in relative terms by project phase and technology type and size (these are presented in

25 Sections 5.7.1 and 5.7.2). Site-specific impacts are identified in the impacts section for each of

26 the proposed SEZs.

28 The main elements in assessing relative impacts on soil resources at the proposed SEZs

29 are the geographic location and temporal/spatial extent of ground-disturbing activities during

30 all project phases. Activities resulting in ground disturbance include vegetation clearing and

31 grubbing, excavation a! nd backfilling, construction of project structures (met towers, solar< o:p>

32 collectors, cooling systems) and ancillary facilities, trenching, drilling, stockpiling of soils,

33 construction of road beds, drainage and wetland crossings, heavy truck and equipment traffic,

34 and increased foot traffic (Section 5.7.1). Because the footprints of specific solar projects to be

35 developed within the proposed SEZs are not currently known, the temporal/spatial extent of

36 these ground-disturbing activities and soil-related impacts cannot be quantified in this PEIS.

Not very "in-depth", pun intended. The Ivanpah solar site resembles strip mine from the air. Once you strip off the vegetation and restructure the drainage it is a strip mine no matter how deep you go.

The following incorrect generalizing leaves out readily visible 30 foot tall ironwood and palo verde trees in the SEZ's I have been to in California. One can only assume that habitats is other states has been incorrectly identified also.

23 Areas granted ROWs for solar project development would typically be located in

24 shrubland, shrub steppe, or grassland habitat types. The actual extent of ! land clearing within the

25 ROW footprint of any solar facility would be specified in a detailed facility development plan

26 that would likely avoid development in difficult areas (severe slopes, natural drainage courses,

27 environmentally sensitive areas, rocky outcroppings, unstable

What is the basis of assumption? I have never heard of the following mitigation and seems absurd that trees can be nursuried for 25 years and returned.

M-21:

It was assumed that Joshua trees (Yucca brevifolia), other Yucca species, and most cactus

41 species would be salvaged prior to clearing and transplanted (as directed by the local BLM field

42 office), held for use in revegetating temporarily disturbed areas, or otherwise protected as

43 prescribed by state or local BLM requirements. It was further assumed that facility operators

44 would maintain all ground surfaces within and adjacent to the solar array, the power block, and

45 any electrical substations or switchyards or other support structures (buildings, roads, and

M 22:

18 Immediately following the decommissioning of a solar energy facility, it was assumed

19 land surfaces would be returned to predevelopment contours to the greatest extent feasible. The

20 operator would subsequently reestablish vegetation on the ROW area, including those areas

21 previously replanted and subsequently disturbed during decommissioning. As identified in the

22 design features, revegetation efforts would be guided by the implementation of a restoration plan

23 that would focus on the establishment of native plant communities similar to those present in the

24 vicinity of the project site. The plan would be designed to expedite the reestablishment of

25 vegetation and require restoration ! to be completed as soon as practicable. To ensure rapid and

26 successful reestablishment efforts, the plan would specify success criteria, including target dates,

27 that would be developed in coordination with the BLM and that would be required to be met by

28 the operator. Vegetation reestablishment efforts would continue until all success criteria were

29 met. Bonding to cover the full cost of vegetation reestablishment would be required as a design

30 feature. Species used for vegetation reestablishment would consist of native species dominant

31 within the plant communities existing in adjacent areas having similar soil conditions. The plan

32 would require the use of weed-free seed mixes of native shrubs, grasses, and forbs. In areas

33 where suitable native species were unavailable, other plant species approved by the BLM would

34 be used. The cover, species composition, and diversity of the reestablished plant community

35 would be similar to those in the vicinity of the site.

Our major point that connecting remote solar is a waste of resources is stated in the first parts of this App. G. First there is this on Page G-2:

10 Proximity to transmission lines is an important factor because costs are typically high

11 for spanning significant distances with new transmission ROWs and new lines. Capacity is

12 important because even if a solar development area is in close proximity to existing lines,

13 adequate capacity must exist on those lines to transmit the solar-generated power to load areas.

14 Timing is important in cases where planned additions of new lines or augmentations of existing

15 lines may provide adequate transmission services for future dates of operation.

Why it is not working now:

25 Because of geographic characteristics, load topography, and the way grid systems have

26 evolved, transmission systems in the western United States tend to be characterized by greater

27 “radial” connectivity, like spokes of a wheel, as compared with more “networked” connectivity

28 (higher connectivity between all supply and demand points) that typifies systems in the eastern

29 half of the United States. Networked grids offer reliability advantages over radial systems, and

30 areas in the west are planning additional lines to improve reliability and reduce congestion

31 issues.

As stated below in Page G-2: the goal is "marketable" electricity. Not reliable, not sustainable, not affordable not environmentally sound.

33 A quote from NERC’s 2009 Long-Term Reliability Assessment is representative of

34 current objectives in the entire area: “The goal … is to collaborate in the planning, coordination,

35 and implementation of a robust transmission system between Arizona, southern Nevada, Mexico,

36 and southern California that is capable of supporting a competitive, efficient, and seamless

37 west-wide wholesale electricity market while meeting established reliability standards”

38 (NERC 2009). To accomplish this goal, planning efforts are looking to add significant numbers

39 of new transmission links to existing grids.

For 1 the Arizona-New Mexico-Southern Nevada area, proposed lines represent a total

2 of more than 3,000 new circuit miles. About 1,400 of these circuit miles are relatively firm

3 planned additions; the other 1,600 are at the "conceptual" stage of planning. The conceptual

4 stage indicates that a project is less advanced in terms of permitting, land acquisition, and other

5 required steps leading up to construction and service. However, conceptual plans represent

6 serious intentions for new transmission capabilities, and these plans are submitted to NERC

7 from each electrical planning region.

8

9 For California, proposed lines represent nearly 4,700 circuit miles of additional

10 transmission capabilities. Conceptual planned additions represent approximately 3,300 circuit

11 miles of the total, and about 1,400 circuit miles are more advanced in the planning and

12 implementation process.

13

14 Utah is located in an area where 30% of the planned additions are relatively firm, and

15 70% are at the conceptual stage. Colorado is in a region where virtually all of the planned

16 additions are relatively firm (i.e., almost no additions in "conceptual" category

The smallest transmission lines cost a million dollars per mile on level flat ground. For California alone, 4000 miles of new transmission line would cost more then four billion dollars. That would pay for a billion watts of distributed photovoltaic that would meet those reliability standards. The very lucrative transmission lines do not produce any power.

Summary

The Solar PEIS contradicts itself about how it will streamlines the process. Phrases such as assumed, should, likely, may etc. seem more like wishful thinking than actual planning or protection. What exactly occurs when one "refers to the tiered document"? Tiering is not in my spellchecker.

There could be good locations for SEZ sites on public land but these are not. Furthermore the PEIS downplays the environmental damage by omitting the very large unrenewable inputs of gas and water, misidentifying the plant communities and suggesting imaginary or admittedly ineffective mitigations. These subsidies to inappropriate technologies will saddle ratepayers with costs far above what photovoltaic can produce and may even cause the plants to be abandoned.

Using water in desert to produce any kind of energy is obviously unsustainable yet still being approved. Many communities are facing a decline in good water and farmland even those not in deserts. Any conversion of agricultural water or lands. including public grazing lands, to energy development will be counterproductive in the long run. Even abandoned or currently not profitable agricultural lands converted to industrial solar would be lost to future innovations or more appropriate crops.

Solar facilities uses gas and water are not sustainable and cannot be considered to accomplish any of the goals stated in the PEIS. The history of the West is over estimation of available water then depletion followed by abandonment.

Much of the proposed area is "limited use" designation. Despite the name this actually includes every kind of public use; hunter, hiker, equestrian and trail atv riding. No other plan ever presented proposes to take this amount of land from all these folks.

There is a viable alternative. Distributed power generation from brownfields, commercial and private and local sources where the need is. Attachment B., shows wildlife interacting with my home solar disarray during remodeling.

The alternative of no large scale solar on public lands must be an option.

Thank you for your comment, Shaun Gonzales.

The comment tracking number that has been assigned to your comment is SolarD10160.

Comment Date: April 8, 2011 22:45:29PM
Solar Energy Development PEIS
Comment ID: SolarD10160

First Name: Shaun
Middle Initial:
Last Name: Gonzales
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: Draft Solar PEIS comments-Shaun Gonzales.doc

Comment Submitted:

2 April 2011

Department of Interior and Department of Energy
Washington, D.C.

Re: Draft Solar Programmatic EIS

Please consider the following comments in response to the draft Solar Programmatic Environmental Impact Statement (PEIS).

Summary:
I strongly support the Federal Government's efforts to increase generation of renewable energy and reduce greenhouse gas emissions. However, the Draft PEIS only proposes the most destructive and irresponsible means of increasing solar generation, refusing to examine or acknowledge far more efficient alternatives that would allow the Departments of Interior and Energy (DOI and DOE) to spare our public lands from destruction.

The Draft PEIS proposes an unnecessarily destructive solar energy policy as its preferred alternative, misrepresents the direct impacts, provides an inadequate forecast of cumulative impacts, and refuses to analyze alternatives outside of the DOI and DOE's jurisdiction. The Draft PEIS should be re-written to bring forward a policy alternative that maximizes use of disturbed lands (such as those identified in the EPA's RE-powering America's Land program) and distributed generation. The Draft PEIS should also be re-written to include a harder look at the cumulative and direct impacts of solar energy development on public lands, especially at the scale proposed under the No Action, Solar Energy Development, and Solar Energy Zone alternatives. The Draft PEIS must acknowledge up front the landscape-scale ecological destruction, including the likely extinction of special status species, that will occur if either the No Action, Solar Energy Development, or Solar Energy Zone alternatives is selected.

BLM Purpose and Need:

The PEIS' purpose and need statement (1.3.1) appears to be constructed in a way that responds to private interests, and not the DOI's own need to act as a steward of public land. As stated, the DOI identifies "a need to respond in a more efficient and effective manner to the high interest in siting utility-scale solar energy development on public lands." Although components of the PEIS attempt to address efficient and effective review of solar energy projects, the most substantial portions of the PEIS (RFDS, No Action, Solar Energy Development program, and Solar Energy Zones alternatives) are geared toward identifying public lands for private development based on criteria explicitly designed to meet energy companies' needs.

According to Chapter 6 (Pg. 6-3, and Section 6.1.4) of the Draft PEIS, alternatives were evaluated in part for the ability to provide industry a "great degree of

flexibility" to choose sites for industrial development. Not only is this a violation of BLM regulations, but none of the 5 Federal or Congressional documents used to justify the policy considerations set forth a need to provide "maximum flexibility" to industry (Section 1.1, Applicable Federal Orders and Mandates). None of the documents sets forth a "mandate" to expand renewable energy generation on public land, since the Energy Policy Act of 2005 is sense of Congress and not a requirement. In fact, some of the documents underscore the need to expand energy generation in an environmentally responsible way. The Draft PEIS should more closely consider how renewable energy generation could be achieved without sacrificing our treasured public lands.

Alternative Analysis:
The Draft PEIS fails to take a hard look at the range of alternatives available to the Departments of Interior and Energy to increase renewable energy generation. Although the Department of Interior issued an instructional memorandum that excuses the Department from evaluating distributed generation (No. 2011-059), this runs contrary to prior judicial review of an EIS in which the court ruled that a Federal agency should consider alternatives outside of an agency's jurisdiction. Furthermore, the Draft PEIS is a joint effort between the DOI and DOE. The DOE should take a more prominent role in addressing what should be the underlying purpose—which is to increase renewable energy generation, and not simply to give up public land. There is no reason for the Draft PEIS to take such a narrow approach, especially considering the broad nature of the Applicable Federal Orders and Mandates cited in the PEIS (Section 1.1).

The Draft EIS does acknowledge the need for distributed generation as a critical component among energy policy. However, the Draft EIS proceeds to make false statements regarding the viability of distributed generation as an alternative and its comparative utility. According to Section 2.5.1, the level of renewable energy development *recommended* by the Energy Policy Act of 2005 (10,000MW) cannot be achieved by distributed generation. This is false. California's distributed energy programs alone will likely contribute approximately 6,000MW by 2016, according to the California Solar Initiative. Programs in other southwestern states could plausibly bring this number above 10,000MW. The statement that distributed generation cannot achieve generation suggested by Congress should be stricken from the Draft EIS.

Furthermore, the same section (2.5.1) suggests that the current transmission grid cannot accommodate distributed generation. This is also misleading. According to testimony by energy expert Bill Powers during a 14 January 2010 California Energy Commission hearing regarding one of BLM' fast-tracked solar power projects, the grid in California could accommodate ample distributed generation.

The DOI and DOE should include a full evaluation of distributed generation in the Draft PEIS, including the need for Federal policies and programs that can be modified to encourage solar energy at the point of use. The evaluation could

consider the potential for distributed generation in urban areas (rooftop capacity, grid compatibility, etc), and how programs such as the Treasury Grant Program and DOE research projects could support advances in this sector.

The Draft PEIS should also evaluate the potential to redirect ROW applicants to the EPA's RE-powering America's Land program, which has identified thousands of acres of disturbed land that is already suitable for solar energy development. Working with the EPA, the DOI could provide procedural and policy incentives to encourage companies to utilize already-disturbed lands, thereby increasing solar energy generation while maintaining public lands for other less destructive uses.

Reasonably Foreseeable Development Scenario (RFDS)

The RFDS is further evidence of the Draft PEIS' narrow focus on alternatives that respond to the demands of the energy industry, rather than to the goals of DOI and DOE. The RFDS projections do not account for distributed generation potential in the southwestern energy markets, and assumes a disproportionate need for development on public lands. Consequently, the Draft PEIS seeks to accommodate the entire projected demand of the energy industry on public lands (accommodating the higher limit of projected demand), despite the clear omission of distributed generation. The RFDS should be adjusted to compensate for distributed generation potential. Proper land stewardship, not the RFDS projections, should guide DOI's alternative analysis and designation of suitable lands.

Preferred Alternative: Solar Energy Development Program

The Draft PEIS identifies the Solar Energy Development Program as its preferred alternative. Making over 22 million acres available to the energy industry for Right-of-Way (ROW) applications is not an improvement over the current policy, and is likely to encourage the same degree of misguided ROW applications for unsuitable land, consuming time and money during review. The PEIS even acknowledges (page 6-33) that much of the land available under the Solar Energy Development Program is probably not suitable for development.

Solar Energy Zones

I offer the following comments regarding the proposed solar energy zones of which I am familiar. The absence of comments here on other proposed zones is not an endorsement of the zones.

The proposed Pisgah Solar Energy Zone (SEZ) is unsuitable for solar energy development. BLM and California Energy Commission evaluation of the land for the Calico Solar power project discovered relatively high concentrations of endangered desert tortoises, and the rare white-margined beardtongue, which only exists in a few other locations. The lower elevations also host threatened Mojave fringe-toed lizards, and much of the area can be considered foraging habitat for Nelson's bighorn sheep. Furthermore, energy development on this land would require transmission line upgrades that would cause even more disturbance. The

requirement for transmission line upgrades must also be evaluated in the Draft PEIS since this would be a connected action.

The proposed Riverside East Solar Energy Zone is also unsuitable for solar energy development, since it would destroy desert tortoise habitat adjacent to Joshua Tree National Park, and Mojave fringe-toed lizard habitat throughout much of the proposed zone along Interstate 10, as noted in environmental assessments for the Desert Sunlight solar power project, Palen Solar power project, Genesis Solar power project, and Blythe Solar power project. The Zone would also have tremendous cumulative impacts on this important ecological zone, a transition between the Mojave and Sonoran deserts, and cut off wildlife movement corridors that provide necessary genetic connectivity for multiple species.

Potential Mitigation Measures; Policy and Design Features:
The Draft PEIS lays out an admirable effort to offset the destructive effects of utility-scale solar on public lands, and the Solar Energy Program sets forth design features that attempt to mitigate environmental damage. The Solar Energy Program's proposed pre-screening of applications and identification of criteria for evaluating a project's potential environmental damage should be strengthened. Current policies probably would not give a BLM authorized officer's recommendation to reconsider siting much weight (as proposed in Appendix A, pg 26). The pre-screening process should be given a greater capacity to reject or redirect ROW proposals to avoid lands of ecological value. For example, ROW proposals for land that is known to hold pristine desert habitat and special status species, or that are important for habitat connectivity should simply be rejected. Energy companies should be required to demonstrate the financial capability not only to build the project, but also to fund compensatory habitat requirements without Federal assistance. BLM rental rates could also be higher for land of greater ecological or cultural concern.

The design features proposed (appendix A) appear to be set forth as suggestions or best practices rather than requirements, leaving no assurance that projects will in fact be required to adhere to such considerations. The language should be clarified and strengthened to ensure that BLM authorized officers and project proponents understand the requirement for such design features.

In conjunction with Appendix A, Chapter 5 also misrepresents that impacts on plant and wildlife, suggesting many impacts would be "moderate" with mitigation measures. These assessments should be revisited since the impacts and cumulative impacts almost certainly are "large" or significant in many cases. For example, the BrightSource Energy Ivanpah Solar power project approved by DOI last year is now estimated to displace or kill up to 140 endangered desert tortoises. The 2008 Desert Tortoise Recovery Plan notes that the species is in decline throughout its range, and its population distribution and connectivity must be maintained with no net habitat loss to bring the species back into recovery. The PEIS' proposal to destroy dozens of square miles in the tortoise's range will surely introduce a range of additional stresses to remaining populations, in addition to the habitat loss.

Language in the PEIS regarding specific mitigation measures should be appropriately caveated to convey the likelihood that many of the mitigation measures will only have partial benefits, at best, to the species in question. For example, the translocation of plant or wildlife is dubious, and the PEIS should acknowledge the un-studied nature of these techniques. The translocation of desert tortoises from land acquired by the Department of the Army for Fort Irwin resulted in at least half of the translocated tortoises dying. Furthermore, the PEIS fails to identify adequate translocation receptor sites, and does not address the availability of compensatory habitat (private land of suitable habitat quality).

The design features in Appendix A, section A.2.2.11.1 "Siting and Design" suggest that "projects shall be sited on previously disturbed lands" and "…avoid and minimize impacts on remote, undisturbed lands," to the "extent practicable." I agree with this design feature and think it should be strengthened. Siting solar energy on previously disturbed land close to the point of use is extremely practicable, negating the need for solar on remote and undisturbed land. Even as stated, this language contradicts the rationale behind many of the "Solar Energy Zones" proposed in the same PEIS, which are on primarily remote and undisturbed lands, such as the Iron Mountain SEZ, Pisgah SEZ, and much of the Riverside East SEZ.

Tiering Environmental Review

The Programmatic EIS evaluation of biological and cultural resources available under the Solar Energy Development program and the Solar Enery Zones is not detailed enough to permit tiering of environmental reviews. Future solar energy projects on lands identified and evaluated by the PEIS should necessitate environmental impact statements, rather than environmental assessments.

Conclusion:

The Draft PEIS proposes an unnecessarily destructive solar energy policy, misrepresents the potential impacts, provides an inadequate forecast of cumulative impacts, and refuses to analyze alternatives outside of the DOI and DOE's jurisdiction. The Draft PEIS should be re-written to bring forward a policy alternative that maximizes use of disturbed lands (such as those identified in the EPA's RE-powering America's Land program) and distributed generation. The Draft PEIS should also be re-written to include a harder look at the cumulative and direct impacts of solar energy development on public lands, especially at the scale proposed under the No Action, Solar Energy Development, and Solar Energy Zone alternatives.

Sincerely,
Shaun Gonzales

Thank you for your comment, JERRY ANGUS.

The comment tracking number that has been assigned to your comment is SolarD10162.

Comment Date: April 11, 2011 12:10:59PM
Solar Energy Development PEIS
Comment ID: SolarD10162

First Name: JERRY
Middle Initial: W
Last Name: ANGUS
Organization: 388 RANGE SQUADRON
Address: 6066 CEDAR LANE, BLDG 1274, SUITE 6B
Address 2:
Address 3:
City: HILL AFB
State: UT
Zip: 840565218
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The land area under the Utah Test and Training Range (UTTR) and Sevier Military Operating Area maybe deem non-supportable for solar energy development because of the ocular and reflective hazards to low flying aircraft in this area and the military training routes. Specific responses will be made on idividual projects.

Thank you for your comment, Joshua Hart.

The comment tracking number that has been assigned to your comment is SolarD10163.

Comment Date: April 11, 2011 16:25:09PM
Solar Energy Development PEIS
Comment ID: SolarD10163

First Name: Joshua
Middle Initial: J
Last Name: Hart
Organization: Inyo County
Address: 168 North Edwards
Address 2:
Address 3:
City: Independence
State: CA
Zip: 93526
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: InyoCountyCommentsDPEISSolar.pdf

Comment Submitted:

Attached is correspondence from the Inyo
County Board of Supervisors. A hard copy will be mailed.

BOARD OF SUPERVISORS
COUNTY OF INYO

P. O. BOX N • INDEPENDENCE, CALIFORNIA 93526
TELEPHONE (760) 878-0373 • FAX (760) 878-2241
e-mail: pgunsolley@inyocounty.us

March 29, 2011

Draft Solar Energy Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, IL 60439

RE: Draft Solar PEIS

To Whom It May Concern:

Inyo County has reviewed the Draft Solar Programmatic Environmental Impact Statement (PEIS) and is supportive of this effort by Bureau of Land Management (BLM) and Department of Energy (DOE) to encourage and streamline solar energy development in California and the southwest.

Inyo County is particularly supportive of statements within the PEIS, such as found in Chapter 2, which note that additions to the proposed Solar Energy Study Areas/Solar Energy Zones (SEZ) are likely to be considered at a future date. Since becoming involved in the PEIS process in July of 2009, Inyo County has consistently requested that the County be included as a site for such Solar Energy Study Areas/SEZs.

As noted in our comment letter of July 28, 2009, there are PEIS-proposed Solar Energy Study Areas immediately adjacent to Inyo County across the California state line in Nevada. The County requests that the extensive BLM lands within its own borders – which contain the same excellent solar development potential as the adjacent Nevada BLM lands – be identified and targeted as Solar Energy Study Areas/SEZs in future planning.

Significantly, while BLM's preferred alternative is the Solar Development Program rather than the SEZ Program, the County notes that this action alternative also excludes lands the County has identified as appropriate for renewable energy development (refer to attached). The County's General Plan encourages the sound development of energy resources on federal lands within the County, and maintaining and expanding access to federal lands for those purposes (Policy Gov 10-1). The County notes that, not only are areas identified by the County as highly appropriate for solar energy development not included as SEZs in the PEIS, but some of those areas are specifically excluded from consideration for solar energy development. At this time, the PEIS is not consistent with the County's plans and policies.

Accordingly, Inyo County requests additional and intensified coordination with the BLM to address and resolve the inconsistencies between the PEIS and the Inyo County General Plan and approved policies. In accordance with 43 C.F.R. 1610.3-1(f), Inyo County hereby informs the BLM of the specific inconsistencies between Inyo County plans and policies and the PEIS. The County requests staff-to-staff meetings to address these inconsistencies and, ideally, to resolve them. It is the County's position that the draft PEIS does not adequately identify and address these inconsistencies and the possible resolution of them.

Thank you for your attention. Please contact the County's Administrative Officer, Kevin Carunchio, at (760) 878-0292 at your earliest convenience to arrange for coordination.

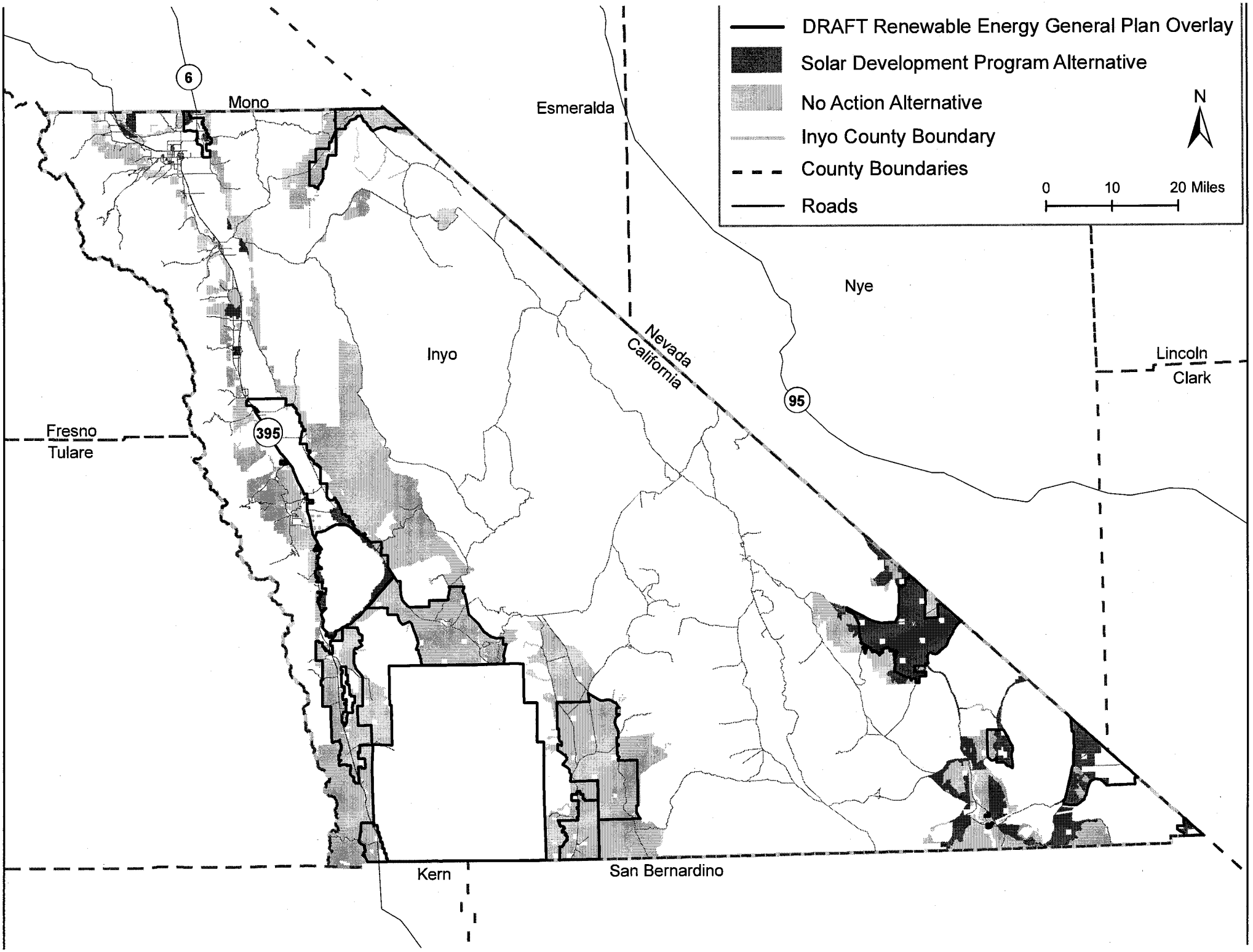
Sincerely,

Susan Cash

Susan Cash, Chairperson
Inyo County Board of Supervisors

Attachment: Map Comparing PEIS alternatives to Inyo County Renewable Energy General Plan Amendment Overlay

cc: Board of Supervisors, Inyo County
Kevin Carunchio, County CAO
Randy Keller, County Counsel
Joshua Hart, Inyo County Planning Director
Bob Abbey, BLM
Jim Abbot, BLM
Ashley Conrad-Saydah, BLM
Sara Quinn, BLM
Greg Miller, BLM
Linda Resseguie, BLM
Clare Laufenberg Gallardo, California Energy Commission
Regional Council of Rural Counties
California State Association of Counties
National Association of Counties


DRAFT Renewable Energy General Plan Overlay
Solar Development Program Alternative
No Action Alternative
Inyo County Boundary
County Boundaries
Roads
N
0
10
20 Miles
6
Mono
Esmeralda
Nye
Inyo
Nevada
California
95
Lincoln
Clark
395
Fresno
Tulare
Kern
San Bernardino

Thank you for your comment, Dorothy Sturges.

The comment tracking number that has been assigned to your comment is SolarD10164.

Comment Date: April 12, 2011 12:56:25PM
Solar Energy Development PEIS
Comment ID: SolarD10164

First Name: Dorothy
Middle Initial:
Last Name: Sturges
Organization:
Address: P.O.Box 282
Address 2:
Address 3:
City: Sonoita
State: AZ
Zip: 85637
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's a no-brainer! Solar energy is the only way to go. It's clean and it's not dangerous.

Thank you for your comment, Laura Herndon.

The comment tracking number that has been assigned to your comment is SolarD10165.

Comment Date: April 12, 2011 12:56:33PM
Solar Energy Development PEIS
Comment ID: SolarD10165

First Name: Laura
Middle Initial:
Last Name: Herndon
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Doug Shohan.

The comment tracking number that has been assigned to your comment is SolarD10166.

Comment Date: April 12, 2011 12:57:04PM
Solar Energy Development PEIS
Comment ID: SolarD10166

First Name: Doug
Middle Initial:
Last Name: Shohan
Organization:
Address: 95 Via Maria
Address 2:
Address 3:
City: Lee
State: MA
Zip: 01238
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

•The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
•The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
•The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
•Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Emily Doutre.

The comment tracking number that has been assigned to your comment is SolarD10167.

Comment Date: April 12, 2011 12:57:39PM
Solar Energy Development PEIS
Comment ID: SolarD10167

First Name: Emily
Middle Initial:
Last Name: Doutre
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sheryl Bottner.

The comment tracking number that has been assigned to your comment is SolarD10168.

Comment Date: April 12, 2011 12:57:42PM
Solar Energy Development PEIS
Comment ID: SolarD10168

First Name: Sheryl
Middle Initial:
Last Name: Bottner
Organization:
Address:
Address 2:
Address 3:
City:
State: VA
Zip: 20109
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Nancy Oliver.

The comment tracking number that has been assigned to your comment is SolarD10169.

Comment Date: April 12, 2011 12:58:04PM
Solar Energy Development PEIS
Comment ID: SolarD10169

First Name: Nancy
Middle Initial:
Last Name: Oliver
Organization:
Address: 2254 Moreno Dr.
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90039
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Aliza Keddem.

The comment tracking number that has been assigned to your comment is SolarD10170.

Comment Date: April 12, 2011 12:58:12PM
Solar Energy Development PEIS
Comment ID: SolarD10170

First Name: Aliza
Middle Initial:
Last Name: Keddem
Organization:
Address: 36 NE 76 Avenue
Address 2:
Address 3: 36 NE 76 Avenue
City: Portland
State: OR
Zip: 97213
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is a most sensible source and must be pursued vigorously.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10171.

Comment Date: April 12, 2011 12:58:18PM
Solar Energy Development PEIS
Comment ID: SolarD10171

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
• The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Roberta Eisenberg.

The comment tracking number that has been assigned to your comment is SolarD10172.

Comment Date: April 12, 2011 12:58:21PM
Solar Energy Development PEIS
Comment ID: SolarD10172

First Name: Roberta
Middle Initial: M
Last Name: Eisenberg
Organization:
Address: 4340 247 St
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Address 3:
City: Douglaston
State: NY
Zip: 113631643
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10173.

Comment Date: April 12, 2011 12:58:26PM
Solar Energy Development PEIS
Comment ID: SolarD10173

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Please, Please protect the few pristine and healthy environments we still have. Thank you.

Thank you for your comment, Denise Bell.

The comment tracking number that has been assigned to your comment is SolarD10174.

Comment Date: April 12, 2011 12:58:32PM
Solar Energy Development PEIS
Comment ID: SolarD10174

First Name: Denise
Middle Initial: C
Last Name: Bell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Only if amended, I strongly support the Solar Energy Zone alternative:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, S Logan.

The comment tracking number that has been assigned to your comment is SolarD10175.

Comment Date: April 12, 2011 12:58:47PM
Solar Energy Development PEIS
Comment ID: SolarD10175

First Name: S
Middle Initial:
Last Name: Logan
Organization:
Address: 1001 Brickelll Bay Dr
Address 2:
Address 3:
City: Miami
State: FL
Zip: 33131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Carol Morrison.

The comment tracking number that has been assigned to your comment is SolarD10176.

Comment Date: April 12, 2011 12:58:48PM
Solar Energy Development PEIS
Comment ID: SolarD10176

First Name: Carol
Middle Initial:
Last Name: Morrison
Organization:
Address:
Address 2:
Address 3:
City:
State: VT
Zip: 05346
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, terry king.

The comment tracking number that has been assigned to your comment is SolarD10177.

Comment Date: April 12, 2011 12:58:56PM
Solar Energy Development PEIS
Comment ID: SolarD10177

First Name: terry
Middle Initial:
Last Name: king
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We must develop renewable energy technologies. We cannot wait. We hold future generations back if we do not act decisively and immediately.
Dr T King

Thank you for your comment, Stephen Santangelo.

The comment tracking number that has been assigned to your comment is SolarD10178.

Comment Date: April 12, 2011 12:59:01PM
Solar Energy Development PEIS
Comment ID: SolarD10178

First Name: Stephen
Middle Initial: R
Last Name: Santangelo
Organization:
Address: 7135 comanche canyon
Address 2:
Address 3:
City: las vegas
State: NV
Zip: 89113
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is desparately needed!

Thank you for your comment, Melissa Cicetti.

The comment tracking number that has been assigned to your comment is SolarD10179.

Comment Date: April 12, 2011 12:59:16PM
Solar Energy Development PEIS
Comment ID: SolarD10179

First Name: Melissa
Middle Initial:
Last Name: Cicetti
Organization:
Address: 172 Beard Street
Address 2:
Address 3:
City: Brooklyn
State: NY
Zip: 11231
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is the way to go -- let's learn our lessons from Chernobyl and Fukishima!

Thank you for your comment, Harriet Cohen.

The comment tracking number that has been assigned to your comment is SolarD10180.

Comment Date: April 12, 2011 12:59:34PM
Solar Energy Development PEIS
Comment ID: SolarD10180

First Name: Harriet
Middle Initial: E
Last Name: Cohen
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Susan LoFurno.

The comment tracking number that has been assigned to your comment is SolarD10181.

Comment Date: April 12, 2011 12:59:42PM
Solar Energy Development PEIS
Comment ID: SolarD10181

First Name: Susan
Middle Initial: K
Last Name: LoFurno
Organization:
Address: 1340 Klem Road
Address 2:
Address 3:
City: Webster
State: NY
Zip: 14580
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Susan LoFurno

Thank you for your comment, Kathleen Peters.

The comment tracking number that has been assigned to your comment is SolarD10182.

Comment Date: April 12, 2011 12:59:49PM
Solar Energy Development PEIS
Comment ID: SolarD10182

First Name: Kathleen
Middle Initial: A
Last Name: Peters
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Loren jONES.

The comment tracking number that has been assigned to your comment is SolarD10183.

Comment Date: April 12, 2011 12:59:50PM
Solar Energy Development PEIS
Comment ID: SolarD10183

First Name: Loren
Middle Initial: R
Last Name: jONES
Organization:
Address: 2231 Shattuck Ave
Address 2: #328
Address 3:
City: Berkeley
State: CA
Zip: 947041415
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is the sustainable way to go in the future. Please support it and keep our earth healthy.

Loren Jones

Thank you for your comment, Donna Varner-Sheaves.

The comment tracking number that has been assigned to your comment is SolarD10184.

Comment Date: April 12, 2011 12:59:54PM
Solar Energy Development PEIS
Comment ID: SolarD10184

First Name: Donna
Middle Initial: L
Last Name: Varner-Sheaves
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Developing Solar Energy should not compromise other Environmental issues.

Thank you for your comment, Mark Reback.

The comment tracking number that has been assigned to your comment is SolarD10185.

Comment Date: April 12, 2011 12:59:58PM
Solar Energy Development PEIS
Comment ID: SolarD10185

First Name: Mark
Middle Initial:
Last Name: Reback
Organization:
Address: 1606 N. Avenue 55
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 900421107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

If amended, I would support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) that threaten our national parks are:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Edwin Aiken.

The comment tracking number that has been assigned to your comment is SolarD10186.

Comment Date: April 12, 2011 13:00:03PM
Solar Energy Development PEIS
Comment ID: SolarD10186

First Name: Edwin
Middle Initial:
Last Name: Aiken
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Saab Lofton.

The comment tracking number that has been assigned to your comment is SolarD10187.

Comment Date: April 12, 2011 13:00:03PM
Solar Energy Development PEIS
Comment ID: SolarD10187

First Name: Saab
Middle Initial: D
Last Name: Lofton
Organization: Share the Wealth Productions
Address: 619 Third Avenue
Address 2:
Address 3:
City: Seattle
State: WA
Zip: 98104
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's beyond obvious: The majority of America's solar power panels should be in the desert, duh! If putting them there means that some elitist has to go without an MTV Cribs mansion, then so be it!

Thank you for your comment, Amy Marquis.

The comment tracking number that has been assigned to your comment is SolarD10188.

Comment Date: April 12, 2011 13:00:06PM
Solar Energy Development PEIS
Comment ID: SolarD10188

First Name: Amy
Middle Initial:
Last Name: Marquis
Organization:
Address: 2715 Elm Ave
Address 2:
Address 3:
City: Boulder
State: CO
Zip: 803053331
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm thrilled to hear that the federal government is looking into solar development-- that's fantastic!! But there's a right way and a wrong way to build these facilities. PLEASE read this article to help guide your decisions-- because it'd be such a shame to cancel out all the good that solar does with poor development decisions.

http://www.npca.org/magazine/2009/winter/solar-rush.html

Thanks for your time,
Amy Marquis

Thank you for your comment, Sandra Walters.

The comment tracking number that has been assigned to your comment is SolarD10189.

Comment Date: April 12, 2011 13:00:08PM
Solar Energy Development PEIS
Comment ID: SolarD10189

First Name: Sandra
Middle Initial: F
Last Name: Walters
Organization:
Address: 345 N. Stateline Rd.
Address 2:
Address 3:
City: Driggs
State: ID
Zip: 83422
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support pursuit of a solar energy policy, but not at the expense or degradation of wildlife areas, migration corridors, or national parks, refuges or monuments. By "expense or degradation," I refer to diminishing lands or reducing their natural or cultural value.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10190.

Comment Date: April 12, 2011 13:00:09PM
Solar Energy Development PEIS
Comment ID: SolarD10190

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to consider responsible solar development that protects our national parks. Your thoughtful action will help make a difference!

Thank you for your comment, Robert Janusko.

The comment tracking number that has been assigned to your comment is SolarD10191.

Comment Date: April 12, 2011 13:00:12PM
Solar Energy Development PEIS
Comment ID: SolarD10191

First Name: Robert
Middle Initial:
Last Name: Janusko
Organization:
Address: 1329 Eaton Ave
Address 2:
Address 3:
City: Bethlehem
State: PA
Zip: 18018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Matthew Swyers.

The comment tracking number that has been assigned to your comment is SolarD10192.

Comment Date: April 12, 2011 13:00:12PM
Solar Energy Development PEIS
Comment ID: SolarD10192

First Name: Matthew
Middle Initial:
Last Name: Swyers
Organization:
Address: 1020 Dolores St #28
Address 2:
Address 3:
City: Livermore
State: CA
Zip: 945504770
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joan Winchell.

The comment tracking number that has been assigned to your comment is SolarD10193.

Comment Date: April 12, 2011 13:00:13PM
Solar Energy Development PEIS
Comment ID: SolarD10193

First Name: Joan
Middle Initial:
Last Name: Winchell
Organization:
Address: 12947 via esperia
Address 2:
Address 3:
City: Del Mar
State: CA
Zip: 920143722
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

please do all that is possible to protect our environment

Thank you for your comment, Jake Wolfhart.

The comment tracking number that has been assigned to your comment is SolarD10194.

Comment Date: April 12, 2011 13:00:14PM
Solar Energy Development PEIS
Comment ID: SolarD10194

First Name: Jake
Middle Initial: C
Last Name: Wolfhart
Organization: Peace works
Address: P.O. Box 1193
Address 2:
Address 3:
City: capitan
State: NM
Zip: 88316
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

go solar live life greatly Jake

Thank you for your comment, Edmund Jones.

The comment tracking number that has been assigned to your comment is SolarD10195.

Comment Date: April 12, 2011 13:00:25PM
Solar Energy Development PEIS
Comment ID: SolarD10195

First Name: Edmund
Middle Initial:
Last Name: Jones
Organization:
Address:
Address 2:
Address 3:
City: San Jose
State: CA
Zip: 951292918
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, William Caine.

The comment tracking number that has been assigned to your comment is SolarD10196.

Comment Date: April 12, 2011 13:00:35PM
Solar Energy Development PEIS
Comment ID: SolarD10196

First Name: William
Middle Initial: C
Last Name: Caine
Organization:
Address: 1341 E. 2nd Ave
Address 2:
Address 3: 1341 E. 2nd Ave
City: Mount Dora
State: FL
Zip: 327575813
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Put those PV cells on the roofs of the millions of houses that have already been built, then give the homeowners a cut of the profits (if any). I'd volunteer my roof.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10197.

Comment Date: April 12, 2011 13:00:46PM
Solar Energy Development PEIS
Comment ID: SolarD10197

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Do it wisely without impacting the wildlife and environment. Maybe don't use park land, maybe use existing buildings where nothing lives or grows on! Theres millions of those.

Thank you for your comment, Toni Lee.

The comment tracking number that has been assigned to your comment is SolarD10198.

Comment Date: April 12, 2011 13:00:53PM
Solar Energy Development PEIS
Comment ID: SolarD10198

First Name: Toni
Middle Initial:
Last Name: Lee
Organization:
Address: 1024 E. California Blvd #302
Address 2:
Address 3:
City: Pasadena
State: CA
Zip: 91106
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Building giant solar facilities on wilderness will undermine the very reason for building them in the first place, to ensure that future generations inherit natural resources in the same or better condition in which we received them.

Thank you for your comment, Robin Schaef.

The comment tracking number that has been assigned to your comment is SolarD10199.

Comment Date: April 12, 2011 13:00:54PM
Solar Energy Development PEIS
Comment ID: SolarD10199

First Name: Robin
Middle Initial: G
Last Name: Schaef
Organization:
Address: 12158 State Highway 198
Address 2:
Address 3:
City: Guys Mills
State: PA
Zip: 16327
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
• The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Heide Doss.

The comment tracking number that has been assigned to your comment is SolarD10200.

Comment Date: April 12, 2011 13:00:55PM
Solar Energy Development PEIS
Comment ID: SolarD10200

First Name: Heide
Middle Initial: M
Last Name: Doss
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I think that many people would allow their rooftops to be used for harnessing solar energy, and it's already connected to the grid! Why not have energy companies invest in solar farms in existing neighborhoods than in open land?

Thank you for your comment, Rob Grace.

The comment tracking number that has been assigned to your comment is SolarD10201.

Comment Date: April 12, 2011 13:00:57PM
Solar Energy Development PEIS
Comment ID: SolarD10201

First Name: Rob
Middle Initial:
Last Name: Grace
Organization:
Address: 16755 Vista Del Valle Ct
Address 2:
Address 3:
City: Morgan Hill,
State: CA
Zip: 95037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Helllo -

We need to initiate a soloar energy program as soon as possible. Although there are many opinions on the "how" and the "where" - we must work together without delay to not only discuss & reach agreement on a mutual solution program. We must end our dependency of oil both for economic reasons but also environmental reason. Please reach out to any and all that are willing to work on this effort. Thanks, Rob

Thank you for your comment, Estelle Epstein.

The comment tracking number that has been assigned to your comment is SolarD10202.

Comment Date: April 12, 2011 13:00:57PM
Solar Energy Development PEIS
Comment ID: SolarD10202

First Name: Estelle
Middle Initial: M
Last Name: Epstein
Organization:
Address: 289 Maitland Ave.
Address 2:
Address 3:
City: Teaneck
State: NJ
Zip: 07666
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology, but with some ammendment.

Four of the proposed Solar Energy Zones (SEZ) threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elisa Molina.

The comment tracking number that has been assigned to your comment is SolarD10203.

Comment Date: April 12, 2011 13:01:15PM
Solar Energy Development PEIS
Comment ID: SolarD10203

First Name: Elisa
Middle Initial:
Last Name: Molina
Organization:
Address: 1591 Regent St #2
Address 2:
Address 3:
City: Redwood City
State: CA
Zip: 94061
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am totally up for solar energy! I'm glad this movement is finally taking place. Just take the right steps to ensure it is done right by not jeperdizing our wilderness and our water.

Thank you for your comment, Melodie Paulsen.

The comment tracking number that has been assigned to your comment is SolarD10204.

Comment Date: April 12, 2011 13:01:15PM
Solar Energy Development PEIS
Comment ID: SolarD10204

First Name: Melodie
Middle Initial: L
Last Name: Paulsen
Organization:
Address: 5414 229th Av NE
Address 2:
Address 3:
City: Bethel
State: MN
Zip: 550059722
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, David Stetler.

The comment tracking number that has been assigned to your comment is SolarD10205.

Comment Date: April 12, 2011 13:01:22PM
Solar Energy Development PEIS
Comment ID: SolarD10205

First Name: David
Middle Initial:
Last Name: Stetler
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please don't let solar installations degrade wildlife protections or the enjoyment of our National Parks.

Thank you for your comment, David Greene.

The comment tracking number that has been assigned to your comment is SolarD10206.

Comment Date: April 12, 2011 13:01:29PM
Solar Energy Development PEIS
Comment ID: SolarD10206

First Name: David
Middle Initial:
Last Name: Greene
Organization:
Address: 806 Francis Av
Address 2:
Address 3:
City: Columbus
State: OH
Zip: 43209
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I want more solar and clean energy for the entire country. The U.S. government should be romoting all forms of clean energy for federal buildings and national property and parks. We should be using electric cars for federal and state cars and delivery.

Thank you for your comment, Leona Klerer.

The comment tracking number that has been assigned to your comment is SolarD10207.

Comment Date: April 12, 2011 13:01:36PM
Solar Energy Development PEIS
Comment ID: SolarD10207

First Name: Leona
Middle Initial:
Last Name: Klerer
Organization:
Address: Straw Hill Ave
Address 2:
Address 3:
City: Stamford
State:
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Locate solar energy areas so as not to impinge on national parks.
Thanks

Thank you for your comment, Aaron Fumarola.

The comment tracking number that has been assigned to your comment is SolarD10208.

Comment Date: April 12, 2011 13:01:40PM
Solar Energy Development PEIS
Comment ID: SolarD10208

First Name: Aaron
Middle Initial:
Last Name: Fumarola
Organization:
Address: 907 Alfred Lane
Address 2:
Address 3: 907 Alfred Lane
City: Homer
State: NY
Zip: 13077
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, JoEllen Young .

The comment tracking number that has been assigned to your comment is SolarD10209.

Comment Date: April 12, 2011 13:01:43PM
Solar Energy Development PEIS
Comment ID: SolarD10209

First Name: JoEllen
Middle Initial:
Last Name: Young
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Arlene Aughey.

The comment tracking number that has been assigned to your comment is SolarD10210.

Comment Date: April 12, 2011 13:01:46PM
Solar Energy Development PEIS
Comment ID: SolarD10210

First Name: Arlene
Middle Initial:
Last Name: Aughey
Organization:
Address: 137 Lincoln Ave.
Address 2:
Address 3:
City: Saddle Brook
State: NJ
Zip: 07663
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is a great idea, but placement should be considered very carfully, so as not to disturb our national heritage in these parks. Too many times, the ones implementing energy "solutions" do not consider environmental impact enough or at all. (just look at Japan at the moment).

Thank you for your comment, Stephen Matera.

The comment tracking number that has been assigned to your comment is SolarD10211.

Comment Date: April 12, 2011 13:01:56PM
Solar Energy Development PEIS
Comment ID: SolarD10211

First Name: Stephen
Middle Initial:
Last Name: Matera
Organization:
Address:
Address 2:
Address 3:
City: Seattle
State: WA
Zip: 98107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, anita simons.

The comment tracking number that has been assigned to your comment is SolarD10212.

Comment Date: April 12, 2011 13:01:58PM
Solar Energy Development PEIS
Comment ID: SolarD10212

First Name: anita
Middle Initial:
Last Name: simons
Organization:
Address: 2217 caminito preciosa sur
Address 2:
Address 3:
City: la jolla
State: CA
Zip: 92037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Rutkowski.

The comment tracking number that has been assigned to your comment is SolarD10213.

Comment Date: April 12, 2011 13:01:59PM
Solar Energy Development PEIS
Comment ID: SolarD10213

First Name: Robert
Middle Initial:
Last Name: Rutkowski
Organization:
Address: 2527 Faxon Ct.
Address 2:
Address 3:
City: Topeka
State: KS
Zip: 66605
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To: Solar Energy Development Programmatic EIS
E: http://solareis.anl.gov/involve/comments/index.cfm

Re: Comments on Solar Energy Zone alternative

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to bring these remarks to your attention.

Yours sincerely,
Robert E. Rutkowski

cc: House Minority Leadership

2527 Faxon Court
Topeka, Kansas 66605-2086
P/F: 1 785 379-9671
E-mail: r_e_rutkowski@att.net

Thank you for your comment, Tracy Leinbaugh.

The comment tracking number that has been assigned to your comment is SolarD10214.

Comment Date: April 12, 2011 13:02:01PM
Solar Energy Development PEIS
Comment ID: SolarD10214

First Name: Tracy
Middle Initial: C
Last Name: Leinbaugh
Organization:
Address: 10855 Peach Ridge Road
Address 2:
Address 3:
City: Athens
State: OH
Zip: 45701
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
• The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I would like to add that I am middle-class, income under $100,000 a year, and have a 4.48 kw solar system which supplies my electricity and permits me to sell some to AEP, my provider. Individual systems are a much more environmentally responsible way to go.

Thank you for your comment, Marc Marchioli.

The comment tracking number that has been assigned to your comment is SolarD10215.

Comment Date: April 12, 2011 13:02:05PM
Solar Energy Development PEIS
Comment ID: SolarD10215

First Name: Marc
Middle Initial: E
Last Name: Marchioli
Organization:
Address: 2617 Grandview Ave
Address 2:
Address 3: 2617 Grandview Ave
City: Pittsburgh
State: PA
Zip: 152352708
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

When land can no longer support wildlife, the most intelligent mammal of them all will perish - the human!

Are we so lazy and self serving as to prefer luxury and lust over protecting our natural resources and parks?

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10216.

Comment Date: April 12, 2011 13:02:12PM
Solar Energy Development PEIS
Comment ID: SolarD10216

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy should not be explored at the cost of destroying our national parks. Find a way that works for both groups.

Thank you for your comment, Robert Snyder.

The comment tracking number that has been assigned to your comment is SolarD10217.

Comment Date: April 12, 2011 13:02:17PM
Solar Energy Development PEIS
Comment ID: SolarD10217

First Name: Robert
Middle Initial:
Last Name: Snyder
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I realize the necessity of getting solar energy solutions up and running as quickly as possible but let's make sure we take the time to select areas for development carefully to ensure we do this right!

Thank you for your comment, Michael Adler.

The comment tracking number that has been assigned to your comment is SolarD10218.

Comment Date: April 12, 2011 13:02:28PM
Solar Energy Development PEIS
Comment ID: SolarD10218

First Name: Michael
Middle Initial:
Last Name: Adler
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support large solar power projects on public lands. I think some of the vast dry lake beds seem as though divinely provided for this exact purpose. I don't know much about the solar anergy zone thing, but it sounds mostly like a good thing, especially if all the environmentla impact study can take place for the whole zone, in order to expedite individual projects.

Some areas, however, are not appropriate for solar or any form of development, and I have conerns that some of the zones may need some adjustment, as per an email I received from the National Parks Conservation Association.

Four proposed Solar Energy Zones (SEZ) threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for any form of development.

Thank you for your comment, Donna Henes.

The comment tracking number that has been assigned to your comment is SolarD10219.

Comment Date: April 12, 2011 13:02:32PM
Solar Energy Development PEIS
Comment ID: SolarD10219

First Name: Donna
Middle Initial:
Last Name: Henes
Organization:
Address: 279 Sterling Place #4A
Address 2:
Address 3:
City: Brooklyn
State: NY
Zip: 112384444
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The sun is a source of never ending energy. We have the technology. It is high time that we used it. For our sake, the future of our children and for the planet.

Thank you for your comment, William Smith.

The comment tracking number that has been assigned to your comment is SolarD10220.

Comment Date: April 12, 2011 13:02:47PM
Solar Energy Development PEIS
Comment ID: SolarD10220

First Name: William
Middle Initial:
Last Name: Smith
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you

William Smith
Cincinnati, Ohio

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10221.

Comment Date: April 12, 2011 13:03:11PM
Solar Energy Development PEIS
Comment ID: SolarD10221

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jessica Young.

The comment tracking number that has been assigned to your comment is SolarD10222.

Comment Date: April 12, 2011 13:03:15PM
Solar Energy Development PEIS
Comment ID: SolarD10222

First Name: Jessica
Middle Initial:
Last Name: Young
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's essential to implement renewable energy programs, but solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10223.

Comment Date: April 12, 2011 13:03:29PM
Solar Energy Development PEIS
Comment ID: SolarD10223

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am writing to support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1.The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2.The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3.The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4.Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your attention to these important issues. I hope you will work to preserve all wilderness areas.

Thank you for your comment, Anthony Albert.

The comment tracking number that has been assigned to your comment is SolarD10224.

Comment Date: April 12, 2011 13:03:36PM
Solar Energy Development PEIS
Comment ID: SolarD10224

First Name: Anthony
Middle Initial: D
Last Name: Albert
Organization:
Address: 664 NW 18th Street
Address 2:
Address 3:
City: Corvallis
State: OR
Zip: 97330
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, E. INGRAHAM.

The comment tracking number that has been assigned to your comment is SolarD10225.

Comment Date: April 12, 2011 13:03:55PM
Solar Energy Development PEIS
Comment ID: SolarD10225

First Name: E.
Middle Initial:
Last Name: INGRAHAM
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

PLEASE be cognizant of environmental issues.

Thank you for your comment, Anna Becker.

The comment tracking number that has been assigned to your comment is SolarD10226.

Comment Date: April 12, 2011 13:04:15PM
Solar Energy Development PEIS
Comment ID: SolarD10226

First Name: Anna
Middle Initial: K
Last Name: Becker
Organization:
Address: 14199 N.W. Logie Trail
Address 2:
Address 3:
City: Hillsboro
State: OR
Zip: 97124
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please DO NOT place such energy systems in our National Parks--we MUST preserve the natural wonders of our National Parks in all circumstances!

Thank you for your comment, Ramsay Kieffer.

The comment tracking number that has been assigned to your comment is SolarD10227.

Comment Date: April 12, 2011 13:04:15PM
Solar Energy Development PEIS
Comment ID: SolarD10227

First Name: Ramsay
Middle Initial: C
Last Name: Kieffer
Organization: National Park Conservation
Address: 622 Adams Drive
Address 2:
Address 3:
City: Milford
State: DE
Zip: 19963
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Edith Coleman.

The comment tracking number that has been assigned to your comment is SolarD10228.

Comment Date: April 12, 2011 13:04:24PM
Solar Energy Development PEIS
Comment ID: SolarD10228

First Name: Edith
Middle Initial: G
Last Name: Coleman
Organization:
Address: 2600 Frederick Avenue
Address 2:
Address 3:
City: Wilmington
State: DE
Zip: 19805
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Yvonne Korshak.

The comment tracking number that has been assigned to your comment is SolarD10229.

Comment Date: April 12, 2011 13:04:32PM
Solar Energy Development PEIS
Comment ID: SolarD10229

First Name: Yvonne
Middle Initial:
Last Name: Korshak
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am writing to urge that the best science and attention to environmental issues be used in working out solar energy installations. Solar energy should be developed only in solar energy zones where they won't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you.
Sincerely,
Yvonne Korshak

Thank you for your comment, Dan Delaney.

The comment tracking number that has been assigned to your comment is SolarD10230.

Comment Date: April 12, 2011 13:04:34PM
Solar Energy Development PEIS
Comment ID: SolarD10230

First Name: Dan
Middle Initial:
Last Name: Delaney
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rosamund Downing.

The comment tracking number that has been assigned to your comment is SolarD10231.

Comment Date: April 12, 2011 13:05:20PM
Solar Energy Development PEIS
Comment ID: SolarD10231

First Name: Rosamund
Middle Initial:
Last Name: Downing
Organization:
Address: 39 Moss St.
Address 2:
Address 3:
City: Pawcatuck
State: CT
Zip: 06379
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Deart Sir/Madam:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you.

Thank you for your comment, Rachel Toker.

The comment tracking number that has been assigned to your comment is SolarD10232.

Comment Date: April 12, 2011 13:05:31PM
Solar Energy Development PEIS
Comment ID: SolarD10232

First Name: Rachel
Middle Initial:
Last Name: Toker
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support renewable energy projects, but they must be designed carefully to protect our natural areas and wildlife. Please ensure this is a key feature of your designs and plans. Specifically:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Evelyn Fraser.

The comment tracking number that has been assigned to your comment is SolarD10233.

Comment Date: April 12, 2011 13:05:32PM
Solar Energy Development PEIS
Comment ID: SolarD10233

First Name: Evelyn
Middle Initial: S
Last Name: Fraser
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

To Whom It May Concern,
-Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Sincerely,
Evelyn Fraser

Thank you for your comment, Cornelia Hoskin.

The comment tracking number that has been assigned to your comment is SolarD10234.

Comment Date: April 12, 2011 13:05:46PM
Solar Energy Development PEIS
Comment ID: SolarD10234

First Name: Cornelia
Middle Initial:
Last Name: Hoskin
Organization:
Address: 16 Meehan St. #1
Address 2:
Address 3:
City: Jamaica Plain
State: MA
Zip: 02130
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Catherine Melina.

The comment tracking number that has been assigned to your comment is SolarD10235.

Comment Date: April 12, 2011 13:05:48PM
Solar Energy Development PEIS
Comment ID: SolarD10235

First Name: Catherine
Middle Initial:
Last Name: Melina
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Paul Burks.

The comment tracking number that has been assigned to your comment is SolarD10236.

Comment Date: April 12, 2011 13:05:52PM
Solar Energy Development PEIS
Comment ID: SolarD10236

First Name: Paul
Middle Initial: D
Last Name: Burks
Organization: EarthLight Magazine
Address: 574 Woodbine Drive
Address 2:
Address 3:
City: San Rafael
State: CA
Zip: 94903
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Having scanned the plan content and process, it sounds fine to me and I certainly support and encourage the development of solar power production sites as proposed (with the exclusion which are very important, too). Keep me posted as this EIS progresses.

Thank you for your comment, Carol Collins.

The comment tracking number that has been assigned to your comment is SolarD10237.

Comment Date: April 12, 2011 13:06:02PM
Solar Energy Development PEIS
Comment ID: SolarD10237

First Name: Carol
Middle Initial: L
Last Name: Collins
Organization:
Address: 1935 Nault Road
Address 2:
Address 3:
City: Dover
State: DE
Zip: 19904
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for allowing me to speak up for responsible solar development that protects our national parks.

Thank you for your comment, AISHA FARHOUD.

The comment tracking number that has been assigned to your comment is SolarD10238.

Comment Date: April 12, 2011 13:06:04PM
Solar Energy Development PEIS
Comment ID: SolarD10238

First Name: AISHA
Middle Initial:
Last Name: FARHOUD
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Ritchey.

The comment tracking number that has been assigned to your comment is SolarD10239.

Comment Date: April 12, 2011 13:06:07PM
Solar Energy Development PEIS
Comment ID: SolarD10239

First Name: Robert
Middle Initial:
Last Name: Ritchey
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Mark and Judy Harvey.

The comment tracking number that has been assigned to your comment is SolarD10240.

Comment Date: April 12, 2011 13:06:18PM
Solar Energy Development PEIS
Comment ID: SolarD10240

First Name: Mark and Judy
Middle Initial:
Last Name: Harvey
Organization: National Parks' member
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Francis Schilling.

The comment tracking number that has been assigned to your comment is SolarD10241.

Comment Date: April 12, 2011 13:06:22PM
Solar Energy Development PEIS
Comment ID: SolarD10241

First Name: Francis
Middle Initial: X
Last Name: Schilling
Organization:
Address: 11651 S Lava Peak Avenue
Address 2:
Address 3:
City: Vail
State: AZ
Zip: 85641
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I cannot express my support for the expanded development of solar generation facilities in strong enough terms. it is imperative that we respect the environments in which those facilities will be placed. Given the vast amount of available space in the West, I do not believe that this imposes much if any limits on deployment. One of the shortcomings of previous energy strategies was the ad hoc placement of generation plants without sufficient regard for the surroundings in which they were placed. Convenience is only one of many factors in siting and should be secondary to good environmental sense.

Thank you for your comment, Kathy Rapp.

The comment tracking number that has been assigned to your comment is SolarD10242.

Comment Date: April 12, 2011 13:06:24PM
Solar Energy Development PEIS
Comment ID: SolarD10242

First Name: Kathy
Middle Initial:
Last Name: Rapp
Organization:
Address: 814 Pershing
Address 2:
Address 3:
City: Willard
State: MO
Zip: 65781
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy areas that don't hurt or endanger national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy.

Thank you for your comment, David LaVerne.

The comment tracking number that has been assigned to your comment is SolarD10243.

Comment Date: April 12, 2011 13:06:24PM
Solar Energy Development PEIS
Comment ID: SolarD10243

First Name: David
Middle Initial:
Last Name: LaVerne
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is good but mar the views at National Parks or endanger it's wildlife

Thank you for your comment, danielle charney.

The comment tracking number that has been assigned to your comment is SolarD10244.

Comment Date: April 12, 2011 13:06:38PM
Solar Energy Development PEIS
Comment ID: SolarD10244

First Name: danielle
Middle Initial: r
Last Name: charney
Organization: n/a
Address: 2505 4th St
Address 2: apt 214
Address 3:
City: santa monica
State: CA
Zip: 90405
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The sun is all we need- and we are fools to not accept it's gift

Thank you for your comment, Craig Barrington.

The comment tracking number that has been assigned to your comment is SolarD10245.

Comment Date: April 12, 2011 13:06:40PM
Solar Energy Development PEIS
Comment ID: SolarD10245

First Name: Craig
Middle Initial: A
Last Name: Barrington
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Tennyson Wellman.

The comment tracking number that has been assigned to your comment is SolarD10246.

Comment Date: April 12, 2011 13:06:48PM
Solar Energy Development PEIS
Comment ID: SolarD10246

First Name: Tennyson
Middle Initial: J
Last Name: Wellman
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I would really like to see this move forward without damaging national park lands.

Thank you for your comment, Kaz Thea.

The comment tracking number that has been assigned to your comment is SolarD10247.

Comment Date: April 12, 2011 13:06:57PM
Solar Energy Development PEIS
Comment ID: SolarD10247

First Name: Kaz
Middle Initial:
Last Name: Thea
Organization:
Address: 1630 Heroic Road
Address 2:
Address 3:
City: Hailey
State: ID
Zip: 83333
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Indeed, America must work toward a renewable energy future to buffer us from climate change, help us kick our reliance on foreign oil.But we must do it right and in an informed way by understanding the issues. Solar energy should be developed in areas that don't compromise our national parks. America should develop renewable energy resources in a smart, ecologically sound manner that protects our national treasures and important wildlife habitat.

The inititiation of the Solar Programmatic Environmental Impact Statement (Solar PEIS) process to identify where solar energy development should occur on federal lands is a positive step and identifying solar energy zones where renewable energy companies can build their facilities is sensible.

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

We need a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

I strongly believe that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Please reconsider these boundaries to be protect these important resources.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10248.

Comment Date: April 12, 2011 13:06:58PM
Solar Energy Development PEIS
Comment ID: SolarD10248

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, there are four proposed Solar Energy Zones (SEZs) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Richard Van Aken.

The comment tracking number that has been assigned to your comment is SolarD10249.

Comment Date: April 12, 2011 13:07:04PM
Solar Energy Development PEIS
Comment ID: SolarD10249

First Name: Richard
Middle Initial: S
Last Name: Van Aken
Organization: NPCA
Address: 68 Murray Rd.
Address 2:
Address 3:
City: Holland
State: PA
Zip: 189661740
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Getting off on the right foot as we begin our efforts to develop environmentally friendly energy is imperative. All the I's should be dotted and all the proverbial T's crossed before we launch our efforts to reduce fossil fuel usage. I urge you to move forward as rapidly as possible with plans in place to do it the right way regarding citing of facilities and their impacts on flora and fauna.

Thank you for your comment, Michelle Ognjanovic.

The comment tracking number that has been assigned to your comment is SolarD10250.

Comment Date: April 12, 2011 13:07:10PM
Solar Energy Development PEIS
Comment ID: SolarD10250

First Name: Michelle
Middle Initial:
Last Name: Ognjanovic
Organization:
Address: 7 W. 104 St
Address 2:
Address 3:
City: New York
State: NY
Zip: 100254319
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Even as I support renewable energy we must ensure that solar facilities are installed responsibly without harming our national parks.

Solar development will likely occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado, but it should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, or night sky viewing.

--Once AMENDED, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you and please help us protect America's parks as we support solar energy simultaneously.

Michelle Ognjanovic

Thank you for your comment, George Sherman.

The comment tracking number that has been assigned to your comment is SolarD10251.

Comment Date: April 12, 2011 13:07:10PM
Solar Energy Development PEIS
Comment ID: SolarD10251

First Name: George
Middle Initial:
Last Name: Sherman
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thierry Deshayes.

The comment tracking number that has been assigned to your comment is SolarD10252.

Comment Date: April 12, 2011 13:07:17PM
Solar Energy Development PEIS
Comment ID: SolarD10252

First Name: Thierry
Middle Initial:
Last Name: Deshayes
Organization:
Address: Scottsdale Unified #48
Address 2:
Address 3:
City: Scottsdale
State: AZ
Zip: 85251
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, jeff mchenry.

The comment tracking number that has been assigned to your comment is SolarD10253.

Comment Date: April 12, 2011 13:07:31PM
Solar Energy Development PEIS
Comment ID: SolarD10253

First Name: jeff
Middle Initial:
Last Name: mchenry
Organization:
Address: 18662 santa irene
Address 2: FOUNTAIN VALLEY
Address 3:
City: FOUNTAIN VALLEY
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Please be sensitive to the following areas

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Virginia Bennett.

The comment tracking number that has been assigned to your comment is SolarD10254.

Comment Date: April 12, 2011 13:07:33PM
Solar Energy Development PEIS
Comment ID: SolarD10254

First Name: Virginia
Middle Initial: H
Last Name: Bennett
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Any incursion of humankind into wilderness areas must be carefully studied prior to any undertakings and carefully monitored thereafter.

Thank you for your comment, Leonard Marraffino.

The comment tracking number that has been assigned to your comment is SolarD10255.

Comment Date: April 12, 2011 13:07:41PM
Solar Energy Development PEIS
Comment ID: SolarD10255

First Name: Leonard
Middle Initial: S
Last Name: Marraffino
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Renewable energy must be the way of the future, but in pursuing such a noble goal let us not harm those things in our enviorment that are so very precious.

Thank you for your comment, Kelly Rasmussen.

The comment tracking number that has been assigned to your comment is SolarD10256.

Comment Date: April 12, 2011 13:07:41PM
Solar Energy Development PEIS
Comment ID: SolarD10256

First Name: Kelly
Middle Initial:
Last Name: Rasmussen
Organization:
Address: 93550 Territorial Hwy
Address 2:
Address 3:
City: Junction City
State: OR
Zip: 97448
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please consult with the Prark Service before installing any facilities in or near our national parks. The eco system is worth preserving in all circumstances.

Thank you for your comment, Carol Mitchell.

The comment tracking number that has been assigned to your comment is SolarD10257.

Comment Date: April 12, 2011 13:07:46PM
Solar Energy Development PEIS
Comment ID: SolarD10257

First Name: Carol
Middle Initial:
Last Name: Mitchell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We have a one time chance to do this right from the beginning.

Thank you for your comment, Jeff Deal.

The comment tracking number that has been assigned to your comment is SolarD10258.

Comment Date: April 12, 2011 13:07:50PM
Solar Energy Development PEIS
Comment ID: SolarD10258

First Name: Jeff
Middle Initial:
Last Name: Deal
Organization:
Address: 247 Old Bristol Road
Address 2:
Address 3:
City: Boone
State: NC
Zip: 286073428
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We should GREATLY hasten our development of US Solar energy resources.

Thank you for your comment, Adam Savett.

The comment tracking number that has been assigned to your comment is SolarD10259.

Comment Date: April 12, 2011 13:07:55PM
Solar Energy Development PEIS
Comment ID: SolarD10259

First Name: Adam
Middle Initial:
Last Name: Savett
Organization:
Address: 31760 Woodsdale Lane
Address 2:
Address 3:
City: Solon
State: OH
Zip: 441391325
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-- Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

-- There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

-- Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration and the opportunity to comment.

Thank you for your comment, Carolyn Knoll.

The comment tracking number that has been assigned to your comment is SolarD10260.

Comment Date: April 12, 2011 13:08:00PM
Solar Energy Development PEIS
Comment ID: SolarD10260

First Name: Carolyn
Middle Initial: L
Last Name: Knoll
Organization:
Address: 44-133 Puuohalai Place
Address 2:
Address 3:
City: Kaneohe
State: HI
Zip: 96744
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lynn Shauinger.

The comment tracking number that has been assigned to your comment is SolarD10261.

Comment Date: April 12, 2011 13:08:01PM
Solar Energy Development PEIS
Comment ID: SolarD10261

First Name: Lynn
Middle Initial: H
Last Name: Shauinger
Organization:
Address: 941 Oak ST
Address 2:
Address 3:
City: San Francisco
State: CA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solor is the answer.....

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10262.

Comment Date: April 12, 2011 13:08:07PM
Solar Energy Development PEIS
Comment ID: SolarD10262

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization: The Green Chalet
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I have read and strongly support the following excerpt copied & pasted from NPCA's take action page:

I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten the national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, James Monroe.

The comment tracking number that has been assigned to your comment is SolarD10263.

Comment Date: April 12, 2011 13:08:10PM
Solar Energy Development PEIS
Comment ID: SolarD10263

First Name: James
Middle Initial: R
Last Name: Monroe
Organization: Monroe Science Educational Services
Address: 5521 Michigan Blvd.
Address 2:
Address 3:
City: Concord
State: CA
Zip: 945214041
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Support sound science! Please convert energy from fossil fuels to renewable. Please do not undermine the EPA and Endangered Species Act. Every American, human and animal deserve clean air and clean water.

Thank you for your comment, Barbara Delph.

The comment tracking number that has been assigned to your comment is SolarD10264.

Comment Date: April 12, 2011 13:08:15PM
Solar Energy Development PEIS
Comment ID: SolarD10264

First Name: Barbara
Middle Initial:
Last Name: Delph
Organization:
Address: 7364 Quail Springs Rd
Address 2:
Address 3:
City: Joshua Tree
State: CA
Zip: 92252
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a resident of a community with a national park, I would hope that you would not just select sites for solar farms because we are in the southwest and have open lands. These open lands harbor much wildlife; some that is endangered. You must show restraint when it comes to where you allow solar farms. With today's technology solar farms can also be selected in the midwest, or even the northeast. The climate does not have to be that of a desert. It is unfair to build these farms on the backs of the people who reside in the deserts of the southwest! Of course we are willing to compromise...just don't run over us!!!

Thank you for your comment, Luan Le.

The comment tracking number that has been assigned to your comment is SolarD10265.

Comment Date: April 12, 2011 13:08:19PM
Solar Energy Development PEIS
Comment ID: SolarD10265

First Name: Luan
Middle Initial: V
Last Name: Le
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Young Kim.

The comment tracking number that has been assigned to your comment is SolarD10266.

Comment Date: April 12, 2011 13:08:22PM
Solar Energy Development PEIS
Comment ID: SolarD10266

First Name: Young
Middle Initial: Y
Last Name: Kim
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please exclude national parks from any consideration of potential sites for solar development. Solar energy should be developed only in solar energy zones that don't compromise the ecology of national parks.

Thank you for your comment, Carol Atkins.

The comment tracking number that has been assigned to your comment is SolarD10267.

Comment Date: April 12, 2011 13:08:31PM
Solar Energy Development PEIS
Comment ID: SolarD10267

First Name: Carol
Middle Initial: L
Last Name: Atkins
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

There are at present four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Thank you for your comment, Barbara Fitzpatrick.

The comment tracking number that has been assigned to your comment is SolarD10268.

Comment Date: April 12, 2011 13:08:31PM
Solar Energy Development PEIS
Comment ID: SolarD10268

First Name: Barbara
Middle Initial:
Last Name: Fitzpatrick
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is next best thing to imperative for America's future - but it needs to be placed on already disturbed lands and not the incredibly few pristine areas we have left (like Joshua Tree and Death Valley). That's for solar thermal applications. Photovoltaics should be mounted on every south-facing roof both public and private.

Thank you for your comment, Andrea Chisari.

The comment tracking number that has been assigned to your comment is SolarD10269.

Comment Date: April 12, 2011 13:08:51PM
Solar Energy Development PEIS
Comment ID: SolarD10269

First Name: Andrea
Middle Initial:
Last Name: Chisari
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Where should solar development occur on public lands?

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you.

Thank you for your comment, Geraldine Pritchard.

The comment tracking number that has been assigned to your comment is SolarD10270.

Comment Date: April 12, 2011 13:08:56PM
Solar Energy Development PEIS
Comment ID: SolarD10270

First Name: Geraldine
Middle Initial:
Last Name: Pritchard
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support solar energy development only within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, .Marvin George.

The comment tracking number that has been assigned to your comment is SolarD10271.

Comment Date: April 12, 2011 13:09:01PM
Solar Energy Development PEIS
Comment ID: SolarD10271

First Name: .Marvin
Middle Initial: I
Last Name: George
Organization:
Address: 1233 Katherine Dr
Address 2:
Address 3:
City: Sierra Vista
State: AZ
Zip: 85635
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rita Sammons.

The comment tracking number that has been assigned to your comment is SolarD10272.

Comment Date: April 12, 2011 13:09:05PM
Solar Energy Development PEIS
Comment ID: SolarD10272

First Name: Rita
Middle Initial:
Last Name: Sammons
Organization:
Address: 602SE 17th St
Address 2:
Address 3:
City: Cape Coral
State: FL
Zip: 33990
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I've been wanting solar power for a long time. I hope our Government takes action to bring this to us.``

Thank you for your comment, Timothy Sanford.

The comment tracking number that has been assigned to your comment is SolarD10273.

Comment Date: April 12, 2011 13:09:05PM
Solar Energy Development PEIS
Comment ID: SolarD10273

First Name: Timothy
Middle Initial: R
Last Name: Sanford
Organization:
Address: 4115 Cobblestone Place
Address 2:
Address 3:
City: Durham
State: NC
Zip: 27707
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is great and I applaud attempts to expand our capabilities in that area. However, we have enough empty land for solar sites that we should avoid placing any solar collection facility near a natural park or other natural wonder. We can expand our use of solar energy without ruining the grand vistas and wild areas with which this country is blessed.

Thank you for your comment, Deb Brown.

The comment tracking number that has been assigned to your comment is SolarD10274.

Comment Date: April 12, 2011 13:09:32PM
Solar Energy Development PEIS
Comment ID: SolarD10274

First Name: Deb
Middle Initial:
Last Name: Brown
Organization:
Address: PO Box 98964
Address 2:
Address 3:
City: Raleigh
State: NC
Zip: 276248964
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you!

Thank you for your comment, Robert Kaiser.

The comment tracking number that has been assigned to your comment is SolarD10275.

Comment Date: April 12, 2011 13:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10275

First Name: Robert
Middle Initial:
Last Name: Kaiser
Organization:
Address:
Address 2:
Address 3:
City: Whitefish
State: MT
Zip: 59937
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jacqueline Latendresse.

The comment tracking number that has been assigned to your comment is SolarD10276.

Comment Date: April 12, 2011 13:09:55PM
Solar Energy Development PEIS
Comment ID: SolarD10276

First Name: Jacqueline
Middle Initial:
Last Name: Latendresse
Organization:
Address: 110 Harwill Drive
Address 2:
Address 3:
City: Stafford
State: VA
Zip: 22556
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am 100% behind exploring renewable engery sources and 100% against doing it on or near National Park lands. Our national parks must be perserved.

Thank you for your comment, Carol Casey.

The comment tracking number that has been assigned to your comment is SolarD10277.

Comment Date: April 12, 2011 13:10:22PM
Solar Energy Development PEIS
Comment ID: SolarD10277

First Name: Carol
Middle Initial: S
Last Name: Casey
Organization:
Address: 2213 Canary Court
Address 2:
Address 3:
City: Baltimore
State: MD
Zip: 212312725
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Balancing the nation's needs for clean energy with the continued integrity of our national parks will be a challenge.

To maintain that integrity, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Yovonne Autrey-Schell.

The comment tracking number that has been assigned to your comment is SolarD10278.

Comment Date: April 12, 2011 13:10:44PM
Solar Energy Development PEIS
Comment ID: SolarD10278

First Name: Yovonne
Middle Initial:
Last Name: Autrey-Schell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Thank you for allowing me the opportunity to state my opinion, it is appreciated. I am all for exploiting every opportunity we can manage to set up and use solar power; just so long as it can be done so without negatively affecting wildlife habitat to a large extent. Please ensure that an Environmental Impact Study is performed by scientists in the field of study of the particular geographical area/habitat and that your decision on whether to locate a solar gathering station in a specific area will be based on sound science rather than political or monetary motivation. The political and monetary gains will surely follow if the solar site is located well and there will be much less hassle if the environmental impact is low to non-existent.

The United States of America desperately needs to move beyond reliance upon fossil fuels for energy and solar power is one of our best options! Thank you for deciding to go this route.

Thank you for your comment, Dan Esposito.

The comment tracking number that has been assigned to your comment is SolarD10279.

Comment Date: April 12, 2011 13:11:14PM
Solar Energy Development PEIS
Comment ID: SolarD10279

First Name: Dan
Middle Initial: J
Last Name: Esposito
Organization:
Address: 1510 Rowell Avenue
Address 2:
Address 3:
City: Manhattan Beach
State: CA
Zip: 90266
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear Sir or Madame,

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it appears vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Courtney Lewis.

The comment tracking number that has been assigned to your comment is SolarD10280.

Comment Date: April 12, 2011 13:11:19PM
Solar Energy Development PEIS
Comment ID: SolarD10280

First Name: Courtney
Middle Initial:
Last Name: Lewis
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Lets put Americans (back) to work! Why not do this by being an innovator and leader in technology that will quickly be at a premium.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10281.

Comment Date: April 12, 2011 13:11:26PM
Solar Energy Development PEIS
Comment ID: SolarD10281

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10282.

Comment Date: April 12, 2011 13:11:26PM
Solar Energy Development PEIS
Comment ID: SolarD10282

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am a strong proponent of the use of solar power in the US. I have my own solar system and my partner works for a solar installation company.

In general, I support the SEZ, though I would like to see more use made of building roofs around our nation, which would decentralize solar and would reduce the potential for impacting our wilderness areas and resources.

The following solar energy zones have a strong potential for threatening our valuable and irreplaceable national parks and need to be reconfigured or in some cases removed to prevent such impact:

- Riverside East SEZ: impact on Joshua tree NP wilderness and wildlife corridors.
- Iron Mountain SEZ: Strong Impact On Joshua Tree NP - needs to be eliminated
- Amargosa Valley SEZ: negative impact on Death Valley wilderness, water resources and endangered desert species
- Red Sands SEZ: threatens wildlife water resources and desert dunes at White Sands National Monument.

In general, any proposed solar products that could be located within 15 miles of a national park boundary should be assessed with the National Park Service to avoid impact on both the wilderness and visitors. Also, it is essential that the BLM include any national parks, wilderness areas and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Alan and Ruth Yurchuck.

The comment tracking number that has been assigned to your comment is SolarD10283.

Comment Date: April 12, 2011 13:12:06PM
Solar Energy Development PEIS
Comment ID: SolarD10283

First Name: Alan and Ruth
Middle Initial:
Last Name: Yurchuck
Organization:
Address: 986 Arlington Drive
Address 2:
Address 3:
City: Tucker
State: GA
Zip: 300841566
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We strongly support an amended Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.
Four proposed Solar Energy Zones (SEZ) threaten our national parks: The Riverside East SEZ, the Iron Mountain SEZ, the Amargosa Valley SEZ , and the Red Sands SEZ. All of these projects would have a negative impact on wildlife and water resources.
Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.
Thanks for your consideration of these comments.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10284.

Comment Date: April 12, 2011 13:12:40PM
Solar Energy Development PEIS
Comment ID: SolarD10284

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support the Solar Energy EIS Process. We must stop sacrificing the quality and integrity of our childrens' environment to meet our current energy demands, which are excessive due to waste and inefficiency.

It is particularly important not to endanger or degrade our western National Parks and Monuments by irresponsible energy development. The NPS should be involved in evaluating any energy developments, including solar energy, that are within 15 miles of a national park.

Four of the proposed SEZs pose a serious threat to the environmental integrity of Joshua Tree National Monument, Death Valley, and White Sands National Monument. The SEZs that should be removed from the list of acceptable sites are Riverside East, Iron Mountain, Amargosa Valley, and Red Sands.

With these deletions, I strongly urge you to approve the SEZ Alternative of the EIS.

Thank you for your consideration and for your effort to protect our public lands.

Thank you for your comment, Ryan Robinson.

The comment tracking number that has been assigned to your comment is SolarD10285.

Comment Date: April 12, 2011 13:12:40PM
Solar Energy Development PEIS
Comment ID: SolarD10285

First Name: Ryan
Middle Initial: S
Last Name: Robinson
Organization:
Address: 1735 Ashley Hal Rd
Address 2: Apt. 180
Address 3:
City: Charleston
State: SC
Zip: 29407
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, ADRIAN SMITH.

The comment tracking number that has been assigned to your comment is SolarD10286.

Comment Date: April 12, 2011 13:12:42PM
Solar Energy Development PEIS
Comment ID: SolarD10286

First Name: ADRIAN
Middle Initial:
Last Name: SMITH
Organization:
Address: 110 JONES ST
Address 2: PO BOX 265
Address 3:
City: Moncure
State: NC
Zip: 27559
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is time to protect our national parks and not compromise them to make a few people rich. Please look for areas which have a high probability of providing the sunlight needed for the solar cells to site these installations. There are plenty of areas which have the right criteria without installing any installations in a national park.

Thank you for your comment, Diana Slawson.

The comment tracking number that has been assigned to your comment is SolarD10287.

Comment Date: April 12, 2011 13:12:59PM
Solar Energy Development PEIS
Comment ID: SolarD10287

First Name: Diana
Middle Initial: L
Last Name: Slawson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

As a visitor to many of our nation's National Parks annually, it is critical that we preserve the few wild places that are left in our country. Not only do these beautiful unspoiled places provide an environmental benefit to us and to the creatures that call them a "safe home," but for all and future generations of Americans to enjoy the beauty of a starry night sky in Great Basin National Park or hear the call of the wolves in Yellowstone or watch sunrise over the Grand Canyon. I have had the privilege of seeing all these amazing places with my children and want them to be able to do the same with theirs in the future.

Thank you for carefully considering the alternatives to spoiling our few remaining unspoiled environmental wonders of the world.

Thank you for your comment, Judith Arcana.

The comment tracking number that has been assigned to your comment is SolarD10288.

Comment Date: April 12, 2011 13:13:09PM
Solar Energy Development PEIS
Comment ID: SolarD10288

First Name: Judith
Middle Initial:
Last Name: Arcana
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

With appropriate amendments, I support the Solar Energy Zone - concentrating solar development within carefully vetted parcels of land that don't destroy national park resources or desert ecology.

As you know, there are four proposed Solar Energy Zones (SEZ) that need attention and change-of-plans.

The Riverside East SEZ must reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley. And the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Proposed solar projects sited within 15 miles of a national park boundary must trigger a consultation with the National Park Service to determine whether the project diminishes national park resources.

Finally, the BLM must include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Solar energy should be developed ONLY in solar energy zones that don't compromise national park wildlife - both animals and plants, the land itself, archaeological sites, water resources and the full darkness of the night sky.

Thank you for your comment, Roger Packard.

The comment tracking number that has been assigned to your comment is SolarD10289.

Comment Date: April 12, 2011 13:13:28PM
Solar Energy Development PEIS
Comment ID: SolarD10289

First Name: Roger
Middle Initial:
Last Name: Packard
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ron Silver.

The comment tracking number that has been assigned to your comment is SolarD10290.

Comment Date: April 12, 2011 13:14:42PM
Solar Energy Development PEIS
Comment ID: SolarD10290

First Name: Ron
Middle Initial:
Last Name: Silver
Organization:
Address: 1829 Sea Oats Drive
Address 2:
Address 3:
City: Atlantic Beach
State: FL
Zip: 32233
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michelle Gobely.

The comment tracking number that has been assigned to your comment is SolarD10291.

Comment Date: April 12, 2011 13:14:42PM
Solar Energy Development PEIS
Comment ID: SolarD10291

First Name: Michelle
Middle Initial:
Last Name: Gobely
Organization:
Address: 1581 Wheelock Lane #202
Address 2:
Address 3:
City: St. Paul
State: MN
Zip: 55117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support Solar Energy and encourage it's growth, but please develop solar energy in ways that do not compromise our national park wildlife, the scenery, archeological sites, water resources, night sky viewing, etc. It seems that this should be a very workable option and I appreciate very much your taking these important issues into account when you develop solar energy options. Thank you for listening!

Michelle Gobely

Thank you for your comment, Jessie Rosenthal.

The comment tracking number that has been assigned to your comment is SolarD10292.

Comment Date: April 12, 2011 13:14:45PM
Solar Energy Development PEIS
Comment ID: SolarD10292

First Name: Jessie
Middle Initial:
Last Name: Rosenthal
Organization:
Address: ;lkajdsf
Address 2:
Address 3:
City: Albany
State: NY
Zip: 12203
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Maria Prokopowycz.

The comment tracking number that has been assigned to your comment is SolarD10293.

Comment Date: April 12, 2011 13:14:49PM
Solar Energy Development PEIS
Comment ID: SolarD10293

First Name: Maria
Middle Initial:
Last Name: Prokopowycz
Organization:
Address: 3440 Chicago Road
Address 2:
Address 3:
City: Warren
State: MI
Zip: 48092
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Julie Figueroa.

The comment tracking number that has been assigned to your comment is SolarD10294.

Comment Date: April 12, 2011 13:15:11PM
Solar Energy Development PEIS
Comment ID: SolarD10294

First Name: Julie
Middle Initial: A
Last Name: Figueroa
Organization:
Address: 22500 Sacramento Avenue
Address 2:
Address 3:
City: Port Charlotte
State: FL
Zip: 339543407
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am strongly pro-solar energy. Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10295.

Comment Date: April 12, 2011 13:15:12PM
Solar Energy Development PEIS
Comment ID: SolarD10295

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Fossil fuels are bad for everyone & every thing.

Solar energy is safe, cheap & plentiful

Thank you for your comment, Barbara Nave.

The comment tracking number that has been assigned to your comment is SolarD10296.

Comment Date: April 12, 2011 13:15:24PM
Solar Energy Development PEIS
Comment ID: SolarD10296

First Name: Barbara
Middle Initial: j
Last Name: Nave
Organization:
Address: 285 Tondaleia Drive
Address 2:
Address 3:
City: Sumter
State: SC
Zip: 29153
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The USA is far behind. When I lived in Spain during the '70's and '90's, much of the country was already well into solar energy. Why aren't we doing everything possible to convert to this free, problemless form of energy?

Thank you for your comment, John Watson.

The comment tracking number that has been assigned to your comment is SolarD10297.

Comment Date: April 12, 2011 13:15:26PM
Solar Energy Development PEIS
Comment ID: SolarD10297

First Name: John
Middle Initial: S
Last Name: Watson
Organization:
Address: 2018 E. Hopi
Address 2:
Address 3:
City: Mount Prospect
State: IL
Zip: 60056
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please carefully consider the environmental impact of any solar energy development, particularly proposals that would adversely affect Joshua Tree or Death Valley. The Riverside East, Iron Mountain, Armagosa and Red Sands zones need to be reconsidered due to negative environmental impacts. Please do not degrade this valuable ecosystems. Thank you.

Thank you for your comment, July Green.

The comment tracking number that has been assigned to your comment is SolarD10298.

Comment Date: April 12, 2011 13:15:48PM
Solar Energy Development PEIS
Comment ID: SolarD10298

First Name: July
Middle Initial: M
Last Name: Green
Organization:
Address: 1715 Gold Dr S
Address 2:
Address 3:
City: Fargo
State: ND
Zip: 58103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very excited about the prospect of building the Solar Energy Zones on public lands. My biggest concern is the impact on wildlife and plantlife and views. This is a great idea, but needs to be done responsibly.

Please concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Thank you for your comment, Becky Butela.

The comment tracking number that has been assigned to your comment is SolarD10299.

Comment Date: April 12, 2011 13:15:50PM
Solar Energy Development PEIS
Comment ID: SolarD10299

First Name: Becky
Middle Initial:
Last Name: Butela
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Judi Aronowitz.

The comment tracking number that has been assigned to your comment is SolarD10300.

Comment Date: April 12, 2011 13:15:50PM
Solar Energy Development PEIS
Comment ID: SolarD10300

First Name: Judi
Middle Initial: A
Last Name: Aronowitz
Organization:
Address: Grand St
Address 2:
Address 3:
City: NYC
State: NY
Zip: 100024383
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Why not develop. Oil costs a forturne. Nuclear is unsafe, gas exploded. Why not!

Thank you for your comment, Teresa Kiss.

The comment tracking number that has been assigned to your comment is SolarD10301.

Comment Date: April 12, 2011 13:16:27PM
Solar Energy Development PEIS
Comment ID: SolarD10301

First Name: Teresa
Middle Initial:
Last Name: Kiss
Organization:
Address:
Address 2:
Address 3:
City:
State: OK
Zip: 74014
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Greetings:
I have considerable experience in visiting National Parks and while I completely support the USA becoming energy independent I believe we can do this without compromising the Natural Settings of our National Parks. I look out my back door in a suburb of Tulsa, OK and I see a huge, ugly power plant. There is no night sky viewing where I live. The same is true of a lot of people in this great country. However, when I go to visit I always check for a Night Sky Ranger Program. Or hike away from the glare of cars and noise of people. I love to hike where the only sign of humans may be the path I am on. There are four proposed Solar Energy Zones that I understand will have impacts on our National Parks. Riverside East, Amargosa Valley, Red Sands and Iron Mountain. Please reconsider these locations but please continue your work to create renewable energy resources away from these precious, preserved locations.

I think some locations at Historic Monuments that are man-made might not have the impact and be perfectly acceptable but please leave the Natural, National Parks, natural.

I also believe in limiting the number of visitors to a location if the means of support are not available, energy, facilities, policing, are not available. Citizens first and then a lottery for non-residents.

Thanks you for your time to consider my opinion.

Thank you for your comment, Herb Sayas.

The comment tracking number that has been assigned to your comment is SolarD10302.

Comment Date: April 12, 2011 13:16:52PM
Solar Energy Development PEIS
Comment ID: SolarD10302

First Name: Herb
Middle Initial: L
Last Name: Sayas
Organization:
Address: 4618 Laurel St
Address 2:
Address 3:
City: New Orleans
State: LA
Zip: 701151516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Use of solar generated energy and the infrastructure to achieve this is a plus. But care should be taken as to the location of the solar energy generating equipment. Also there is no need to light up the park roadways the same way some light up urban streets. The energy provided by solar panels should power normal facilities in the parks such as lights in cabins and rest rooms, lights in parking lots should be of minimum brightness. Also parks must not become the path ways for interstate or high speed highways.

Thank you for your comment, Todd Snyder.

The comment tracking number that has been assigned to your comment is SolarD10303.

Comment Date: April 12, 2011 13:17:03PM
Solar Energy Development PEIS
Comment ID: SolarD10303

First Name: Todd
Middle Initial: C
Last Name: Snyder
Organization:
Address: 2447 Post street
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 941153310
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Temple.

The comment tracking number that has been assigned to your comment is SolarD10304.

Comment Date: April 12, 2011 13:17:13PM
Solar Energy Development PEIS
Comment ID: SolarD10304

First Name: Robert
Middle Initial:
Last Name: Temple
Organization:
Address:
Address 2:
Address 3:
City: Atlanta
State: GA
Zip: 30308
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

install solar & wind generators responsibly relative to wildlife, archeology, primary uses of public property.

Thank you for your comment, Glenda Denniston.

The comment tracking number that has been assigned to your comment is SolarD10305.

Comment Date: April 12, 2011 13:17:16PM
Solar Energy Development PEIS
Comment ID: SolarD10305

First Name: Glenda
Middle Initial:
Last Name: Denniston
Organization:
Address: 3311 Lake Mendota Drive
Address 2:
Address 3:
City: Madison
State: WI
Zip: 53705
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a strong believer in the use of solar energy and wish to encourage its development. However, such development must not come at the expense of our National Parks. These parks are the treasures of our nation.

Thank you for your comment, Kaylyn Wingo.

The comment tracking number that has been assigned to your comment is SolarD10306.

Comment Date: April 12, 2011 13:17:22PM
Solar Energy Development PEIS
Comment ID: SolarD10306

First Name: Kaylyn
Middle Initial:
Last Name: Wingo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linda Swan.

The comment tracking number that has been assigned to your comment is SolarD10307.

Comment Date: April 12, 2011 13:17:39PM
Solar Energy Development PEIS
Comment ID: SolarD10307

First Name: Linda
Middle Initial:
Last Name: Swan
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linn Barrett.

The comment tracking number that has been assigned to your comment is SolarD10308.

Comment Date: April 12, 2011 13:18:10PM
Solar Energy Development PEIS
Comment ID: SolarD10308

First Name: Linn
Middle Initial:
Last Name: Barrett
Organization:
Address: 4305 29th Street Road
Address 2:
Address 3:
City: Greeley
State: CO
Zip: 80634
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Draft Solar Energy PEIS.doc

Comment Submitted:

Draft Solar Energy Development PEIS

I am aware of the huge, six-state, solar energy management project in the desert Southwest. And I understand that the draft solar programmatic environmental impact statement (PEIS) lays the foundation of this project. Thank you for the opportunity to commend on this PEIS, as I have a few things to say about it.

1. Not all of the 22 million acres proposed for solar development, are appropriate for solar development. Land designated as part of the National Wilderness Preservation System (1.5 million acres) and important wildlife habitats/corridors are not appropriate for solar development.
2. The desert Southwest does not require 22 million acres of solar development. The PEIS reveals that this acreage amounts to approximately one hundred times more land than is necessary to reasonably meet the region's renewable energy needs.
3. The preferred alternative must be rejected and the solar energy zone alternative must be adopted. The energy zone alternative restricts solar power plants to BLM-designated appropriate development zones, and these zones are the best places with the best chances for successful projects. Therefore solar development in these zones will be faster, cheaper and better for the environment, consumers and project developers.
4. California's Pisgah and Iron Mountain zones must be excluded, and the new program must include a process for developing additional zones if needed in the future if needed.

Thank you.
Linn D. Barrett
4305 29th Street Road
Greeley, CO 80634

Thank you for your comment, Pamela Kelly.

The comment tracking number that has been assigned to your comment is SolarD10309.

Comment Date: April 12, 2011 13:18:14PM
Solar Energy Development PEIS
Comment ID: SolarD10309

First Name: Pamela
Middle Initial: G
Last Name: Kelly
Organization:
Address: 1356 Linden Ave
Address 2:
Address 3:
City: Long Beach
State: CA
Zip: 90813
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The United States should be taking a leadership role in developing solar and alternative safe, clean energies to replace dirty coal and oil. Instead, it's my under-standing that we're lagging way behind Germany, for instance, where many structures have solar panels. It's the 50th anniversary of man's first flight in space and the perfect time for the US to once again pick up the gauntlet!

Thank you for your comment, Irene Radke.

The comment tracking number that has been assigned to your comment is SolarD10310.

Comment Date: April 12, 2011 13:18:32PM
Solar Energy Development PEIS
Comment ID: SolarD10310

First Name: Irene
Middle Initial:
Last Name: Radke
Organization:
Address: 4648 SW 38th Terr
Address 2:
Address 3:
City: Dania Beach
State: FL
Zip: 33312
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which will concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Susan & Marett.

The comment tracking number that has been assigned to your comment is SolarD10311.

Comment Date: April 12, 2011 13:18:35PM
Solar Energy Development PEIS
Comment ID: SolarD10311

First Name: Susan &
Middle Initial:
Last Name: Marett
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
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Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Connie Newman.

The comment tracking number that has been assigned to your comment is SolarD10312.

Comment Date: April 12, 2011 13:18:40PM
Solar Energy Development PEIS
Comment ID: SolarD10312

First Name: Connie
Middle Initial: A
Last Name: Newman
Organization:
Address: box 56
Address 2:
Address 3:
City: Pelican
State: AK
Zip: 99832
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Connie*

Thank you for your comment, Emil Reisman.

The comment tracking number that has been assigned to your comment is SolarD10313.

Comment Date: April 12, 2011 13:18:47PM
Solar Energy Development PEIS
Comment ID: SolarD10313

First Name: Emil
Middle Initial:
Last Name: Reisman
Organization:
Address: 835 S. Wooster St. #109
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90035
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please reconfigure SEZ to insure against damage to our national parks.

Thank you for your comment, Theresa Acerro.

The comment tracking number that has been assigned to your comment is SolarD10314.

Comment Date: April 12, 2011 13:19:05PM
Solar Energy Development PEIS
Comment ID: SolarD10314

First Name: Theresa
Middle Initial: B
Last Name: Acerro
Organization:
Address: PO Box 8697
Address 2:
Address 3: PO Box 8697
City: Chula Vista
State: CA
Zip: 91912
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our deserts are extremely important habitats for many animals-sheep, turtles, lizards and snakes come to mind immediately. The reptiles in particular can not be relocated and survive. The emphasis needs to be on putting solar on existing structures and over parking lots, not on precious wildlands. Old farms, destroyed habitat, military bases, but not on our National Parks and Preserves. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. native american clultural sites also need to be protected. Historically too much has been taken from Native peoples by our government.

Thank you for your comment, Leslie Cassidy.

The comment tracking number that has been assigned to your comment is SolarD10315.

Comment Date: April 12, 2011 13:19:25PM
Solar Energy Development PEIS
Comment ID: SolarD10315

First Name: Leslie
Middle Initial: A
Last Name: Cassidy
Organization:
Address: 534 East 83rd Street
Address 2: Apartment 2B
Address 3:
City: New York
State: NY
Zip: 10028
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

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Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Kimberly Halizak.

The comment tracking number that has been assigned to your comment is SolarD10316.

Comment Date: April 12, 2011 13:19:26PM
Solar Energy Development PEIS
Comment ID: SolarD10316

First Name: Kimberly
Middle Initial: A
Last Name: Halizak
Organization:
Address: 1933 N. Beachwood Dr., #205
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 900684035
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom It May Concern:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time & consideration of my important environmental requests.

Kind Regards,
Kimberly A. Halizak

Thank you for your comment, Cori Donovan.

The comment tracking number that has been assigned to your comment is SolarD10317.

Comment Date: April 12, 2011 13:19:41PM
Solar Energy Development PEIS
Comment ID: SolarD10317

First Name: Cori
Middle Initial:
Last Name: Donovan
Organization:
Address: 32 Roosevelt Drive
Address 2:
Address 3:
City: Valhalla
State: NY
Zip: 10595
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Preservation of our Natural Resources animal life, eco system is most important and should take preference over any Solar Energy Development PEIS, there is way to much over developement as it is, we must protect mother earth before she turns on us.

Thank you for your comment, Lora Maurer.

The comment tracking number that has been assigned to your comment is SolarD10318.

Comment Date: April 12, 2011 13:19:47PM
Solar Energy Development PEIS
Comment ID: SolarD10318

First Name: Lora
Middle Initial:
Last Name: Maurer
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I think public parks should be kept as parks and development of natural resources should be off park land.

Thank you for your comment, Ron Rodgers.

The comment tracking number that has been assigned to your comment is SolarD10319.

Comment Date: April 12, 2011 13:19:48PM
Solar Energy Development PEIS
Comment ID: SolarD10319

First Name: Ron
Middle Initial:
Last Name: Rodgers
Organization:
Address: 1102 Park Place
Address 2:
Address 3:
City: College Station
State: TX
Zip: 77840
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

we have to be currently developing new energy sources that are compatible with our future and environment if we are to survive.

Thank you for your comment, Theresa Billeaud.

The comment tracking number that has been assigned to your comment is SolarD10320.

Comment Date: April 12, 2011 13:19:48PM
Solar Energy Development PEIS
Comment ID: SolarD10320

First Name: Theresa
Middle Initial: A
Last Name: Billeaud
Organization:
Address: 504 Fern St.
Address 2:
Address 3:
City: New Orleans
State: LA
Zip: 701183830
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Promote Solar!

Thank you for your comment, Tony Whetstone.

The comment tracking number that has been assigned to your comment is SolarD10321.

Comment Date: April 12, 2011 13:20:12PM
Solar Energy Development PEIS
Comment ID: SolarD10321

First Name: Tony
Middle Initial:
Last Name: Whetstone
Organization:
Address: 1802 Old Mill Ct.
Address 2:
Address 3:
City: Greenville
State: NC
Zip: 27858
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
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• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, William Dunton.

The comment tracking number that has been assigned to your comment is SolarD10322.

Comment Date: April 12, 2011 13:20:20PM
Solar Energy Development PEIS
Comment ID: SolarD10322

First Name: William
Middle Initial: J
Last Name: Dunton
Organization:
Address: 1500 West Ash Avenue
Address 2:
Address 3:
City: fullerton
State: CA
Zip: 928333929
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please amend the SEZ to make more sense regarding the Crown Jewles of America: Our national parks.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kevin Austin.

The comment tracking number that has been assigned to your comment is SolarD10323.

Comment Date: April 12, 2011 13:20:24PM
Solar Energy Development PEIS
Comment ID: SolarD10323

First Name: Kevin
Middle Initial: W
Last Name: Austin
Organization:
Address: 1619 Foster Rd
Address 2:
Address 3:
City: Richmond
State: VA
Zip: 23226
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I think Solar energy development is a great thing, but only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage and wilderness untouched by the hand/foot of man.

Let us not forget the words of President Johnson aftet siging the Wilderness Act::

"If future generations are to remember us with gratitude rather than contempt, we must leave them more than the miracles of technology. We must leave them a glimpse of the world as it was in the beginning, not just after we got through with it." -President Lyndon B. Johnson

That is our responsibility.

Thank you for your comment, Alice Kelly.

The comment tracking number that has been assigned to your comment is SolarD10324.

Comment Date: April 12, 2011 13:20:35PM
Solar Energy Development PEIS
Comment ID: SolarD10324

First Name: Alice
Middle Initial:
Last Name: Kelly
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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•Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ann Oliver.

The comment tracking number that has been assigned to your comment is SolarD10325.

Comment Date: April 12, 2011 13:21:02PM
Solar Energy Development PEIS
Comment ID: SolarD10325

First Name: Ann
Middle Initial:
Last Name: Oliver
Organization:
Address: 542 Warner Avenue
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please, please, please protect our amazing National Parks. Thank you.

Thank you for your comment, Dorothy Kethler.

The comment tracking number that has been assigned to your comment is SolarD10326.

Comment Date: April 12, 2011 13:21:14PM
Solar Energy Development PEIS
Comment ID: SolarD10326

First Name: Dorothy
Middle Initial:
Last Name: Kethler
Organization:
Address: 46 Maestas Rd.
Address 2:
Address 3:
City: Ranchos de Taos
State: NM
Zip: 87557
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands N

Thank you for your comment, Patricia Dion.

The comment tracking number that has been assigned to your comment is SolarD10327.

Comment Date: April 12, 2011 13:21:19PM
Solar Energy Development PEIS
Comment ID: SolarD10327

First Name: Patricia
Middle Initial:
Last Name: Dion
Organization:
Address: 510 Carrington Lane #305
Address 2:
Address 3:
City: Loveland
State: OH
Zip: 45140
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We must get solar into the mainstream throughout the US.

Thank you for your comment, suzanne w.

The comment tracking number that has been assigned to your comment is SolarD10328.

Comment Date: April 12, 2011 13:21:25PM
Solar Energy Development PEIS
Comment ID: SolarD10328

First Name: suzanne
Middle Initial:
Last Name: w
Organization:
Address: 8 Ockwell Ave South
Address 2:
Address 3:
City: savannah
State: GA
Zip: 31419
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This country will be remembered not only by what we created but by what we refuse to destroy.

Thank you for your comment, Doug Fleming.

The comment tracking number that has been assigned to your comment is SolarD10329.

Comment Date: April 12, 2011 13:21:42PM
Solar Energy Development PEIS
Comment ID: SolarD10329

First Name: Doug
Middle Initial: C
Last Name: Fleming
Organization: FISHERMAN #1 U.S.A.
Address: 2000 Fraser Street #103
Address 2:
Address 3:
City: Bellingham
State: WA
Zip: 982293797
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

DO AWAY WITH DIESEL GAS!

Thank you for your comment, sally abrams.

The comment tracking number that has been assigned to your comment is SolarD10330.

Comment Date: April 12, 2011 13:21:50PM
Solar Energy Development PEIS
Comment ID: SolarD10330

First Name: sally
Middle Initial:
Last Name: abrams
Organization:
Address: 138 cortland
Address 2:
Address 3:
City: san francisco
State: CA
Zip: 94110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

solar power needs to be developed in an environmentally conscious manner.

Thank you for your comment, Kimberly Haley.

The comment tracking number that has been assigned to your comment is SolarD10331.

Comment Date: April 12, 2011 13:21:53PM
Solar Energy Development PEIS
Comment ID: SolarD10331

First Name: Kimberly
Middle Initial: l
Last Name: Haley
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need solar energy, it only makes sense!!!

Thank you for your comment, Dori Grasso.

The comment tracking number that has been assigned to your comment is SolarD10332.

Comment Date: April 12, 2011 13:22:03PM
Solar Energy Development PEIS
Comment ID: SolarD10332

First Name: Dori
Middle Initial: C
Last Name: Grasso
Organization:
Address: 12207 Happy Hollow Road
Address 2:
Address 3:
City: Cockeysville
State: MD
Zip: 21030
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Gregory Fite.

The comment tracking number that has been assigned to your comment is SolarD10333.

Comment Date: April 12, 2011 13:22:06PM
Solar Energy Development PEIS
Comment ID: SolarD10333

First Name: Gregory
Middle Initial: M
Last Name: Fite
Organization:
Address: 4719 Hillside Drive
Address 2:
Address 3: 4719 Hillside Drive
City: Castro Valley
State: CA
Zip: 945461406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please make sure solar installations near national parks and monuments conform to good environmental use patterns, and protect wildlife and scenery.

Thank you for your comment, Mary Ann Baier.

The comment tracking number that has been assigned to your comment is SolarD10334.

Comment Date: April 12, 2011 13:22:12PM
Solar Energy Development PEIS
Comment ID: SolarD10334

First Name: Mary Ann
Middle Initial:
Last Name: Baier
Organization:
Address: 2930 Geneva St
Address 2:
Address 3:
City: Dearborn
State: MI
Zip: 481243356
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

When building or buying you should always consider the triple bottom line. That means when you buy an object, you should consider if the package is recyclable. When building, you should consider your environmental impact of what you are doing.

Thank you for your comment, Lanna Ultican.

The comment tracking number that has been assigned to your comment is SolarD10335.

Comment Date: April 12, 2011 13:22:18PM
Solar Energy Development PEIS
Comment ID: SolarD10335

First Name: Lanna
Middle Initial:
Last Name: Ultican
Organization:
Address: 1204 SW 18th
Address 2:
Address 3: 1204 SW 18th
City: Blue Springs
State: MO
Zip: 64015
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar & wind energy is the best to interact with the enviroment in a national park. It will do no harm.

Thank you for your comment, Aaron Ucko.

The comment tracking number that has been assigned to your comment is SolarD10336.

Comment Date: April 12, 2011 13:22:32PM
Solar Energy Development PEIS
Comment ID: SolarD10336

First Name: Aaron
Middle Initial: M
Last Name: Ucko
Organization:
Address: 2701 Calvert St., NW, Apt. 309
Address 2:
Address 3:
City: Washington
State: DC
Zip: 200082618
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally,
it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Patricia Roberts.

The comment tracking number that has been assigned to your comment is SolarD10337.

Comment Date: April 12, 2011 13:23:05PM
Solar Energy Development PEIS
Comment ID: SolarD10337

First Name: Patricia
Middle Initial:
Last Name: Roberts
Organization:
Address: 64 Lookout Mountain Circle
Address 2:
Address 3:
City: Golden
State: CO
Zip: 80401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We absolutely need appropriately placed solar in our National Parks!!

Thank you for your comment, angus macdonald.

The comment tracking number that has been assigned to your comment is SolarD10338.

Comment Date: April 12, 2011 13:23:05PM
Solar Energy Development PEIS
Comment ID: SolarD10338

First Name: angus
Middle Initial: m
Last Name: macdonald
Organization:
Address: PO BOX 111
Address 2:
Address 3:
City: Elkwood
State: VA
Zip: 22718
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:
- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10339.

Comment Date: April 12, 2011 13:23:24PM
Solar Energy Development PEIS
Comment ID: SolarD10339

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.
We spend winters in Palm Springs an visit Joshua Tree frequently. DON'T SPOIL IT, PLEASE!

Thank you for your comment, Debbie Williams.

The comment tracking number that has been assigned to your comment is SolarD10340.

Comment Date: April 12, 2011 13:23:28PM
Solar Energy Development PEIS
Comment ID: SolarD10340

First Name: Debbie
Middle Initial: G
Last Name: Williams
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I urge development of solar energy!

Thank you for your comment, M Shuster.

The comment tracking number that has been assigned to your comment is SolarD10341.

Comment Date: April 12, 2011 13:23:47PM
Solar Energy Development PEIS
Comment ID: SolarD10341

First Name: M
Middle Initial:
Last Name: Shuster
Organization:
Address: 675 Mount Wilson Trl
Address 2:
Address 3:
City: Sierra Madre
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology--but with the following amendments:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
• The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, SUSAN BAILEY-PRUC.

The comment tracking number that has been assigned to your comment is SolarD10342.

Comment Date: April 12, 2011 13:23:53PM
Solar Energy Development PEIS
Comment ID: SolarD10342

First Name: SUSAN
Middle Initial:
Last Name: BAILEY-PRUC
Organization:
Address:
Address 2:
Address 3:
City: AKRON
State: OH
Zip: 44333
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I AM THRILLED THAT WE ARE PROCEEDING TO DEVELOP OUR SOLAR ENERGY POTENTIAL.

PLEASE, PLEASE, PLEASE DON'T USE OUR NATIONAL PARKS AND MONUMENT LANDS IN ANY OF YOUR PLANS. WE NEED TO KEEP THESE FOR THE AMERICAN PEOPLE TO ENJOY EXCLUSIVELY!

Thank you for your comment, Brenda Bailey.

The comment tracking number that has been assigned to your comment is SolarD10343.

Comment Date: April 12, 2011 13:23:55PM
Solar Energy Development PEIS
Comment ID: SolarD10343

First Name: Brenda
Middle Initial:
Last Name: Bailey
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended as outlined below, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Karen White, MSW.

The comment tracking number that has been assigned to your comment is SolarD10344.

Comment Date: April 12, 2011 13:24:04PM
Solar Energy Development PEIS
Comment ID: SolarD10344

First Name: Karen
Middle Initial: A
Last Name: White, MSW
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is mandatory but it has to be installed wisely and not in places that will harm the land or its inhabitants. Solar zones must be used professioinally.

Thank you for your comment, Anne Pollack.

The comment tracking number that has been assigned to your comment is SolarD10345.

Comment Date: April 12, 2011 13:24:34PM
Solar Energy Development PEIS
Comment ID: SolarD10345

First Name: Anne
Middle Initial:
Last Name: Pollack
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Allison Frymoyer.

The comment tracking number that has been assigned to your comment is SolarD10346.

Comment Date: April 12, 2011 13:24:34PM
Solar Energy Development PEIS
Comment ID: SolarD10346

First Name: Allison
Middle Initial:
Last Name: Frymoyer
Organization:
Address: 19 Garden Street, Apt. 55
Address 2: Apt. 55
Address 3:
City: Cambridge
State: MA
Zip: 021383626
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Marie Webb.

The comment tracking number that has been assigned to your comment is SolarD10347.

Comment Date: April 12, 2011 13:24:37PM
Solar Energy Development PEIS
Comment ID: SolarD10347

First Name: Marie
Middle Initial: C
Last Name: Webb
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Our parks are under thearts from many sides. Solar panels should be installed only where park lands will not be harmed. Park lands are valuable to many people for their scenery, walking trails and a place to appreaciate nature. I hope parks are kept for these and many other qualities.

Thank you for your comment, Jenny Hawke.

The comment tracking number that has been assigned to your comment is SolarD10348.

Comment Date: April 12, 2011 13:24:38PM
Solar Energy Development PEIS
Comment ID: SolarD10348

First Name: Jenny
Middle Initial:
Last Name: Hawke
Organization:
Address: 3702 S. Arbroath Lane
Address 2:
Address 3:
City: Salt Lake City
State: UT
Zip: 84115
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It has been brought to my attention that the federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado. I applaud initiatives for clean energy development.

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that would threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
* The Amargosa Valley SEZ needs to be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I believe that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time and consideration of my concerns.

Thank you for your comment, Scott Rubel.

The comment tracking number that has been assigned to your comment is SolarD10349.

Comment Date: April 12, 2011 13:24:59PM
Solar Energy Development PEIS
Comment ID: SolarD10349

First Name: Scott
Middle Initial:
Last Name: Rubel
Organization:
Address: 977 Montecito Dr.
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 900311633
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy zones that do not include park land makes sense.

Thank you for your comment, Kirk Rhoads.

The comment tracking number that has been assigned to your comment is SolarD10350.

Comment Date: April 12, 2011 13:25:04PM
Solar Energy Development PEIS
Comment ID: SolarD10350

First Name: Kirk
Middle Initial:
Last Name: Rhoads
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Alana Davis.

The comment tracking number that has been assigned to your comment is SolarD10351.

Comment Date: April 12, 2011 13:25:47PM
Solar Energy Development PEIS
Comment ID: SolarD10351

First Name: Alana
Middle Initial: M
Last Name: Davis
Organization:
Address: 1175 Queen Lane
Address 2: Apt. 7
Address 3:
City: West Chester
State: PA
Zip: 19382
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

-- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

-- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

-- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

-- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Roland Salvato.

The comment tracking number that has been assigned to your comment is SolarD10352.

Comment Date: April 12, 2011 13:25:47PM
Solar Energy Development PEIS
Comment ID: SolarD10352

First Name: Roland
Middle Initial:
Last Name: Salvato
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is a right way and a wrong way to develop solar installations. Please do not infringe the national parks or any state parks natural beauty or long vistas when identifying public land to build on...

Thank you for your comment, Barry De Jasu.

The comment tracking number that has been assigned to your comment is SolarD10353.

Comment Date: April 12, 2011 13:26:26PM
Solar Energy Development PEIS
Comment ID: SolarD10353

First Name: Barry
Middle Initial:
Last Name: De Jasu
Organization:
Address: 20 Hampton Ave. apt. 512
Address 2:
Address 3:
City: Northampton
State: MA
Zip: 01060
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be well supported by our government while subsidies for oil, coal, and nuclear energy should be reduced then ended.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10354.

Comment Date: April 12, 2011 13:26:28PM
Solar Energy Development PEIS
Comment ID: SolarD10354

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Carol Ford.

The comment tracking number that has been assigned to your comment is SolarD10355.

Comment Date: April 12, 2011 13:26:35PM
Solar Energy Development PEIS
Comment ID: SolarD10355

First Name: Carol
Middle Initial:
Last Name: Ford
Organization:
Address: 6505 Betsy Ross Circle
Address 2:
Address 3:
City: Bethlehem
State: PA
Zip: 180179472
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Theodore Lundgren.

The comment tracking number that has been assigned to your comment is SolarD10356.

Comment Date: April 12, 2011 13:26:47PM
Solar Energy Development PEIS
Comment ID: SolarD10356

First Name: Theodore
Middle Initial: P
Last Name: Lundgren
Organization: T L H Consulting, Inc
Address: 487 NE 4th Ave
Address 2:
Address 3:
City: Cape Coral
State: FL
Zip: 339092504
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The besst place for solar arrays is where the land has already been ruined by human activity. Every rooftop is a good starting point.

NEVER in pristine lands in public parks.

Thank you for your comment, robert hlavna.

The comment tracking number that has been assigned to your comment is SolarD10357.

Comment Date: April 12, 2011 13:26:52PM
Solar Energy Development PEIS
Comment ID: SolarD10357

First Name: robert
Middle Initial: j
Last Name: hlavna
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Deanne O'Donnell.

The comment tracking number that has been assigned to your comment is SolarD10358.

Comment Date: April 12, 2011 13:26:59PM
Solar Energy Development PEIS
Comment ID: SolarD10358

First Name: Deanne
Middle Initial:
Last Name: O'Donnell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10359.

Comment Date: April 12, 2011 13:27:13PM
Solar Energy Development PEIS
Comment ID: SolarD10359

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Dear Sir/Madam,

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1)The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

2)The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

3)The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

4)Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

PLEASE ENSURE ANY SEZ DEVELOPMENT HAS NO OR, AT MOST, MINIMAL IMPACT OUR NATIONAL PARKS. THANK YOU.

Thank you for your comment, H GRAY.

The comment tracking number that has been assigned to your comment is SolarD10360.

Comment Date: April 12, 2011 13:27:15PM
Solar Energy Development PEIS
Comment ID: SolarD10360

First Name: H
Middle Initial:
Last Name: GRAY
Organization: Home
Address: 29033 Dixon St. #35
Address 2:
Address 3: 29033 Dixon St. #35
City: Hayward
State: CA
Zip: 94544
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

ALL SOLAR NOW

Thank you for your comment, John Dickinson.

The comment tracking number that has been assigned to your comment is SolarD10361.

Comment Date: April 12, 2011 13:27:17PM
Solar Energy Development PEIS
Comment ID: SolarD10361

First Name: John
Middle Initial: A
Last Name: Dickinson
Organization:
Address: 3711 Linkview Drive
Address 2:
Address 3:
City: Houston
State: TX
Zip: 770253515
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, James Caldwell.

The comment tracking number that has been assigned to your comment is SolarD10362.

Comment Date: April 12, 2011 13:27:29PM
Solar Energy Development PEIS
Comment ID: SolarD10362

First Name: James
Middle Initial:
Last Name: Caldwell
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10363.

Comment Date: April 12, 2011 13:27:51PM
Solar Energy Development PEIS
Comment ID: SolarD10363

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support solar energy; however, a common sense approach is critical to protect our spectacular national parks, their abundant wildlife, pristine night skies, clean air and water resources. For this reason, I agree with the NPCA that the specifications for California's Iron Mountain SEZ, California's Riverside East SEZ , and Nevada's Amargosa Valley SEZ must be modified to conserve air, water, wildlife, vistas, and parklands.

I urge you to work with NPCA to develop an approach for solar energy that best conserves and protects our American parks.

Thank you for your comment, Susanna Odry.

The comment tracking number that has been assigned to your comment is SolarD10364.

Comment Date: April 12, 2011 13:28:04PM
Solar Energy Development PEIS
Comment ID: SolarD10364

First Name: Susanna
Middle Initial:
Last Name: Odry
Organization:
Address: P.O.Box 22
Address 2:
Address 3:
City: Fish Camp
State: CA
Zip: 93623
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please work with responsible, caring stewards of the environment to resolve any potential problem areas.

Thank you for your comment, jeff spakowski.

The comment tracking number that has been assigned to your comment is SolarD10365.

Comment Date: April 12, 2011 13:29:07PM
Solar Energy Development PEIS
Comment ID: SolarD10365

First Name: jeff
Middle Initial: f
Last Name: spakowski
Organization:
Address: 10155 lasalle
Address 2:
Address 3:
City: huntington woods
State: MI
Zip: 48070
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Tamar Schwartz.

The comment tracking number that has been assigned to your comment is SolarD10366.

Comment Date: April 12, 2011 13:29:21PM
Solar Energy Development PEIS
Comment ID: SolarD10366

First Name: Tamar
Middle Initial: R
Last Name: Schwartz
Organization:
Address: 25-79 31st Street
Address 2:
Address 3:
City: Astoria
State: NY
Zip: 111021748
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is very important to the future of our planet and National Parks are a good place to start.

Thank you for your comment, Arnold Schultz, Ph.D..

The comment tracking number that has been assigned to your comment is SolarD10367.

Comment Date: April 12, 2011 13:30:17PM
Solar Energy Development PEIS
Comment ID: SolarD10367

First Name: Arnold
Middle Initial: L
Last Name: Schultz, Ph.D.
Organization:
Address: 1137 S. Oakland St.
Address 2:
Address 3:
City: Aurora
State: CO
Zip: 800124259
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support efforts to develop solar energy in the United States.

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Nan Beckman.

The comment tracking number that has been assigned to your comment is SolarD10368.

Comment Date: April 12, 2011 13:30:20PM
Solar Energy Development PEIS
Comment ID: SolarD10368

First Name: Nan
Middle Initial: B
Last Name: Beckman
Organization:
Address:
Address 2:
Address 3:
City: Pinehurst
State: NC
Zip: 28374
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of developing solar energy, but it must be done in a responsible way. Any solar projects that are within 15 miles of a national park should trigger a consultation with the National Park Service to determine what imact it might have. Following are several cases in point:

Red Sands SEZ threatens water resources critical to wildlife and formation of desert dunes at White Sands National Monument.

Amargosa Valley SEZ needs to be reduced or reconfigured to reduce the impact on Death Valley wilderness,desert wildlife and precious water resources.

Sincerely, Nan B. Beckman

Thank you for your comment, Charles Harris.

The comment tracking number that has been assigned to your comment is SolarD10369.

Comment Date: April 12, 2011 13:30:21PM
Solar Energy Development PEIS
Comment ID: SolarD10369

First Name: Charles
Middle Initial: B
Last Name: Harris
Organization:
Address: 34 Woodoaks Drive
Address 2:
Address 3:
City: San Rafael
State: CA
Zip: 94903
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

In assessing locations for solar energy installations, I urge you to ensure that such locations do not adversely affect our national parks and other protected lands by increasing visual or light pollution or otherwise.

Sincerely,
Charles B. Harris

Thank you for your comment, Carlene Petty.

The comment tracking number that has been assigned to your comment is SolarD10370.

Comment Date: April 12, 2011 13:30:27PM
Solar Energy Development PEIS
Comment ID: SolarD10370

First Name: Carlene
Middle Initial: L
Last Name: Petty
Organization: University of Louisville
Address: 780 Highway #44 West, Lot #50
Address 2:
Address 3:
City: Shepherdsville
State: KY
Zip: 401656073
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development is absolutely one of the ways to go to preserve our Earth and provide energy. However, placement of solar facilities should be done in such a way as to not interfere with the quality of National Park experiences or wildlife behaviors and habitat. Please consider these in all planning for solar energy.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10371.

Comment Date: April 12, 2011 13:30:38PM
Solar Energy Development PEIS
Comment ID: SolarD10371

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Here are some form-letter comments that strongly reflect my views on this important issue of environmental and energy stewardship.

I've been to two of the three sites listed as being problematic and needing to be amended: white sands and joshua tree. They are two of my favorite national parks ever. I hope you take every possible step and recommendations from the NPS itself to keep these parks pristine for future generations. Thankyou.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sam Crespi.

The comment tracking number that has been assigned to your comment is SolarD10372.

Comment Date: April 12, 2011 13:30:46PM
Solar Energy Development PEIS
Comment ID: SolarD10372

First Name: Sam
Middle Initial:
Last Name: Crespi
Organization:
Address: 23824 State Route 530NE, Arlington
Address 2: Arlington
Address 3: 23824 State Route 530NE, Arlington
City: Arlington
State: WA
Zip: 98223
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Protecting the national trust of our parklands is important.

It's not practical nor does it make sense not to have the NPCA involved in the logistics, locations etc of solar installations.

Thank you for your comment, Thomas Ronan.

The comment tracking number that has been assigned to your comment is SolarD10373.

Comment Date: April 12, 2011 13:30:50PM
Solar Energy Development PEIS
Comment ID: SolarD10373

First Name: Thomas
Middle Initial: W
Last Name: Ronan
Organization:
Address: 4469 Richmond St.
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 19137
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
• The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Adrienne Gardner.

The comment tracking number that has been assigned to your comment is SolarD10374.

Comment Date: April 12, 2011 13:30:56PM
Solar Energy Development PEIS
Comment ID: SolarD10374

First Name: Adrienne
Middle Initial:
Last Name: Gardner
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Lisa D'Ambrosio.

The comment tracking number that has been assigned to your comment is SolarD10375.

Comment Date: April 12, 2011 13:31:16PM
Solar Energy Development PEIS
Comment ID: SolarD10375

First Name: Lisa
Middle Initial: E
Last Name: D'Ambrosio
Organization:
Address: 356 South Meadow Road
Address 2:
Address 3:
City: Lancaster
State: MA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy needs to be developed & promoted to help save the world from the effects of climate change & global warming! This is so obviousl that it is mind-boggling to me that things are not further along! The technology is there but the political will is not. Polluting, greedy oil & coal interests have bought our politicians and corrupted our political process.

Thank you for your comment, Ross Hammersley.

The comment tracking number that has been assigned to your comment is SolarD10376.

Comment Date: April 12, 2011 13:32:04PM
Solar Energy Development PEIS
Comment ID: SolarD10376

First Name: Ross
Middle Initial:
Last Name: Hammersley
Organization:
Address: 400 Boughey St.
Address 2:
Address 3:
City: Traverse City
State: MI
Zip: 49684
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

(1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
(2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
(3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
(4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Kavanaugh.

The comment tracking number that has been assigned to your comment is SolarD10377.

Comment Date: April 12, 2011 13:32:29PM
Solar Energy Development PEIS
Comment ID: SolarD10377

First Name: Michael
Middle Initial:
Last Name: Kavanaugh
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Thank you for providing me with the opportunity to comment on the Draft Solar Energy Development PEIS. As someone who greatly values our nation's national resources, I believe that it is very important to develop our solar power resources, but want to make sure that this is done in a manner that is sensitive to our critical wild spaces.

I want to stress that it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

With that in mind, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources, designated wilderness, critical wildlife corridors, and sensitive desert ecology & water resources.

Thank you for considering my comments,
Michael Kavanaugh

Thank you for your comment, Joyce Casey.

The comment tracking number that has been assigned to your comment is SolarD10378.

Comment Date: April 12, 2011 13:33:01PM
Solar Energy Development PEIS
Comment ID: SolarD10378

First Name: Joyce
Middle Initial:
Last Name: Casey
Organization:
Address: 1232-B Nakomis NE
Address 2:
Address 3:
City: Albuquerque
State: NM
Zip: 871126049
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our National Parks are precious resources. We are eager to develop alternate sources of energy, but not at the risk of damaging these pristine places.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10379.

Comment Date: April 12, 2011 13:33:03PM
Solar Energy Development PEIS
Comment ID: SolarD10379

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Our diminishing natural areas and wildlife habitat should not be disturbed or compromised for developing renewable energy sources such as solar, wind and geothermal. It is precisely for the preservation of our mother earth that renewable energy is being developed. A balanced approach is best.

Thank you for your comment, jerry and donna Weinstock.

The comment tracking number that has been assigned to your comment is SolarD10380.

Comment Date: April 12, 2011 13:33:15PM
Solar Energy Development PEIS
Comment ID: SolarD10380

First Name: jerry and donna
Middle Initial: j
Last Name: Weinstock
Organization: weinstock advocates
Address: one Bougainvillea ave.
Address 2:
Address 3:
City: Key West
State: FL
Zip: 33040
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

alternatives other than fossils saves this planet

Thank you for your comment, Joan Taylor.

The comment tracking number that has been assigned to your comment is SolarD10381.

Comment Date: April 12, 2011 13:33:36PM
Solar Energy Development PEIS
Comment ID: SolarD10381

First Name: Joan
Middle Initial: M
Last Name: Taylor
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We should be doing everything we can to develop and expand the use of clean energy in our country, and the whole world.

THERE IS NO SAFE LEVEL OF RADIATION!

Thank you for your comment, Nona Baker.

The comment tracking number that has been assigned to your comment is SolarD10382.

Comment Date: April 12, 2011 13:33:38PM
Solar Energy Development PEIS
Comment ID: SolarD10382

First Name: Nona
Middle Initial:
Last Name: Baker
Organization:
Address: 286 Crescent Ave
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 94110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our Natural Parks are our treasure, as surely as our money is.

In order to reduce our dependence on oil and coal, we must utilize the existing non-polluting energy resources available to us. But we must do this in a manner that allows us to pass on our natural heritage intact to those who come after us.

I am very much in favor of putting solar installations where they will not disturb the wildlife,water resources, archaeologic sites, scenery or ability for people to see the sky in our National Parks. There must be many sites that would qualify for use given those restrictions.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10383.

Comment Date: April 12, 2011 13:34:05PM
Solar Energy Development PEIS
Comment ID: SolarD10383

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

NPCA strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, Richard Fullerton.

The comment tracking number that has been assigned to your comment is SolarD10384.

Comment Date: April 12, 2011 13:34:09PM
Solar Energy Development PEIS
Comment ID: SolarD10384

First Name: Richard
Middle Initial: S
Last Name: Fullerton
Organization:
Address: 2315 Frederick Drive
Address 2:
Address 3:
City: Winston-Salem
State: NC
Zip: 271035504
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is no secret that the future of human life on this planet depends on our development of renewable energy resources as quickly as possible, with solar farms being one of the leading contenders in the race. But we MUST proceed in a responsible manner that does not damage public lands, and plan solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Marlene Sheridan.

The comment tracking number that has been assigned to your comment is SolarD10385.

Comment Date: April 12, 2011 13:34:17PM
Solar Energy Development PEIS
Comment ID: SolarD10385

First Name: Marlene
Middle Initial:
Last Name: Sheridan
Organization:
Address: 3398 via del Cielo
Address 2:
Address 3:
City: Fallbrook
State: CA
Zip: 92028
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

STOP>>>and smell the roses...balance the U.S. government spending mentality...and, give us back our great country. Marlene Sheridan

Thank you for your comment, Ericka Camp.

The comment tracking number that has been assigned to your comment is SolarD10386.

Comment Date: April 12, 2011 13:34:24PM
Solar Energy Development PEIS
Comment ID: SolarD10386

First Name: Ericka
Middle Initial:
Last Name: Camp
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kathryn Grace.

The comment tracking number that has been assigned to your comment is SolarD10387.

Comment Date: April 12, 2011 13:34:42PM
Solar Energy Development PEIS
Comment ID: SolarD10387

First Name: Kathryn
Middle Initial: C
Last Name: Grace
Organization:
Address: 201 South Hill Ter.
Address 2:
Address 3:
City: Ithaca
State:
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We certainly need to make gains in solar energy production, but I'm just hoping if it is done on public lands that there are careful considerations for the impact on wildlife and the environment as a whole.

Thank you for your comment, Dorothy Foster.

The comment tracking number that has been assigned to your comment is SolarD10388.

Comment Date: April 12, 2011 13:35:14PM
Solar Energy Development PEIS
Comment ID: SolarD10388

First Name: Dorothy
Middle Initial: L
Last Name: Foster
Organization: NA
Address: 3522 SW 33 Terrace
Address 2:
Address 3:
City: Topeka
State: KS
Zip: 66614
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Like all other forms of Human encroachments on our public lands our use of Solar Energy must do no harm to our National Parks and other special places.

Thank you for your comment, Cynthia Byrd.

The comment tracking number that has been assigned to your comment is SolarD10389.

Comment Date: April 12, 2011 13:35:24PM
Solar Energy Development PEIS
Comment ID: SolarD10389

First Name: Cynthia
Middle Initial:
Last Name: Byrd
Organization:
Address: 68 Macondary Lane, #2
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 94133
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I visit state parks on a regular basis, often camping and hiking while there. I agree with the NPCA's comments that, "Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage." Please do the right thing and keep our national parks a treasured place for all to enjoy. If we lose them, what will we have?

Thank you for your comment, Jennifer Tomassi.

The comment tracking number that has been assigned to your comment is SolarD10390.

Comment Date: April 12, 2011 13:35:27PM
Solar Energy Development PEIS
Comment ID: SolarD10390

First Name: Jennifer
Middle Initial:
Last Name: Tomassi
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Roberta Camp.

The comment tracking number that has been assigned to your comment is SolarD10391.

Comment Date: April 12, 2011 13:35:30PM
Solar Energy Development PEIS
Comment ID: SolarD10391

First Name: Roberta
Middle Initial:
Last Name: Camp
Organization:
Address: 713 S. Warnock St.
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 191471927
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.
--However, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Tim Duda.

The comment tracking number that has been assigned to your comment is SolarD10392.

Comment Date: April 12, 2011 13:35:37PM
Solar Energy Development PEIS
Comment ID: SolarD10392

First Name: Tim
Middle Initial:
Last Name: Duda
Organization:
Address: 340 Queen Anne Court
Address 2:
Address 3: 340 Queen Anne Court
City: San Antonio
State: TX
Zip: 782096625
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is clean, sustainable and will create jobs. Enough dependence on non-renewable and polluting energy sources.

Thank you for your comment, John Dubendorff.

The comment tracking number that has been assigned to your comment is SolarD10393.

Comment Date: April 12, 2011 13:35:38PM
Solar Energy Development PEIS
Comment ID: SolarD10393

First Name: John
Middle Initial:
Last Name: Dubendorff
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--I strongly support the AMENDED Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1)The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2)The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3)The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4)Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10394.

Comment Date: April 12, 2011 13:35:40PM
Solar Energy Development PEIS
Comment ID: SolarD10394

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elizabeth Sauer.

The comment tracking number that has been assigned to your comment is SolarD10395.

Comment Date: April 12, 2011 13:35:51PM
Solar Energy Development PEIS
Comment ID: SolarD10395

First Name: Elizabeth
Middle Initial: M
Last Name: Sauer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I'm a supporter of Solar Energy, however, it should only be developed in zones that don't compremise National Park wild life, scenery, water resources etc. and opportunities for future generations to fully enjoy America's Heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10396.

Comment Date: April 12, 2011 13:36:01PM
Solar Energy Development PEIS
Comment ID: SolarD10396

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support green energy, however, I firmly believe that solar & wind power must be located where it will not harm wildlife, the environment or our National Parks. A great deal of care must be given, to make these a win - win situation.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10397.

Comment Date: April 12, 2011 13:36:17PM
Solar Energy Development PEIS
Comment ID: SolarD10397

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization: Julian Rodriguez & Associates
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sarah Roberts.

The comment tracking number that has been assigned to your comment is SolarD10398.

Comment Date: April 12, 2011 13:36:41PM
Solar Energy Development PEIS
Comment ID: SolarD10398

First Name: Sarah
Middle Initial: L
Last Name: Roberts
Organization:
Address: 48 Harlingen Road
Address 2:
Address 3:
City: Belle Mead
State: NJ
Zip: 08502
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please allow solar energy development only in places that won't compromise the many benefits to the public of national lands: ecosystem and wildlife protection, scenery, recreation, archaeology, water resources, etc. In particular, reconfigure the Riverside East SEZ to protect Joshua Tree National Park's wildlife corridors and wilderness, Remove the Iron Mountain SEZ to protect Joshua Tree, reduce the Amargosa Valley SEZ to protect Death Valley's many fragile features, and change the Red Sands SEZ to protect Water Resources critical to White Sands National Monument. I hope to visit these places someday and I don't want them destroyed due to exploitation by energy companies just to avoid the expenses of putting solar panels on roofs and over parking lots, where they'd do no harm.

Sometimes deserts seem like useless lands, but if their fragile ecosystems are destroyed they can cause problems: perhaps erosion and dust storms due to lack of vegetation to hold the soil.

Thank you for your comment, Margery Coffey.

The comment tracking number that has been assigned to your comment is SolarD10399.

Comment Date: April 12, 2011 13:36:42PM
Solar Energy Development PEIS
Comment ID: SolarD10399

First Name: Margery
Middle Initial:
Last Name: Coffey
Organization:
Address: 205 Farley Ave.
Address 2:
Address 3:
City: Rosalie
State: NE
Zip: 68055
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

•The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

•The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

•The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

•Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Margaret Silver.

The comment tracking number that has been assigned to your comment is SolarD10400.

Comment Date: April 12, 2011 13:36:54PM
Solar Energy Development PEIS
Comment ID: SolarD10400

First Name: Margaret
Middle Initial:
Last Name: Silver
Organization:
Address: 1829 Sea Oats Drive
Address 2:
Address 3:
City: Atlantic Beach
State: FL
Zip: 32233
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10401.

Comment Date: April 12, 2011 13:37:00PM
Solar Energy Development PEIS
Comment ID: SolarD10401

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rusty Simpson.

The comment tracking number that has been assigned to your comment is SolarD10402.

Comment Date: April 12, 2011 13:37:37PM
Solar Energy Development PEIS
Comment ID: SolarD10402

First Name: Rusty
Middle Initial:
Last Name: Simpson
Organization:
Address: 1523 Marshall St
Address 2:
Address 3:
City: Baltimore
State: MD
Zip: 212304503
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

as much as we need Solar energy we also need to protect our wild places and National Parks and Monuments. Please do it right and protect our heritage.

Thank you for your comment, Kay Beams.

The comment tracking number that has been assigned to your comment is SolarD10403.

Comment Date: April 12, 2011 13:37:46PM
Solar Energy Development PEIS
Comment ID: SolarD10403

First Name: Kay
Middle Initial:
Last Name: Beams
Organization:
Address: 9539 Hartford Circle
Address 2:
Address 3:
City: Eden Prairie
State: MN
Zip: 55347
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

•The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
•The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
•The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
•Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Margaret McBride.

The comment tracking number that has been assigned to your comment is SolarD10404.

Comment Date: April 12, 2011 13:37:54PM
Solar Energy Development PEIS
Comment ID: SolarD10404

First Name: Margaret
Middle Initial: D
Last Name: McBride
Organization:
Address: 62 Fort Square West
Address 2:
Address 3:
City: Greenfield
State: MA
Zip: 01301
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am eager to see our country develop all available renewable energy sources. But I want to see this done in a way unlike our previous resource exploitation. The country belongs to all of us and to all the creatures we share it with. Solar energy development should be sited in ways that respect all the users of the land, not just humans. Respect wildlife and its needs as well as the rights of the people to enjoy the wildlife and wild beauty of our great land.

Thank you for your comment, Amy Kalblein.

The comment tracking number that has been assigned to your comment is SolarD10405.

Comment Date: April 12, 2011 13:38:00PM
Solar Energy Development PEIS
Comment ID: SolarD10405

First Name: Amy
Middle Initial: L
Last Name: Kalblein
Organization:
Address: 298 Rte 211 West
Address 2: Apt 1
Address 3:
City: Middletown
State: NY
Zip: 10940
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Make Solar Energy play an important part of our future!

Thank you for your comment, Abra Gwartney.

The comment tracking number that has been assigned to your comment is SolarD10406.

Comment Date: April 12, 2011 13:39:30PM
Solar Energy Development PEIS
Comment ID: SolarD10406

First Name: Abra
Middle Initial: M
Last Name: Gwartney
Organization:
Address: 4104 s.e.Ash st.
Address 2:
Address 3:
City: Portland
State: OR
Zip: 97214
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks
For example: the Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors and the Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

Thank you for your comment, Donnie Shelton.

The comment tracking number that has been assigned to your comment is SolarD10407.

Comment Date: April 12, 2011 13:40:12PM
Solar Energy Development PEIS
Comment ID: SolarD10407

First Name: Donnie
Middle Initial:
Last Name: Shelton
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

All forms of energy have their negative impacts, but we have learned that by now. We must use that knowledge to help us avoid the negative impacts as much as possible. That includes siting of alternative energy sources such as solar. ALL parks and monuments must be protected - as well as ALL important bird and wildlife areas/migration routes. We should develop as much home and business onsite power generation as possible.

Thank you for your comment, Rosemary Graham-Gardner.

The comment tracking number that has been assigned to your comment is SolarD10408.

Comment Date: April 12, 2011 13:40:15PM
Solar Energy Development PEIS
Comment ID: SolarD10408

First Name: Rosemary
Middle Initial:
Last Name: Graham-Gardner
Organization:
Address: P.O.Box 3335
Address 2:
Address 3:
City: Manhattan Beach
State: CA
Zip: 90266
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Every business should have solar panels on their roofs and be independent of the Grid.

Thank you for your comment, Andria Herron.

The comment tracking number that has been assigned to your comment is SolarD10409.

Comment Date: April 12, 2011 13:40:51PM
Solar Energy Development PEIS
Comment ID: SolarD10409

First Name: Andria
Middle Initial:
Last Name: Herron
Organization:
Address: 2012 E. 11th St
Address 2:
Address 3:
City: Vancouver
State: WA
Zip: 98661
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy is a "no-brainer". Especially for our national parks. They are quiet and unobstrusive and extremely cost effective. Solar Energy will also create jobs, which is something this country is in desperate need of.

Thank you for your comment, Robert Nemtusak.

The comment tracking number that has been assigned to your comment is SolarD10410.

Comment Date: April 12, 2011 13:41:08PM
Solar Energy Development PEIS
Comment ID: SolarD10410

First Name: Robert
Middle Initial: D
Last Name: Nemtusak
Organization:
Address: 61 W Crystal Lake Ave
Address 2:
Address 3:
City: Crystal Lake
State: IL
Zip: 60014
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This seems fairly obvious.

Thank you for your comment, Elizabeth Gilchrist.

The comment tracking number that has been assigned to your comment is SolarD10411.

Comment Date: April 12, 2011 13:41:10PM
Solar Energy Development PEIS
Comment ID: SolarD10411

First Name: Elizabeth
Middle Initial:
Last Name: Gilchrist
Organization:
Address: 223 N. Guadalupe St. #298
Address 2:
Address 3:
City: Santa Fe
State: NM
Zip: 87501
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Obviously the United States needs to develop solar power. We've just had horrendous proof that nuclear power is a Bad Idea. However, while it's important for the US government to develop solar energy on public land, appropriately sited Solar Energy Zones are key. Several of the proposed SEZ's would be BAD for national parks.
l. Joshua Tree National Park -- Riverside East SEZ needs reconfiguring, Iron Mountain SEZ should be removed.
2. Death Valley -- Amargosa Valley should be reduced or reconfigured.
3. White Sands National Monument -- Red Sands SEZ threatens water resources, sand dunes.
Thank you for taking my comments into consideration. I am a lifelong National Park user -- the parks are for the United States what the royal forests were in Europe for hundreds of years... except all the people can use them.
Elizabeth Gilchrist

Thank you for your comment, Melissa Cathcart.

The comment tracking number that has been assigned to your comment is SolarD10412.

Comment Date: April 12, 2011 13:41:14PM
Solar Energy Development PEIS
Comment ID: SolarD10412

First Name: Melissa
Middle Initial:
Last Name: Cathcart
Organization:
Address: 3018 38 Ave S
Address 2:
Address 3:
City: Minneapolis
State: MN
Zip: 55406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Wildlife and ecosystems are the priority. Develop solar energy where it won't undermine other environmental efforts.

Thank you for your comment, Jeanne Sloane.

The comment tracking number that has been assigned to your comment is SolarD10413.

Comment Date: April 12, 2011 13:41:18PM
Solar Energy Development PEIS
Comment ID: SolarD10413

First Name: Jeanne
Middle Initial: E
Last Name: Sloane
Organization:
Address: 7A Cochrane Way
Address 2:
Address 3:
City: Petaluma
State: CA
Zip: 94952
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is so important to start out on the right foot. Decisions now are setting precedents that will be followed, perhaps blindly, in the future. The planners should look as far into the future as they can, keeping the parks and environment as the first priority.

Thank you for your comment, Martha Spencer.

The comment tracking number that has been assigned to your comment is SolarD10414.

Comment Date: April 12, 2011 13:41:31PM
Solar Energy Development PEIS
Comment ID: SolarD10414

First Name: Martha
Middle Initial: P
Last Name: Spencer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10415.

Comment Date: April 12, 2011 13:41:36PM
Solar Energy Development PEIS
Comment ID: SolarD10415

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, mark & susan glasser.

The comment tracking number that has been assigned to your comment is SolarD10416.

Comment Date: April 12, 2011 13:41:40PM
Solar Energy Development PEIS
Comment ID: SolarD10416

First Name: mark & susan
Middle Initial:
Last Name: glasser
Organization:
Address: 3660 barry ave
Address 2:
Address 3:
City: LA
State: CA
Zip: 900663202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to go to solar and all forms of renewable energy for the sake of our planet, our environment, our health and our economic well being

Thank you for your comment, Phillip Crabill.

The comment tracking number that has been assigned to your comment is SolarD10417.

Comment Date: April 12, 2011 13:42:04PM
Solar Energy Development PEIS
Comment ID: SolarD10417

First Name: Phillip
Middle Initial: J
Last Name: Crabill
Organization:
Address: 430 Copperas Trail
Address 2:
Address 3:
City: Highland Village
State: TX
Zip: 75077
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is great but it must be introduced in an intelligent and caring manner that does not damage or destroy other parts of the environment. It should not cause death or damage to wildlife and plant life. Solar power should make our lives better and not damage the world we live in!!

Please see that it does not create new problems!!!! PLEASE!!!

Thank you for your comment, Angela Desmond.

The comment tracking number that has been assigned to your comment is SolarD10418.

Comment Date: April 12, 2011 13:42:16PM
Solar Energy Development PEIS
Comment ID: SolarD10418

First Name: Angela
Middle Initial:
Last Name: Desmond
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10419.

Comment Date: April 12, 2011 13:42:45PM
Solar Energy Development PEIS
Comment ID: SolarD10419

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Please consider all environmental impact while managing America's precious natural resources.

Thank you for your comment, Marilyn Waltasti.

The comment tracking number that has been assigned to your comment is SolarD10420.

Comment Date: April 12, 2011 13:42:49PM
Solar Energy Development PEIS
Comment ID: SolarD10420

First Name: Marilyn
Middle Initial: A
Last Name: Waltasti
Organization:
Address: 83 Duncan Hill Court
Address 2:
Address 3:
City: Wentzville
State: MO
Zip: 63385
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Marilyn A. Waltasti

Thank you for your comment, Fred Stanback.

The comment tracking number that has been assigned to your comment is SolarD10421.

Comment Date: April 12, 2011 13:42:58PM
Solar Energy Development PEIS
Comment ID: SolarD10421

First Name: Fred
Middle Initial:
Last Name: Stanback
Organization:
Address: 507 W Innes St. #270
Address 2:
Address 3:
City: Salisbury
State: NC
Zip: 28144
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Utility scale solar plants should only be sited where they will not interfere with natural values.
Distributed (rooftop) solar is the most appropriate form and can be almost anywhere.

Thank you for your comment, Virginia Stone-Meyer.

The comment tracking number that has been assigned to your comment is SolarD10422.

Comment Date: April 12, 2011 13:42:58PM
Solar Energy Development PEIS
Comment ID: SolarD10422

First Name: Virginia
Middle Initial: A
Last Name: Stone-Meyer
Organization:
Address: 3086 Hidden Brook Drive
Address 2:
Address 3:
City: Ravenna
State: OH
Zip: 44266
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please, I support solar and alternative energy. But I don't want our places of refuge (our national parks) turned into factories. Please be wise with use, be non-invasive.

Thank you for your comment, Jessica Bosco.

The comment tracking number that has been assigned to your comment is SolarD10423.

Comment Date: April 12, 2011 13:43:17PM
Solar Energy Development PEIS
Comment ID: SolarD10423

First Name: Jessica
Middle Initial:
Last Name: Bosco
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please take all above stated into consideration. We need to keep protected lands protected.

Thank you for your comment, carol wilhems.

The comment tracking number that has been assigned to your comment is SolarD10424.

Comment Date: April 12, 2011 13:43:47PM
Solar Energy Development PEIS
Comment ID: SolarD10424

First Name: carol
Middle Initial:
Last Name: wilhems
Organization: 3D Travel, Inc
Address: 2481 Meteor Stream Terr
Address 2:
Address 3:
City: Henderson
State: NV
Zip: 89044
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's unconscionable to do anything on National Park, National Forest or Wildlife Preserve lands (including adjacent margin areas) that alters the natural landscape and/or ecosystem in any way.

While I'm all for developing (and rapidly) alternative/sustainable energy, I know there's plenty of space for that (as a Nevada resident, consider BLM land-grabs).

The ongoing assaults on the Nat'l Park system including shallow funding is totally against the people's interest. Sanctuaries are just that -- nothing less and totally sacred in every way.

Thank you for your comment, patricia o'shaughnessy.

The comment tracking number that has been assigned to your comment is SolarD10425.

Comment Date: April 12, 2011 13:43:49PM
Solar Energy Development PEIS
Comment ID: SolarD10425

First Name: patricia
Middle Initial: a
Last Name: o'shaughnessy
Organization:
Address: 147 w 15 st
Address 2:
Address 3:
City: deer park
State: NY
Zip: 11729
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

WE NEED SOLAR ENERGY INSTEAD OF FOREIGN OIL!!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10426.

Comment Date: April 12, 2011 13:44:08PM
Solar Energy Development PEIS
Comment ID: SolarD10426

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Although we do need alternative sources of energy, placement of technology, such as solar panels, wind turbines, water turbines, etc. needs to conducted in such a way as to preserve the legacy of our National landscape. Please keep future generations in mind as you pursue solar development on public lands.

Thank you for your comment, Sam Wood.

The comment tracking number that has been assigned to your comment is SolarD10427.

Comment Date: April 12, 2011 13:44:58PM
Solar Energy Development PEIS
Comment ID: SolarD10427

First Name: Sam
Middle Initial:
Last Name: Wood
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ
* The Iron Mountain SEZ
* The Amargosa Valley SEZ
* The Red Sands SEZ

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Evfelyn and leopold May.

The comment tracking number that has been assigned to your comment is SolarD10428.

Comment Date: April 12, 2011 13:45:21PM
Solar Energy Development PEIS
Comment ID: SolarD10428

First Name: Evfelyn and leopold
Middle Initial:
Last Name: May
Organization:
Address: 10217 Lorain Av.
Address 2:
Address 3:
City: Silver Spring
State: MD
Zip: 20901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to continue to develop the use of solar energy to reduce the dependency on fossil fuel and strongly support the Solar Energy Zone alternative' This would would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology

Thank you for your comment, Sally Small.

The comment tracking number that has been assigned to your comment is SolarD10429.

Comment Date: April 12, 2011 13:46:03PM
Solar Energy Development PEIS
Comment ID: SolarD10429

First Name: Sally
Middle Initial:
Last Name: Small
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Marie Perkins.

The comment tracking number that has been assigned to your comment is SolarD10430.

Comment Date: April 12, 2011 13:46:29PM
Solar Energy Development PEIS
Comment ID: SolarD10430

First Name: Marie
Middle Initial:
Last Name: Perkins
Organization:
Address: 250 S. Maple Avenue
Address 2: Apt. 7
Address 3:
City: Oak Park
State: IL
Zip: 60302
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sabine Bradley-Phillips.

The comment tracking number that has been assigned to your comment is SolarD10431.

Comment Date: April 12, 2011 13:46:45PM
Solar Energy Development PEIS
Comment ID: SolarD10431

First Name: Sabine
Middle Initial:
Last Name: Bradley-Phillips
Organization: RARN.org
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

If habitats and wildlife is disturbed or even destroyed because of solar plants then it's not green energy anymore.How about just putting solar panels on every roof??

Thank you for your comment, Barbara Hanson.

The comment tracking number that has been assigned to your comment is SolarD10432.

Comment Date: April 12, 2011 13:47:12PM
Solar Energy Development PEIS
Comment ID: SolarD10432

First Name: Barbara
Middle Initial: J
Last Name: Hanson
Organization:
Address: 2030 NW 120 Terrace
Address 2:
Address 3:
City: Pembroke Pines
State: FL
Zip: 330261946
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While realizing that securing nearly every form of energy entails danger to some other species/land, I would firmly support solar energy development as a better way to go.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10433.

Comment Date: April 12, 2011 13:47:19PM
Solar Energy Development PEIS
Comment ID: SolarD10433

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

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--Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thomas Wilson.

The comment tracking number that has been assigned to your comment is SolarD10434.

Comment Date: April 12, 2011 13:47:52PM
Solar Energy Development PEIS
Comment ID: SolarD10434

First Name: Thomas
Middle Initial:
Last Name: Wilson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

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Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Anca Vlasopolos.

The comment tracking number that has been assigned to your comment is SolarD10435.

Comment Date: April 12, 2011 13:48:36PM
Solar Energy Development PEIS
Comment ID: SolarD10435

First Name: Anca
Middle Initial:
Last Name: Vlasopolos
Organization:
Address: 820 Notre Dame
Address 2:
Address 3:
City: Grosse Pointe
State: MI
Zip: 48230
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10436.

Comment Date: April 12, 2011 13:49:04PM
Solar Energy Development PEIS
Comment ID: SolarD10436

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

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* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

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Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Robert Uecker.

The comment tracking number that has been assigned to your comment is SolarD10437.

Comment Date: April 12, 2011 13:49:33PM
Solar Energy Development PEIS
Comment ID: SolarD10437

First Name: Robert
Middle Initial:
Last Name: Uecker
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, John Carter.

The comment tracking number that has been assigned to your comment is SolarD10438.

Comment Date: April 12, 2011 13:49:38PM
Solar Energy Development PEIS
Comment ID: SolarD10438

First Name: John
Middle Initial: R
Last Name: Carter
Organization:
Address: 22118 W. Spruce Dr.
Address 2:
Address 3: 22118 W. Spruce Dr.
City: Antioch
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

.

Thank you for your comment, John Cannon.

The comment tracking number that has been assigned to your comment is SolarD10439.

Comment Date: April 12, 2011 13:49:55PM
Solar Energy Development PEIS
Comment ID: SolarD10439

First Name: John
Middle Initial: R
Last Name: Cannon
Organization: Conservation Science Institute
Address: 1447 Stoney Bottom Rd.
Address 2:
Address 3:
City: Front Royal
State: VA
Zip: 22630
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

John Cannon, Ph.D.
Conservation Biologist

Thank you for your comment, Clara Jacobson.

The comment tracking number that has been assigned to your comment is SolarD10440.

Comment Date: April 12, 2011 13:50:07PM
Solar Energy Development PEIS
Comment ID: SolarD10440

First Name: Clara
Middle Initial: M
Last Name: Jacobson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Require solar panels on every rooftop in the United States at least in Southwest and Sunbelt areas and their will be no need to destroy land. But since our nation never does anything sensible like that at least insure that National Parks and monuments and sensitive wildlife areas are protected and that no wildlife or wildlands are harmfully impacted.

Thank you for your comment, Laura Robinson.

The comment tracking number that has been assigned to your comment is SolarD10441.

Comment Date: April 12, 2011 13:50:21PM
Solar Energy Development PEIS
Comment ID: SolarD10441

First Name: Laura
Middle Initial:
Last Name: Robinson
Organization:
Address: 25 Collinwood Road
Address 2:
Address 3:
City: Maplewood
State: NJ
Zip: 070401035
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To embrace the beauty and heritage of our parks and wild places for current and future generations, planning for solar or wind energy development must carefully factor in the space to be used.

Thank you for your comment, Melissa Renn.

The comment tracking number that has been assigned to your comment is SolarD10442.

Comment Date: April 12, 2011 13:50:51PM
Solar Energy Development PEIS
Comment ID: SolarD10442

First Name: Melissa
Middle Initial:
Last Name: Renn
Organization:
Address: 20 Loomis Street #4
Address 2:
Address 3:
City: Cambridge
State: MA
Zip: 02138
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Why don't you first put solar energy on top of all govermental buildings--on post offices, fire depts, state houses, federal buildings before destroying pristine natural preserves? National Parks are meant to preserve!!

Thank you for your comment, Barbara Ziller-Caritey.

The comment tracking number that has been assigned to your comment is SolarD10443.

Comment Date: April 12, 2011 13:51:40PM
Solar Energy Development PEIS
Comment ID: SolarD10443

First Name: Barbara
Middle Initial:
Last Name: Ziller-Caritey
Organization:
Address: 16755 Salmonberry Road
Address 2:
Address 3:
City: Brookings
State: OR
Zip: 97415
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

i support solar energy but hope it is only in appropriate sites to protect wildlife & birds

Thank you for your comment, Barbara Wood.

The comment tracking number that has been assigned to your comment is SolarD10444.

Comment Date: April 12, 2011 13:52:18PM
Solar Energy Development PEIS
Comment ID: SolarD10444

First Name: Barbara
Middle Initial: L
Last Name: Wood
Organization:
Address: 1926 SE Richmond Lane
Address 2:
Address 3:
City: Port Orchard
State: WA
Zip: 98367
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Benita Campbell.

The comment tracking number that has been assigned to your comment is SolarD10445.

Comment Date: April 12, 2011 13:52:19PM
Solar Energy Development PEIS
Comment ID: SolarD10445

First Name: Benita
Middle Initial:
Last Name: Campbell
Organization:
Address: 23 Hindman Avenue
Address 2:
Address 3:
City: Burgettstown
State: PA
Zip: 15021
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Let's be reasonable and responsible about the development of solar energy in our national parks. We must not give the King CONG (coal, oil, nuclear, and gas) mocking reasons to NOT pursue development of renewable engery. Let's use are best and most current scientific knowledge as to how we can do this. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Mary E O'Kiersey.

The comment tracking number that has been assigned to your comment is SolarD10446.

Comment Date: April 12, 2011 13:52:24PM
Solar Energy Development PEIS
Comment ID: SolarD10446

First Name: Mary E
Middle Initial:
Last Name: O'Kiersey
Organization: Foxpath2 Electronic Visualization
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

"Measure twice, Cut once."
Please do sufficient research to protect the parks, wildlife and planet before installing much needed, large energy production facilities.

Thank you for your comment, Marjorie Mead.

The comment tracking number that has been assigned to your comment is SolarD10447.

Comment Date: April 12, 2011 13:52:29PM
Solar Energy Development PEIS
Comment ID: SolarD10447

First Name: Marjorie
Middle Initial: A
Last Name: Mead
Organization:
Address: 11082 W. Timberline Dr.
Address 2:
Address 3:
City: Sun City
State: AZ
Zip: 853511534
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

*The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and limited water resources, including desert wetlands that are home to endangered species such as the Devil’s Hole Pupfish.

* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to submit citizen comments on this important environmental issue.

Thank you for your comment, Mike Jaklitsch.

The comment tracking number that has been assigned to your comment is SolarD10448.

Comment Date: April 12, 2011 13:52:40PM
Solar Energy Development PEIS
Comment ID: SolarD10448

First Name: Mike
Middle Initial:
Last Name: Jaklitsch
Organization:
Address: 47-16 244th Street
Address 2:
Address 3:
City: Douglaston
State: NY
Zip: 11362
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
• The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Anna Rol.

The comment tracking number that has been assigned to your comment is SolarD10449.

Comment Date: April 12, 2011 13:53:15PM
Solar Energy Development PEIS
Comment ID: SolarD10449

First Name: Anna
Middle Initial: N
Last Name: Rol
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Megan Taylor.

The comment tracking number that has been assigned to your comment is SolarD10450.

Comment Date: April 12, 2011 13:53:21PM
Solar Energy Development PEIS
Comment ID: SolarD10450

First Name: Megan
Middle Initial:
Last Name: Taylor
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Frank Benedetto.

The comment tracking number that has been assigned to your comment is SolarD10451.

Comment Date: April 12, 2011 13:53:44PM
Solar Energy Development PEIS
Comment ID: SolarD10451

First Name: Frank
Middle Initial:
Last Name: Benedetto
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am appalled.

Thank you for your comment, Sharon Bramblett.

The comment tracking number that has been assigned to your comment is SolarD10452.

Comment Date: April 12, 2011 13:53:44PM
Solar Energy Development PEIS
Comment ID: SolarD10452

First Name: Sharon
Middle Initial:
Last Name: Bramblett
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Use photovoltaic solar power units on roofs of appropriately located park buildings. You won't need water or transmission lines.

For areas not amenable to the above, locate photovoltaic solar power units away from most utilized park areas using NPS recommendations. Minimize concentrating solar power installations to reduce water use.

Four SEZs that conflict with park resources and sensitive ecological areas should be reconfigured or removed:
- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

NPS officials should have veto power concerning the locations of these solar facilities.

I applaude the addition of solar power to provide clean energy to our parks, and it can be done with thoughtful and responsible plans.

Thank you for your comment, Lorin Swinehart.

The comment tracking number that has been assigned to your comment is SolarD10453.

Comment Date: April 12, 2011 13:54:33PM
Solar Energy Development PEIS
Comment ID: SolarD10453

First Name: Lorin
Middle Initial: D
Last Name: Swinehart
Organization:
Address: 725 Linden Avenue
Address 2:
Address 3:
City: Piqua
State: OH
Zip: 45356
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is to urge you to support the responsible development of solar energy resources in such a way as not to compromise the integrity of national parks, wilderness areas, wildlife preserves and other natural resources.

Thank you for your comment, Sharon Gillespie.

The comment tracking number that has been assigned to your comment is SolarD10454.

Comment Date: April 12, 2011 13:54:56PM
Solar Energy Development PEIS
Comment ID: SolarD10454

First Name: Sharon
Middle Initial: s
Last Name: Gillespie
Organization:
Address: 1103 Enfield
Address 2:
Address 3:
City: Austin
State: TX
Zip: 787034127
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a huge fan of solar energy.But solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Please act accordingly to preserve the preservation of our country's heritage.

Thank you.

Thank you for your comment, Deb Fritzler.

The comment tracking number that has been assigned to your comment is SolarD10455.

Comment Date: April 12, 2011 13:55:00PM
Solar Energy Development PEIS
Comment ID: SolarD10455

First Name: Deb
Middle Initial:
Last Name: Fritzler
Organization:
Address: 1489 Lowesville Road
Address 2:
Address 3:
City: Amherst
State: VA
Zip: 245214221
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of solar and wind energy.
I do not want our parks and national monuments harmed in the action of the above.
All contractors should act responsibly when placing and running our energy packs.

Thank you.

Thank you for your comment, David Judd.

The comment tracking number that has been assigned to your comment is SolarD10456.

Comment Date: April 12, 2011 13:55:10PM
Solar Energy Development PEIS
Comment ID: SolarD10456

First Name: David
Middle Initial: A
Last Name: Judd
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please add my voice to the following comments:
--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Helene Brazier.

The comment tracking number that has been assigned to your comment is SolarD10457.

Comment Date: April 12, 2011 13:55:18PM
Solar Energy Development PEIS
Comment ID: SolarD10457

First Name: Helene
Middle Initial:
Last Name: Brazier
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am concerned about the process of selecting where solar facilities will be set up. There are in this vast land sufficient sunny locations in which to establish solar energy producing arrays that they need not be put in parks and/or scenic areas whose vistas are worth preserving. I support the use of solar energy. If I could afford it, I would have solar panels on my roof. But there are areas which should be protected from unnecessary chcnges. Thank you

Thank you for your comment, Philip Hult.

The comment tracking number that has been assigned to your comment is SolarD10458.

Comment Date: April 12, 2011 13:55:25PM
Solar Energy Development PEIS
Comment ID: SolarD10458

First Name: Philip
Middle Initial:
Last Name: Hult
Organization:
Address: 401A County Road 2425 N
Address 2:
Address 3:
City: Mahomet
State: IL
Zip: 61853
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe that we must develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security.
We must also ensure that solar facilities are installed responsibly without harming our national parks and Wilderness areas both already dedicated and in wilderness study status.
There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, endangered and threatened species, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.
For an example of where harm can be done, there was news of a proposal in California that would be greatly detrimental to the desert tortoises. Areas like that must be off limits.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10459.

Comment Date: April 12, 2011 13:56:01PM
Solar Energy Development PEIS
Comment ID: SolarD10459

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

Three SEZs need to be modified: California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources.

Thank you for your comment, Lisa Hughes.

The comment tracking number that has been assigned to your comment is SolarD10460.

Comment Date: April 12, 2011 13:56:07PM
Solar Energy Development PEIS
Comment ID: SolarD10460

First Name: Lisa
Middle Initial:
Last Name: Hughes
Organization: Hughes
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is time to invest our time and money into energy that is safe for the earth and alternatives to oil and nuclear energies.

Thank you for your comment, Carol Dobson.

The comment tracking number that has been assigned to your comment is SolarD10461.

Comment Date: April 12, 2011 13:56:35PM
Solar Energy Development PEIS
Comment ID: SolarD10461

First Name: Carol
Middle Initial: L
Last Name: Dobson
Organization:
Address: 2130 Broadway
Address 2:
Address 3:
City: New York
State: NY
Zip: 10023
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Fossil fuels are finite. Our continued dependence on them will also destroy life as we know it for future generations. We must develop alternatives NOW.

Thank you for your comment, Lisa Fues.

The comment tracking number that has been assigned to your comment is SolarD10462.

Comment Date: April 12, 2011 13:56:54PM
Solar Energy Development PEIS
Comment ID: SolarD10462

First Name: Lisa
Middle Initial:
Last Name: Fues
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, linda hunt.

The comment tracking number that has been assigned to your comment is SolarD10463.

Comment Date: April 12, 2011 13:56:55PM
Solar Energy Development PEIS
Comment ID: SolarD10463

First Name: linda
Middle Initial: p
Last Name: hunt
Organization:
Address: 44 wheatley rd
Address 2:
Address 3:
City: north east
State: MD
Zip: 21901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a bug supporter of solar energy. Using public lands is a smart idea. However, care must be taken in evaluating the sites impact on wildlife, as well as historical areas.

Thank you for your comment, Katherine Gibson.

The comment tracking number that has been assigned to your comment is SolarD10464.

Comment Date: April 12, 2011 13:56:58PM
Solar Energy Development PEIS
Comment ID: SolarD10464

First Name: Katherine
Middle Initial: E
Last Name: Gibson
Organization:
Address: 19 Packanack Lake Rd
Address 2:
Address 3:
City: Wayne
State: NJ
Zip: 074705809
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
•The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
•The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
•The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
•Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.
There could also be a viable alternative in asking the Native American Tribal Land Occupants if they would be interested in allowing solar (and wind) zones to be on their lands. I don't know all the legalities and monies involved, but if they are open to discussions, the posibilities of energy sources being made available to them, income for the tribes through paid use of land, jobs for those willing to be trained to build, and maintain equipment while remaining on the reservations would dramatically improve the living conditions for our aboriginal people of America.
Thank you for considering my thoughts.

Thank you for your comment, Jacqueline Peipert.

The comment tracking number that has been assigned to your comment is SolarD10465.

Comment Date: April 12, 2011 13:57:04PM
Solar Energy Development PEIS
Comment ID: SolarD10465

First Name: Jacqueline
Middle Initial: k
Last Name: Peipert
Organization:
Address: 33425 Irish Lane
Address 2:
Address 3:
City: Brighton
State: IL
Zip: 62012
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please pursue solar energy to help take the pressure off the big oil that we rely on now.

Thank you for your comment, Jamie Kinner.

The comment tracking number that has been assigned to your comment is SolarD10466.

Comment Date: April 12, 2011 13:57:18PM
Solar Energy Development PEIS
Comment ID: SolarD10466

First Name: Jamie
Middle Initial:
Last Name: Kinner
Organization:
Address:
Address 2:
Address 3:
City:
State: IN
Zip: 46510
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy use for parks is a GREAT idea, and one that will save money as well as moving us into the future on renewable energy.

Thank you for your comment, Jeff close.

The comment tracking number that has been assigned to your comment is SolarD10467.

Comment Date: April 12, 2011 13:57:29PM
Solar Energy Development PEIS
Comment ID: SolarD10467

First Name: Jeff
Middle Initial: j
Last Name: close
Organization:
Address: 2301 w whipple st
Address 2:
Address 3:
City: show low
State: AZ
Zip: 85901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

"But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage."

Thank you for your comment, Joshua Maizel.

The comment tracking number that has been assigned to your comment is SolarD10468.

Comment Date: April 12, 2011 13:58:16PM
Solar Energy Development PEIS
Comment ID: SolarD10468

First Name: Joshua
Middle Initial:
Last Name: Maizel
Organization: NPCA
Address: 120 Davis Ln
Address 2:
Address 3:
City: Red Bank
State: NJ
Zip: 07701
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Harry Harrison.

The comment tracking number that has been assigned to your comment is SolarD10469.

Comment Date: April 12, 2011 13:58:31PM
Solar Energy Development PEIS
Comment ID: SolarD10469

First Name: Harry
Middle Initial:
Last Name: Harrison
Organization:
Address:
Address 2:
Address 3:
City: White Plains
State: NY
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am certain that the brightest minds in the USA can make solar energy cost effective
if the oil, gas and goal industries stopped thwarting research by manipulating prices and by buying our Congress.

When will we learn? How many more billions of dollars should we continue to send overseas - and to people and countries that despise us?

Thank you for your comment, Lee Basnar.

The comment tracking number that has been assigned to your comment is SolarD10470.

Comment Date: April 12, 2011 13:58:40PM
Solar Energy Development PEIS
Comment ID: SolarD10470

First Name: Lee
Middle Initial:
Last Name: Basnar
Organization:
Address: 1900 Kachina Trail
Address 2:
Address 3: 1900 Kachina Trail
City: Sierra Vista
State: AZ
Zip: 85650
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10471.

Comment Date: April 12, 2011 13:58:53PM
Solar Energy Development PEIS
Comment ID: SolarD10471

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The natural beauty of the parks can be protected while designated space for solar farms can be beneficial. Co-Existence is possible.

Thank you for your comment, Carol Jurczewski.

The comment tracking number that has been assigned to your comment is SolarD10472.

Comment Date: April 12, 2011 13:59:29PM
Solar Energy Development PEIS
Comment ID: SolarD10472

First Name: Carol
Middle Initial:
Last Name: Jurczewski
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is commendable that alternative energy sources are being considered for development. However, please do it in a way that will not terribly alter the surrounding habitats of the animals and plants.
Thank you.

Thank you for your comment, Barbara Cain.

The comment tracking number that has been assigned to your comment is SolarD10473.

Comment Date: April 12, 2011 14:00:34PM
Solar Energy Development PEIS
Comment ID: SolarD10473

First Name: Barbara
Middle Initial: L
Last Name: Cain
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As we can see, nuclear energy can be a scary proposition but solar? That is the way to wean ourselves out of the lives of the people running the Middle East who only want to see us dead while taking our money for gas and oil. GO SOLAR!! Freely given by our abundant universe.

Thank you for your comment, Al Benford.

The comment tracking number that has been assigned to your comment is SolarD10474.

Comment Date: April 12, 2011 14:00:47PM
Solar Energy Development PEIS
Comment ID: SolarD10474

First Name: Al
Middle Initial:
Last Name: Benford
Organization: U.S. Citizen
Address: 25F Cliffside Dr.
Address 2:
Address 3:
City: Manchester
State: CT
Zip: 06042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed. If on public lands, it must be done with respect to the purposes of the public land. National Parks are intended to preserve scenery, wildlife, historic or archeological artifacts or other important items for our descendants to enjoy. Please, in your noble quest for renewable energy, do not destroy or harm valuable places in the National Parks.

Thank you for your comment, Lora Meisner.

The comment tracking number that has been assigned to your comment is SolarD10475.

Comment Date: April 12, 2011 14:01:50PM
Solar Energy Development PEIS
Comment ID: SolarD10475

First Name: Lora
Middle Initial: D
Last Name: Meisner
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I hope you will take these comments and put them into action.

Thank you for your comment, Donald Jackson.

The comment tracking number that has been assigned to your comment is SolarD10476.

Comment Date: April 12, 2011 14:02:21PM
Solar Energy Development PEIS
Comment ID: SolarD10476

First Name: Donald
Middle Initial: L
Last Name: Jackson
Organization: none
Address: 1010 SW Suwannee Downs Dr.
Address 2:
Address 3:
City: Lake City
State: FL
Zip: 32024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a firm believer in solar power. However, siting of commercial-level solar electric plants must be done so as not to impact nearby areas, in particular, near enough to impact national parks. Park values such as quietude, water sources, night sky, and wildlife corridor disruption must be considered carefully. A judicious review is called for in each proposal for large scale solar generation siting.
Thank you for the opportunity to comment.

Thank you for your comment, Elaine Becker.

The comment tracking number that has been assigned to your comment is SolarD10477.

Comment Date: April 12, 2011 14:02:37PM
Solar Energy Development PEIS
Comment ID: SolarD10477

First Name: Elaine
Middle Initial:
Last Name: Becker
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Having grown up in the rockies, I am in love with the scenic vistas! I'm also in love with the idea of responsible solar, instead of ugly powerlines. Please be sure to place solar on rooftops of ranger stations, firewatch towers or cabins, where there is already cleared land around to reduce shade. Please do NOT put them in the middle of lovely meadows or other such scenic areas.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Elaine Becker

Thank you for your comment, Thomas Poulson.

The comment tracking number that has been assigned to your comment is SolarD10478.

Comment Date: April 12, 2011 14:02:54PM
Solar Energy Development PEIS
Comment ID: SolarD10478

First Name: Thomas
Middle Initial: L
Last Name: Poulson
Organization: dna
Address: 318 Marlberry Circle
Address 2:
Address 3:
City: Jupiter
State: FL
Zip: 334582850
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Renewable energy is important but neither wind nor solar energy production should occur in National Parks or Monuments where it will impair views and possibly compromise habitats of some species.

Thank you for your comment, Leah Griffin.

The comment tracking number that has been assigned to your comment is SolarD10479.

Comment Date: April 12, 2011 14:03:26PM
Solar Energy Development PEIS
Comment ID: SolarD10479

First Name: Leah
Middle Initial: M
Last Name: Griffin
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Our National parks and the wild life they support deserve our best efforts. They are, after all our legacy and National treasures and deserve to be treated as such.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. I live in Los angeles county where we are trying to rectify the problems of cutting off wild life corridors and crippling use of habitat by wildlife. I can only imagine the problems we would face if this was not taken into consideration from the "get-go" in developing solar zones. I think its is an appropraite reminder that our intention is to not deplete resources but to increase them.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife. Believe me- this is a a precious resource and one treasured by all the Los Angeles region in the land of cement and asphalt.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. I would think that these last two points would go without saying but....;just in case.
In closing, I just wanted to say that I am a strong supporter of solar energy and other green technologies. However, I want them to be developed and applied in concert with the environment. Have we learned nothing from the Gulf oil spill and Japan's "clean energy" disaster. This is an opportunity to work in a holistic manner and end our dependency on Saudi oil. Let's think beyond our short term goals and think about our grandchildren's energy needs, their environment and quality of life.

Thank you for your comment, Robert Groff.

The comment tracking number that has been assigned to your comment is SolarD10480.

Comment Date: April 12, 2011 14:03:49PM
Solar Energy Development PEIS
Comment ID: SolarD10480

First Name: Robert
Middle Initial: W
Last Name: Groff
Organization:
Address: 225 Michelle Drive
Address 2:
Address 3:
City: Campbell
State: CA
Zip: 950081719
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We have solar on our home (PV & hot water) and it more than meets our needs. I am very much for solar. But even a good thing can be done badly. By improper siting causing the destruction of habitat and national treasures makes solar a bad thing. Use rooftops instead of meadows. Use parking lots instead of fragile desert. Siting arrays near where their electricity will be used. Please don't make solar a bad thing.

Thank you for your comment, Troy Leutz.

The comment tracking number that has been assigned to your comment is SolarD10481.

Comment Date: April 12, 2011 14:03:52PM
Solar Energy Development PEIS
Comment ID: SolarD10481

First Name: Troy
Middle Initial: L
Last Name: Leutz
Organization:
Address: 810 N. East Ave.
Address 2:
Address 3:
City: Jackson
State: MI
Zip: 49202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, S. Etherton.

The comment tracking number that has been assigned to your comment is SolarD10482.

Comment Date: April 12, 2011 14:03:56PM
Solar Energy Development PEIS
Comment ID: SolarD10482

First Name: S.
Middle Initial:
Last Name: Etherton
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I applaud the government's move to develop renewable energy products - specifically solar energy. However, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your consideration.

Thank you for your comment, J Pearce Sr.

The comment tracking number that has been assigned to your comment is SolarD10483.

Comment Date: April 12, 2011 14:04:31PM
Solar Energy Development PEIS
Comment ID: SolarD10483

First Name: J
Middle Initial: B
Last Name: Pearce Sr
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I hope development of alternative energy will proceed apace. At the same time, I would oppose choosing a 'path of least resistrance' that avoided conflics with influential and privileged property owners by funneling this development onto public lands - especially national parks and monuments and their close environs. I would urge that, from the outset,
the recreational and restorative purposes of these lands be kept at the forefront in the siting of wind farms and solar collectors.

Thank you for your comment, Kathy Burpee.

The comment tracking number that has been assigned to your comment is SolarD10484.

Comment Date: April 12, 2011 14:05:03PM
Solar Energy Development PEIS
Comment ID: SolarD10484

First Name: Kathy
Middle Initial:
Last Name: Burpee
Organization:
Address: 6 High Street
Address 2:
Address 3:
City: Cold Spring
State: NY
Zip: 10516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please place a high value on our protected
and vulnerable wild lands and their wildlife.
Energy demands must be subservient to the
need to preserve what can never be replaced once lost.

Thank you for your comment, Katherine Andrews, PhD.

The comment tracking number that has been assigned to your comment is SolarD10485.

Comment Date: April 12, 2011 14:05:11PM
Solar Energy Development PEIS
Comment ID: SolarD10485

First Name: Katherine
Middle Initial:
Last Name: Andrews, PhD
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for being responsive and responsible for our precious lands.

Gratefully,
Katherine Andrews, PhD

Thank you for your comment, Isabella La Rocca.

The comment tracking number that has been assigned to your comment is SolarD10486.

Comment Date: April 12, 2011 14:05:27PM
Solar Energy Development PEIS
Comment ID: SolarD10486

First Name: Isabella
Middle Initial:
Last Name: La Rocca
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am all for solar energy development, however, there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Debbie Kruzen.

The comment tracking number that has been assigned to your comment is SolarD10487.

Comment Date: April 12, 2011 14:05:35PM
Solar Energy Development PEIS
Comment ID: SolarD10487

First Name: Debbie
Middle Initial: A
Last Name: Kruzen
Organization:
Address: 213 E. 3rd street
Address 2:
Address 3:
City: Mountain View
State: MO
Zip: 65548
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Don't just look at just Solar. Also check out the wind. Remember that a lot of times if the sun isn't shining the wind is blowing. And the newer wind generators require a lot less wind to work then the older models. I'm thrilled that you are looking into solar but reduce the amount of electric used also. I've changed to LED bulbs in the house and I'm amazed at the amount of electric I've saved!

Thank you for your comment, Barry Zuckerman.

The comment tracking number that has been assigned to your comment is SolarD10488.

Comment Date: April 12, 2011 14:05:50PM
Solar Energy Development PEIS
Comment ID: SolarD10488

First Name: Barry
Middle Initial:
Last Name: Zuckerman
Organization:
Address: 1 Old Anvi Lane
Address 2:
Address 3:
City: Middletown
State: NY
Zip: 10940
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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--The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
--Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your attention and consideration of my comments.

Thank you for your comment, Melanie Andrus.

The comment tracking number that has been assigned to your comment is SolarD10489.

Comment Date: April 12, 2011 14:05:50PM
Solar Energy Development PEIS
Comment ID: SolarD10489

First Name: Melanie
Middle Initial:
Last Name: Andrus
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please do all you can to make sure solar farms do NOT harm animals or their habitat!

Thank you for your comment, Genevieve Woolsey.

The comment tracking number that has been assigned to your comment is SolarD10490.

Comment Date: April 12, 2011 14:05:57PM
Solar Energy Development PEIS
Comment ID: SolarD10490

First Name: Genevieve
Middle Initial:
Last Name: Woolsey
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. I hope that while we move forward and develop a responsible clean energy plan we don't sacrifice out national parks in doing so.

Thank you for your comment, Kevin Watkins.

The comment tracking number that has been assigned to your comment is SolarD10491.

Comment Date: April 12, 2011 14:05:59PM
Solar Energy Development PEIS
Comment ID: SolarD10491

First Name: Kevin
Middle Initial: E
Last Name: Watkins
Organization:
Address: 54 Bryan Drive
Address 2:
Address 3:
City: Rehoboth Beach
State: DE
Zip: 19971
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am strong supporter of sustainable energy and understand the need for an infrastructure to built to create sustainable energy. I am also an avid visitor and huge admirer of our national parks. Please consider the following ammendments to the proposed solar energy zones:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, JoAnn Raine.

The comment tracking number that has been assigned to your comment is SolarD10492.

Comment Date: April 12, 2011 14:06:27PM
Solar Energy Development PEIS
Comment ID: SolarD10492

First Name: JoAnn
Middle Initial: W
Last Name: Raine
Organization: Friends of National parks
Address: 11805 meadowglen lane
Address 2: #1221
Address 3:
City: Houston
State: TX
Zip: 77082
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar panels and wind farms can be located away from public treasures such as the national refuges and national parks. Our parks are sacred trusts to our children. Views should not be compromised. Beauty is worth much more than than anything we could gain from such energy resources. I treasure these quite places where you can see the land as it was in our past. Prohibit the energy industry from using National parks for such purposes as wind farms, solar panels or gas well heads.

Thank you for your comment, andi gibson.

The comment tracking number that has been assigned to your comment is SolarD10493.

Comment Date: April 12, 2011 14:07:53PM
Solar Energy Development PEIS
Comment ID: SolarD10493

First Name: andi
Middle Initial:
Last Name: gibson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need clean wind and solar energy throughout the world now.

Thank you for your comment, Harriet McCleary.

The comment tracking number that has been assigned to your comment is SolarD10494.

Comment Date: April 12, 2011 14:07:59PM
Solar Energy Development PEIS
Comment ID: SolarD10494

First Name: Harriet
Middle Initial: C
Last Name: McCleary
Organization:
Address: 2440 Stevens Ave. #2
Address 2:
Address 3:
City: Minneapolis
State: MN
Zip: 554043566
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support, once amended, the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Brian Huntley.

The comment tracking number that has been assigned to your comment is SolarD10495.

Comment Date: April 12, 2011 14:08:44PM
Solar Energy Development PEIS
Comment ID: SolarD10495

First Name: Brian
Middle Initial:
Last Name: Huntley
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

• The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

• The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.

• The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.

• Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Harrington.

The comment tracking number that has been assigned to your comment is SolarD10496.

Comment Date: April 12, 2011 14:08:50PM
Solar Energy Development PEIS
Comment ID: SolarD10496

First Name: Michael
Middle Initial: A
Last Name: Harrington
Organization:
Address: 1392 Pine Tree Drive
Address 2:
Address 3:
City: Maplewood
State: MN
Zip: 551197115
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are lots of available land sites for solar/wind development. Let's not forget why we're trying to 'be green'- we need to *protect* the resources of this planet, so that future generations can also enjoy them as we have done!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10497.

Comment Date: April 12, 2011 14:08:54PM
Solar Energy Development PEIS
Comment ID: SolarD10497

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.
--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park’s remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil’s Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thomas Washburn.

The comment tracking number that has been assigned to your comment is SolarD10498.

Comment Date: April 12, 2011 14:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10498

First Name: Thomas
Middle Initial: E
Last Name: Washburn
Organization: twashburn@cfl.rr.com
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Keith Milligan.

The comment tracking number that has been assigned to your comment is SolarD10499.

Comment Date: April 12, 2011 14:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10499

First Name: Keith
Middle Initial: J
Last Name: Milligan
Organization:
Address: Post Office Box 1124
Address 2:
Address 3:
City: Veradale
State: WA
Zip: 99037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

No one owns the Sun therefore, there can be no wars fought, no blood spilled, to protect our "interests" domestically and abroad. Imagine a world without war! War ends ALL!!! Create jobs with renewable energy component manufacturing and solve both unemployment and energy crisis simultaneously. If we do not make the conversion to not only reduce, but eliminate CO2 emissions, we will fry in our own insanity of burning fossil fuels. The madness has to end NOW!!!

Thank you for your comment, Keith Milligan.

The comment tracking number that has been assigned to your comment is SolarD10499.

Comment Date: April 12, 2011 14:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10499

First Name: Keith
Middle Initial: J
Last Name: Milligan
Organization:
Address: Post Office Box 1124
Address 2:
Address 3:
City: Veradale
State: WA
Zip: 99037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

No one owns the Sun therefore, there can be no wars fought, no blood spilled, to protect our "interests" domestically and abroad. Imagine a world without war! War ends ALL!!! Create jobs with renewable energy component manufacturing and solve both unemployment and energy crisis simultaneously. If we do not make the conversion to not only reduce, but eliminate CO2 emissions, we will fry in our own insanity of burning fossil fuels. The madness has to end NOW!!!