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Comment Submitted:

See attached comments in PDF format consisting of 7 pages.

**Bureau of Land Management and DOE  
Comments to the PEIS  
For Solar Energy Development in  
Antonito, Colorado and the San Luis Valley, USA**

**By  
Guillermo DeHerrera**

**Introduction:**

In the American West there are old sayings that in simple ways tell the story. For Solar Energy Project Development in the San Luis Valley there is such an appropriate old saying, 'you have to strike when the iron is hot,' which is a must for branding calves with a hot iron. In the United States today there is tremendous interest in renewable energy and a multitude of government incentives for such projects. The heightened interest by the American people and the public policy and incentives created by the new Obama administration are driven by the global financial crisis, price of oil nearing peak supply, turmoil in the Middle East, and the need to move America to new energy sources and away from foreign oil.

However there are limitations to the market opportunities, so as the market for solar energy heats up, it would be smart to 'strike when the iron is hot'. What this means for the Bureau of Land Management (BLM) in the rule making process of this programmatic EIS, is that action taken to allow the private sector to utilize these public lands for solar energy development must be swift, with minimal or reasonable regulation adopted in an open process to allow for fair competition. In addition, other measures by federal and state governments will need to be initiated and/or continued for solar energy to be competitive with fossil fuels for commercial power generation.

The following comments are focused on potential projects in the San Luis Valley of Southern Colorado and more specifically on potential solar projects in two BLM parcels located in Conejos County, adjacent to and near Antonito Colorado. The two tracts of BLM-administered land combined are 15,507 acres, identified as Antonito Southeast (9,598 acres) and Los Mogotes East (5,909 acres).

The San Luis Valley (SLV or Valley) an isolated region in Southern Colorado is land rich and cash poor. The SLV a large sub-alpine high altitude valley surrounded by mountains has, since the Spanish first settled here in the 1700 and 1800's, been and still is an agricultural based economy. Agricultural commodities exported in their raw natural state have not brought much wealth to most of the descendants of the early Spanish settlers, although the Mormon and later settlers have reached some economic success in farming and ranching. There remain substantial economic and social disparities between the various ethnic groups and for most people in the San Luis Valley, therefore economic development is always in high demand for this land rich and cash poor community.

The Valley is uniquely suited for this new renewable energy economy obviously because of the many days of high altitude sunshine received annually (approximately 350 days of sunshine at an altitude of 8500 ft), because of the high winds generated by the weather movements coming over the San Juan Mountains (part of the Rocky Mountains dividing the country), and because of the natural geothermal conditions existing in the Valley (See DOE

Geothermal Report on the SLV geothermal potential), but also because the Valley is an isolated area with large tracts of undeveloped public and private lands of low or minimal economic value. A significant portion of the land in the Valley and the surrounding mountains are public lands managed by the US National Forest agency and the Bureau of Land Management (BLM).

This isolation though advantageous in some respects is also a double-edged sword since large amounts of electricity are not needed in these small isolated rural communities, thus power generated needs to be exported long distances to the urban centers of Denver, CO or Albuquerque, NM or farther south to the larger cities in Texas. Therein lays some of the most significant challenges for commercial solar energy generation in the Valley, i.e., lack of or minimal capacity of transmission lines to the markets and competition from solar or wind energy providers closer to the demand.

Solar energy potential (sun and vacant land) is readily available in other nearby Southwestern states of New Mexico, Arizona, Utah, and Texas, states which are closer to large metropolitan areas and large commercial consumers of electricity. Competition exists even within Colorado in other potentially good solar or wind generation areas near larger cities. Due to the limited supply of transmission lines to export power out of the Valley, the limited generation capacity of solar and wind, particularly in non-peak periods, and the transmission problems created by sporadic less than capacity transmission of electricity, the potential commercial solar energy development in Conejos County will be limited initially to the capacity of the existing transmission lines and regional markets with sufficient demand to risk the investment to develop the project and sustain the solar plant.

The most obvious regional consumer of electricity from a potential project in Antonito will be Excel Energy, primarily to fill the demand created by Colorado Government for Excel to meet 20% of its electric generation from renewable energy sources by 2012. This government created demand and state and federal government incentives both with limited expiration dates will require interested parties to act now while the demand exists and the iron (market) is hot. So not only must government (BLM) act quickly, so too must the private sector if these public lands are to be developed into energy producing lands.

Once the project is constructed and the costs are amortized over the life of the equipment, the maintenance and operation and paybacks will be assured due to the low cost of the renewable energy, the sun and wind.

Second or third phases to develop reliable peak demand electricity could involve a natural gas turbine plant (NG is readily available nearby at low cost), or geothermal energy or "renewable firming". Renewable firming is using solar energy for producing hydrogen by electrolyzing water and dispatching it as power during peak demand. This concept called renewable firming is being considered in several locations in the Southwest. Typically big electrolysis units have an efficiency of about 80% so the power sales have to be at a rate that is premium to cover the inefficiency.

Antonito sits on the south central border of Colorado and New Mexico, so another potential market could be in northern New Mexico as well as northern Colorado. There is currently no planning in place for transmission lines to the south of Antonito, but there is an existing public right of way going south on the old Santa Fe railroad corridor, which tracks were removed during WWII, commonly referred to as "The Chile Line." There is a lot of interest in rebuilding this rail link to the south, which could also incorporate (possibly) a High

Voltage Overhead Line (HV-OHL). The importance in having alternative or redundant HV electric transmission lines is obviously having redundancy for emergencies, but also to allow for competition to keep electricity rates competitive.

Antonito and the San Luis Valley, as many places in America, sorely need economic development, so I believe you will find the people ready willing and able to accept this new economy based on renewable energy and would welcome the economic development that would follow from this basic industry. Antonito and the Valley have the political will, the community support, obviously the sun and land, and the workforce to make these potential solar projects successful. This may be the competitive advantage for our communities, to be one of the first communities in the region to capture the commercial opportunity provided by these public lands located in our backyards.

‘Sustainable and environmentally friendly’ – the new catch words for today’s businesses – are not new terms for the original Spanish settlers and the people living off the land. The local farmers and ranchers have always protected the land, water and the animals knowing that if you destroy or do not protect your natural resources you would not have a future.

These conservative values are still in place today in the Valley. Today, though, new methods, techniques, and applications for sustainable agriculture and modern technology have allowed improved methods for increasing production without sacrificing the natural resources. The SLV is a region that has abundant natural, clean renewable forms of energy and food production, as such, industries based on sustainable and environmentally friendly values is the best and probably the only way our societies can survive the long term.

To make a solar project viable in Conejos County and Antonito, two things need to come together, builders (in partnership with manufacturers) experienced in the construction of commercial photovoltaic energy plants and investment capital to pay for the construction of the power plants. The technology of photovoltaic solar energy is readily available, with prices coming down sharply due to advancements in technology and oversupply due to the recession, but the startup investment capital will be more difficult to acquire. With regard to both of these needs, interested parties are coming together and preparing for the next step anticipating it will be a short process for the BLM to issue rules and regulations.

There are at least three major issues any large commercial solar project will need to address in order to be successful on these two tracts of public lands or on any of the other parcels under study. They are: 1) there must be a plan to address the shortage of available transmission lines or a government plan to develop in the reasonable future sufficient transmission capacity to allow for the potential export of renewable energy out of the Valley to the consumer/market; 2) developing a competitive economically viable business plan that will convince the decision makers to license the project, including acquiring the financing for capitalization (risk capital), and 3) the in-tariff price or Power Purchase Agreement with Excel Energy for solar generated power. Selecting the right photovoltaic technology is vital, however the selected and proposed technology will be unique to the developer of the Project.

The huge public interest and public policy initiatives are rightly justified and economically viable and sustainable. As a result of this PEIS study and the fast track fashion that government is moving, coupled with the financial incentives for renewable energy projects provided by the Stimulus Law (The American Recovery and Reinvestment Act of 2009, P.L. 111-5), this market opportunity has created some business interest in the commercial development of solar energy in these two tracts of BLM land.

The PEIS effort should continue and rules and regulations issued to allow companies to compete for fast track licensing of the two tracts of land. This new technology and the tremendous human and natural energy potential have certainly motivated me to get involved and likely return to my homeland. Over the last half century, one of the greatest exports from the San Luis Valley has been people; it is now time to bring them home as new jobs and opportunities are created.

In light of the above comments, we as a nation are on the right track when we invest in our future building energy facilities based on renewable energy and build them in our backyards, on our roof tops, or on our public lands, so long as we also as a people conserve the use of energy. Energy usage whether it is based on hydrocarbons, new coal technology, nuclear, or new renewable energy facilities should be conservatively utilized and never wasted. As a nation and as individual families we cannot afford to waste energy.

In the same breath, we all know renewable energy is not yet competitive with market prices for fossil fuels, so to be able to compete in the market place, renewable energy will require government intervention. At the same time, we also know the lost cost of the hydrocarbon based global economy does not account for the environmental damages caused by carbon emissions and does not account for the highly subsidized carbon based energy needing an expensive and large military to stabilize the global price and availability of oil and gas.

#### **Model Solar Plant in the Valley:**

The timing appears to be appropriate for commercial solar energy projects in the San Luis Valley, not only due to the Obama Administration Energy Policy and incentives, but also due to Colorado's progressive and aggressive policies for renewable energy. The concept of generating solar energy in the Valley and exporting it to larger urban centers has been shown to be commercially viable and technically sound as was proven by the Alamosa Solar Power Plant. The grid-connected solar plant located north of Alamosa in the center of the Valley is now generating 8.22 MW, enough power for about 1500 homes. It was built by Xcel Energy to meet Colorado's Renewable Energy Standard (RES).

#### **Colorado Resource Planning and Excel Energy Application for Transmission Line:**

Recently Excel Energy and Tri-State Generation and Transmission Association (Tri-State), (a regional Electric Cooperative which generates and sells electricity to the Rural Coops) applied to the Colorado Public Utility Commission (PUC) for a Certificate of Public Convenience and Necessity (CPCN) to build a high voltage overhead line from the SLV through the Sangre de Cristo Mountains (on the eastern side of the Valley) to the Eastern Slope of the mountains allowing it to transmit electricity from the Valley by connecting to the large transmission lines and distribution systems of Excel Energy on the Front Range of Colorado. Permitting and licensing of a HV-OHL is always a costly and time consuming process and in this case the rough estimate is it will take 10 years or more before the line is completed, 4 to 5 years of which would be for construction, assuming it gets approved.

This new contemplated HV-OH transmission line (although portions of which may be forced to be placed underground at a higher cost) is necessary for redundancy and to increase the capacity of the existing transmission line coming through the northern side of the Valley (Poncha Pass). This existing line has the capacity for 200 MW, most of which is used for transmission (import) of electricity to the Valley. During sunny days this transmission line

would serve to export surplus power and during non-daylight hours or non-solar generating days, these transmission lines serve to transport (import) power to Valley customers.

The Colorado Legislature passed a law in the 2007 session (Senate Bill 07-100, codified at C.R.S. § 40-2-126) to ensure the adequacy of Colorado's electric transmission infrastructure by requiring utilities to designate Energy Resource Zones (ERZ's) and providing expedited cost recovery for the construction of transmission facilities. The law states that Colorado utilities should continually evaluate the adequacy of electric transmission facilities throughout the state and should be encouraged to promptly and efficiently improve such infrastructure as required to meet the state's existing and future energy needs.

A biennial review is due before 31 Oct of each odd numbered year; the next report is due in 2009. Xcel Energy filed its first report on 31 Oct 07 and issued a second amended informational report on 24 Nov 08 designating the Generation Development Area (GDA) of the San Luis Valley, an ERZ, a priority of High-1, the highest priority. The report states that GDA Zone 4, the SLV, contains the best solar resources in the state and also correlates well with the most concentrated locations for known geothermal production capabilities. Preliminary studies indicate that Excel Energy could accept approximately 200 MW at the San Luis substation, located near Moffat, CO.

### **San Luis Valley - Comanche 230/345kV Transmission (Zones 4-5)**

**Description:** This project consists of building high voltage transmission lines from the San Luis Valley Substation in south-central Colorado to a new Calumet Substation, near Walsenburg, and then to the Comanche Substation, in Pueblo, Colorado. The project would facilitate 600-1000 MW of potential generation resources in Zones 4 and 5, interconnected at or near the San Luis Valley Substation or the Calumet Substation. The project consists of two basic sections. The first section consists of approximately 93 miles of new, double-circuit 230kV transmission, built from the San Luis Valley Substation to a new Calumet Substation, which would be located approximately six miles north of the existing Tri-State Walsenburg Substation. Calumet would tie into the Walsenburg Substation with 230kV transmission.

**Estimated Cost and Schedule:** The cost of the project is estimated to be \$130 million, and would take approximately 48-60 months to construct, following authorization to proceed.

**Evaluation:** This project was identified during system studies of additional generation interconnected at the San Luis Valley Substation, and also through the CCPG Long Range Transmission Planning process. Public Service and Tri-State have agreed to jointly pursue the implementation of this project, including filing companion applications for CPCNs. Numerous transmission alternatives were considered and this project was chosen as the preferred alternative.

**Priority:** This project was given a High ranking. It is a bulk transmission system upgrade that would allow interconnection of additional generation resources from Zones 4 and 5. Public Service is working with Tri-State to advance this project.

### **Federal Cash Grant Program for Renewable Energy Property:**

The USG Stimulus Law passed in February 2009 created a federal grant program for eligible renewable energy projects. The grant is equal to 30% of the tax basis of the system cost for projects placed in service in 2010 and 2011 or on which construction has commenced in 2009

or 2010 for equipment that will be placed in service after 2010. This is the first time that the federal government will give outright cash grants to subsidize renewable energy and there is no limit on the number of projects that are eligible for the grants.

The Stimulus Law designated the US Department of Treasury (Treasury) to administer the program. While the Stimulus Law contained the statutory authorization for the program, Treasury need to issue guidelines for applications before a request could be made. In mid-July 2009, Treasury issued the guidelines for the program (the Program Guidance). Further, Treasury opened the system for applications on 31 July 09.

Simply put, the program provides that if an owner of commercial real estate or a project developer installs renewable energy equipment in the next two and a half years or starts construction on a project, the federal government of the United States will pay 30% of the cost of the equipment and installation costs (once it is placed in service). This applies, for example, to onsite solar installations in commercial applications. (Residential is not eligible.)

This federal grant is on top of any state grants or incentives that may be available. In other words, if a business has been contemplating making use of renewable energy or has been trying to develop a project, there is now a unique two and a half year window to take advantage of unprecedented federal government support. On 01 Sep 09, the US Treasury Department and the Department of Energy announced the first awards under Section 1603 of the Stimulus law. The announcement says:

**Treasury, Energy Announce \$500 Million in Awards for Clean Energy Projects**  
*Initial Round of Cash Assistance for Wind, Solar Projects in Eight States Will Create Jobs, Increase Development*

*“WASHINGTON– Marking a major milestone in the effort to spur private sector investments in clean energy and create new jobs for America’s workers, Treasury Secretary Tim Geithner and Energy Secretary Steven Chu today announced \$502 million in the first round of awards from an American Recovery and Reinvestment Act (Recovery Act) program that provides cash assistance to energy production companies in place of earned tax credits. The new funding creates additional upfront capital, enabling companies to create jobs and begin construction that may have been stalled until now.”*

### **Competition from Coal and Critical Overview of Renewable Energy in America:**

With due regard to the limited two and a half year window for federal credits described above, there is of course the 20% RES capacity limitation of Excel, both of which make it imperative to fast track the process for licensing these two tracts of BLM land to allow private businesses to compete. As things are going now with the all of the projects planned in Colorado, it will not be long before Xcel reaches its capacity to absorb renewable energy and fills the need for renewable energy credits.

There is no question the market is hot and, although greatly subsidized and government driven, the demand is great, but there is competition from low cost abundant coal with new cleaner power generating plants and other renewable energy providers, already well established. In addition to the limited time frame for incentives and competition, investors have to consider the back of the neck concern over the continuing instability of global and US financial markets, particularly as the US Government continues to become more indebted using government bonds to finance the debt and take on new debt. Of course there are also

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14 September 2009

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the technical limitations of generating power only when the sun shines or the wind blows, yet as consumers we expect/demand power from the utility company 24/7, so therein lays another great challenge to solar and renewable energy in addition to the competition from coal.

The Navajo Nation, the largest Indian Tribe in the North America, located in Window Rock Arizona near the Four Corners of Colorado, Utah, Arizona and New Mexico, a few years ago announced the construction of a new highly efficient coal burning power plant. Here is the headline summary of the Announcement dated 07 September 2007.

*“The Desert Rock project is a 1,500 MW super-critical, low-sulfur, coal-fired power plant that includes Best Available Control Technology (BACT) to minimize plant emissions, improve plant efficiency and reduce water consumption. According to the U.S. Environmental Protection Agency, when built, Desert Rock will have the lowest emissions of any coal-fired power plant in the U.S., including a 15-to-20 percent reduction in carbon dioxide emissions.*

*The project will also be hybrid-air-cooled reducing water use by 80 percent. In addition, Desert Rock has committed to financially support additional emission reduction programs at regional energy projects and to reduce mercury emissions by a minimum of 80 percent.*

*Desert Rock will be constructed in a remote location near the coal fuel source. Both units are expected to reach substantial completion in late 2012 and early 2013. Upon completion, Desert Rock will generate enough energy to power approximately one million homes.”*

### **Conclusion:**

Therefore, unless the market or government accounts for the true costs of fossil fuels, whether low cost coal or foreign oil, with whatever mechanisms are used, government initiated or market created, renewable energy cannot in today's market compete with coal or natural gas generated power without government intervention. Renewable Energy costs of development continue to come down and new technologies are often discovered, which may result in a dependable new energy economy, however, Renewable Energy to survive the long term will require continued government and public support for R&D, subsidies, effective legislation, and support for initiatives such this PEIS process.

There is not much more to say except to say, as the old timers said, 'you need to strike while the iron is hot.' As the world becomes more interdependent, yet the financial markets become riskier and more volatile, the way to ensure financial security and stability for future generations is to focus on the important functions that sustain life, Food, Energy, Environment and the Tribe (Your People), FEET.

*/s/ Guillermo A. DeHerrera*

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