

ACRE Project Summary Report

SLV AgEnergy Project

By

Colorado Working Landscapes

On behalf of the

Colorado Harvesting Energy Network

May 16, 2011

a. Project overview

This summary highlights a more detailed Final Report dated April 1, 2011. The Report examines opportunities and barriers for farmers wishing to develop community-based solar projects in the San Luis Valley. Distinct from “utility-scale” development, these projects are smaller, locally owned, and sited near where the power is consumed. Unlike development by absentee owners, project cash-flow remains in the community and within Colorado. A 2004 Government Accounting Office study concluded that local ownership, when compared with absentee ownership, provides 2.5 times more jobs and 3.7 times more total local area dollar impact. Farmers want to develop projects that will reduce operating costs, diversify their operations and enhance local economic development.

The San Luis Valley contains what may be the largest concentration of crop circles in the world. 2,450 pivots are served by 6,000 wells accounting for 65 percent of the local summer peak electric load. Based on an examination of the electric distribution network and associated siting criteria, solar development on selected pivot corners could generate 2,500 megawatts of capacity without adversely impacting agricultural production (enough energy to power 365,000 homes). Developing even a small percentage of this capacity would create significant economic benefits for community banks, suppliers, installers, engineers, lawyers and main street businesses. The challenge to this rural economic development opportunity is structuring a viable business plan and securing necessary policy support.

The Final Report examines the current public policy framework and identifies three possible business models that would make wholesale community-based energy development (D-BED) a reality for the San Luis Valley and throughout Colorado. Creation of policies that would accommodate one or more of these business models will require direct participation by key stakeholders. Specific recommendation and next steps are highlighted below.

b. Key findings, analysis and recommendations;

Key Finding: Grassroots support exists throughout Colorado for policies that will stimulate community-based energy development by local entrepreneurs. Such policies would be particularly beneficial to rural communities seeking new jobs and economic diversification. Our work with farmers in the San Luis Valley confirms this finding as reflected in a joint resolution adopted by the boards of directors for the SLV Rural Electric Cooperative, Colorado Potato Administrative Committee, and Monte Vista Cooperative.

Key Finding: Renewable energy proponents have long touted the economic benefits of clean energy technologies. However, Colorado's renewable energy policy promotes the sales of clean energy without an effective economic development policy. The 2007 statutory incentive for community-based energy development (C-BED) has not produced a single project.

Key Finding: If maximizing jobs and economic development is given increased priority relative to Colorado's carbon reduction goals, then a new C-BED incentive is warranted.

On January 7, 2011 the Governor's Energy Office convened a facilitated all-day workshop with utilities, developers, and community leaders to address Colorado's ineffective C-BED statute. Attending was Xcel Energy's executive responsible for resource planning. At day's end, his conclusion went something like this: "My RES mandate is to maximize carbon reduction whereas small locally owned projects would cost more and result in less carbon reduction. If our mission is expanded to include economic development, we may need a new incentive for wholesale DG projects."

Analysis

In response to proposals by the Governor's Energy Office, renewable energy advocates and utilities, the Public Utilities Commission has designated the San Luis Valley as a solar Generation Development Area (GDA). Subsequent transmission and resource development planning has taken place in Denver-based forums populated by technical experts out of view by all but the largest electric consumers.

The SLV AgEnergy Project is an effort to examine development of the San Luis Valley CDA from a local perspective with emphasis on strategies that will keep energy dollars in the local community. Energy efficiency and conservation improvements keep dollars saved from leaving the community. Likewise, locally-owned wholesale energy development keeps project cash flow in the community instead of flowing to absentee developers and out of the State. Close collaboration with community-based organizations in the Valley confirm broad support for Project findings and recommendations.

The Project Team has undertaken three broad areas of analysis as the basis for a community-based plan for the San Luis Valley Generation Development Area: 1) electric distribution network, 2) ownership and financing options, and 3) public policy.

The Project Engineer prepared a report highlighting rules governing the interconnection of distributed generation projects to the distribution grid. This was followed by an on-site examination of this infrastructure to determine actual line and subdivision capacities. The Final Report contains a resource map depicting transmission and distribution lines, substations, existing utility-scale solar developments, and each crop circle in the Valley. The report establishes project siting criteria. A rough calculation of sites meeting these criteria suggest that solar development on pivot corners could generate 2,500 megawatts of capacity without adversely impacting agricultural production (enough energy to power 365,000 homes).

The Project Coordinator produced a report summarizing the interrelated topics of alternative business models, project ownership and project finance. This research will be expanded in conjunction with the Benefit-Cost Analysis examination recommended below.

The entire project team in cooperation the CHEN Executive Director has examined a wide range of public policy issues as outlined below:

- Examination of community-based energy development experience in other states
- Intervene in the Xcel Energy Rate Case on behalf of six Valley farmers that installed on-site solar systems to drive their irrigation pumps.
- Participation in the Tri-State Resource Plan by recommending “member-controlled” development of required renewable resources.
- Community Solar Garden legislation and intervention in the PUC rulemaking docket.
- Draft and advocate for specific community-based energy development proposals as a means for incorporating economic development policy into Colorado’s energy policy.

Recommendations

Further research is needed to weigh the benefits and costs of community-based energy development.

Colorado utilities can meet their renewable energy requirements more efficiently and at less cost by contracting with large projects that are typically developed by absentee owners. On the other hand, research indicates that significant economic benefits can accrue to the state and local communities if smaller, but relatively more expensive projects are locally owned. Objective information is needed to assess the tradeoff between these costs and benefits.

Governor Hickenlooper should consider establishing a broad-based public forum to advise him on renewable energy policy. The existing Clean Energy Development Authority (CEDA) could fulfill this role and overcome the current lack of transparency in policy development. Tasking CEDA to examine policy options that will maximize jobs creation and economic development benefits that grow out of our existing commitment to renewable energy is recommended below.

c. Problems encountered and/or mitigating circumstances;

The fundamental problem is that rural entrepreneurs do not have access to wholesale energy markets. Without policy changes, they are unable to compete with large corporate developers in terms of technical expertise, financial resources, track record, and economies of scale. As a result, smaller locally owned project will cost more to develop than projects developed by absentee owners. Without an added incentive, development of wholesale community-based projects will not occur.

d. Next steps/actions to be taken as a result of the project;

In light of the above findings and analysis, the Colorado Harvesting Energy Network, on behalf of Valley farmers, is requesting the Hickenlooper Administration to conduct a study of the benefits and costs of community-based energy development. The following basic next steps will be undertaken to accomplish this study proposal. It is suggested that the study be conducted by the Clean Energy Development Authority.

1. Following presentations to key staff members, it is recommended that the Department of Agriculture, the Office of Economic Development and International Trade, the Governor’s Energy Office and the Public Utilities Commission establish the study scope, work plan and budget by late May 2011 followed by the appointment of a Technical Advisory Team.

2. Engage the Clean Energy Development Authority to conduct the proposed study
3. December 31, 2011, CETA submits its report to the Governor as represented by the following proposed Report Outline

**Community-Based Energy Development
Benefits and Cost Analysis
Proposed Report Outline**

Executive Summary with recommendations

Alternative C-BED business models depicting prototype solar and wind deployment (500MW each) through 2030.

- Community Solar Gardens restructured to accommodate all eligible renewable resources with a cost-based standard offer.
- Piggybacking C-BED development onto utility-scale projects utilizing the Basin Electric/East River model
- Restructuring WindSource (re-branded as “Always Buy Colorado”) to fund incremental cost associated with C-BED projects.
- Tri-State’s Renewable Incentive Program (Policy 117 and Policy 115)
- Comparative Evaluation of the above C-BED models

Cost of Energy Comparison: Utilize long-term, fixed payment, cost-based finance model to determine revenue requirement for solar and wind generation for each C-BED business model. Compare model output with revenue requirement for corresponding generation from utility-scale projects.

Summarize results from distributed generation studies conducted by GEO and Xcel Energy pursuant to PUC Decision No. C09-1223.

Jobs and economic development: Compare benefits from C-BED and utility-scale projects.

- Local and state-wide
- Construction and permanent jobs
- State and local tax revenue

Conclusions: Benefits and costs analysis of meeting the Renewable Energy Standard with C-BED verses utility-scale development

Recommendations

- General Assembly
- Colorado Public Utilities Commission
- Tri-State’s 2015 RFP for acquisition of renewable resources
- Xcel Energy’s next Energy Resource Plan filing
- Black Hills next Energy Resource Plan filing
- Further study

e. Notable successes and/or accomplishments;

For the first time, leaders within a Generation Development Area have come together to incorporate an economic development policy into Colorado’s renewable energy standard. This work becomes the basis for continuing work within the Hickenlooper Administration, the Colorado Public Utilities Commission, and the Colorado General Assembly.

The SLV AgEnergy Project is a serious response to the Governor’s call for “ground-up” economic development strategies. As a candidate, the Governor was encouraging Valley farmers to come forward with the community-based approach to renewable energy development. His leadership has informed the SLV AgEnergy Project, the project final report and this summary.

Securing the Joint Resolution from key Valley organizations representing farmer interests is a noteworthy accomplishment. The resolution attached to this summary provides the basic direction needed to successfully pursue project goals. Executives from the three organizations have directed the project team to conduct late June 2011 meeting with landowners to report on the project and the response to recommendations contained in this report.

f. Final accounting of project expenditures

Following is a brief summary of a detailed final financial report submitted on April 7, 2011. This summary shows that as of April 1, 2011, \$27,956.57 remains for project continuation.

Project Income	
ACRE to Date	\$19,196.23
Remaining ACRE	30,803.77
<u>Cash Match</u>	<u>46,793.94</u>
Total	\$96,793.94

Project Expenses	
ACRE	\$50,000.00
<u>Energy Foundation</u>	<u>18,837.37</u>
Total	\$68,837.37

In-kind Match	\$42,332.00
---------------	-------------