

# Scott Condon Aspen Times Weekly Aspen, CO Colorado

BASALT — A Basalt entrepreneur who dreams of revolutionizing the alternative-energy business saw the light in 2010.

Paul Spencer, the founder and president of Clean Energy Collective (CEC), is confident that his plan to bring solar power to the masses can work after successfully building a model project in the midvalley late last year. CEC completed the Mid-Valley Solar Array in August. The small project, which Spencer calls a solar garden rather than a solar farm, is the first community-owned clean energy facility of its type in the country.

“I would say, all-in-all, it was a great pilot project,” Spencer said. “There's been no backlash, that we've heard.”

CEC sold the facility to interested customers of Holy Cross Energy in the Roaring Fork Valley and Interstate 70 corridor. The members actually bought solar panels in the facility rather than the power the garden produces. The community-ownership is what makes it unique. Typically, an alternative energy project — wind, hydro or solar — sells the power generated directly to the utility company or to its customers.

Some other utility companies in Colorado are exploring models similar to CEC's, but none have implemented anything like the community-owned, midvalley array, said Del Worley, CEO of Holy Cross Energy. “In this case, the customer really does own their panel,” he said.

Through an arrangement with Holy Cross, the members get credit for their portion of the electricity produced, which is purchased by the utility company and distributed to its customers.

The midvalley array was built less than one mile downvalley from El Jebel, near the namesake lake in Blue Lake subdivision. The site was leased to CEC long-term by Mid-Valley Metropolitan District, a water and sanitation district. The array is a 77.7 kilowatt project that features 338 solar panels on one-third of an acre. Nineteen homeowners in the region bought into the project. The average purchase was between eight and nine panels, or just under two kilowatts. The largest purchase was 87 panels.

“It's clean, green and smart,” said Glenn Sliva, an engineer who purchased 15 panels for his cabin at the upper end of Ruedi Reservoir, near Meredith. Sliva said he averaged his electricity use over the last three years to determine he needed to make an investment that would offset use of about 3,200 watt hours per year.

## **Model system proves successful**

Customers started receiving credit from Holy Cross in October for their portion of the solar power produced in the array. So far during the gloom of late fall and winter, Sliva is using more electricity than his piece of the array is producing. That is normal and should change come spring.

“Over a full year, it should be offsetting what I'm using — 100 percent,” Sliva said.

He was interested in CEC's project for multiple reasons. He's locked into his electricity rate for years to come and is guarded against fluctuations in what could be a volatile period. He is convinced electricity rates will go up as the government pushes the power industry away from burning coal.

Second, Sliva and other members of the solar garden don't have to maintain their panels like they would if they installed them directly on their homes.

Finally, Sliva's convinced his investment will be paid back in 10 to 12 years, possibly less depending on how high electricity rates climb.

“My motivation was — shoot man, you can't pass all that up,” Sliva said.

Bill Budinger of Aspen purchased 43 panels at the midvalley array for a total of about 9.89 kilowatts. He was interested by “a combination of wanting to offset my own energy usage, lower my electric bills, and the fact that my home is in a poor location for solar panels.”

The community-owned system also takes responsibility for maintenance of the solar panels and other infrastructure out of the hands of the individual homeowner.

“Another big issue that many people may not realize is the maintenance involved in owning and operating your own panels,” Budinger said in an e-mail interview. “If you don't clean them regularly you will lose a lot of the efficiency.

“I like the CEC model because they are maintained, you have economy of scale regarding the necessary infrastructure such as transformer(s) and labor related to the maintenance, and because their sites are optimal solar locations which will generate more energy per panel,” Budinger said.

## **Rebates available on solar purchase**

CEC's prices to buy into the array included payment for maintenance as well as future capital costs. There is a 50-year warranty on the system.

Spencer said the average member of the midvalley array purchased about 2 kilowatts. To put that in perspective, 1.8 kilowatts of solar equals about 40 percent of the average homeowner's monthly utility bill.

CEC charged about \$6 per watt for members. However, the price was reduced by rebates, which vary depending where a house is located, and by tax credits. Holy Cross Energy gives a rebate of \$1.50 per watt up to \$9,000 to all its customers.

Eagle County gives a rebate of \$1 per watt up to \$2,000, down from \$2 per watt and \$4,000 last year. The Pitkin County-based Community Office for Resource Efficiency hasn't set its rebate amount yet for this year. Garfield County doesn't offer a rebate for solar installation.

Eagle County residents purchasing the average-sized membership in the midvalley array reduced their costs from \$6 to \$1.75 per watt with the available rebates, Spencer said. Their investment in 2 kilowatts of the array was about \$3,500.

Holy Cross Energy's Worley said it's been “so far so good” for the midvalley array as far as the utility is concerned. One requirement for the deal was CEC had to create the software needed to make sure each member of the midvalley array was accurately credited for their share of the power produced. The utility company didn't want to be responsible for a potential accounting nightmare.

Spencer hired software engineers to create the system. The array has one meter rather than 19 for each member. The software figures each member's share of the electricity produced. That information is relayed electronically to Holy Cross and it is integrated with their billing system. The array members' bills are adjusted accordingly.

Another key was working with state and federal tax codes, because CEC was a different kind of beast. As a for-profit company, it was entitled to tax credits that a nonprofit isn't. The credits are then passed on to customers in reduced costs.

Spencer said CEC spent equal amounts of time and energy working with software designers and lawyers before its array was built.

### **Small part of power supply**

Worley said he sees a real niche for alternative energy projects like CEC'S. A good share of Holy Cross customers support the idea of solar power but cannot install a system directly onto their house because of physical constraints or other hurdles. CEC's model suits them perfectly.

The utility company welcomes the projects. About 10 percent of its power currently comes from renewable sources. Its goal is to boost that number to 20 percent by 2015.

It will take a lot of solar gardens and farms using the CEC model to make a dent in overall regional demand for power. The midvalley array meets about 1/100 of 1 percent of Holy Cross Energy's total demand, Worley said. It would take solar farms producing seven to eight megawatts to meet 1 percent of the utility's current energy demands.

Spencer and the other workers and investors in CEC are thinking big. CEC hopes to break ground this month on a project at the Garfield County Airport near Rifle that is 20 times larger than the midvalley array, with about 5,600 solar panels and a 1.2-megawatt capacity. Garfield County has granted CEC permission to use 5 acres of south-facing land at the airport. The Federal Aviation Administration has given its blessing.

The first phase of the airport project is expected to be completed by March. Reservations are being taken from Holy Cross customers who want to buy into the community-owned

array. Garfield County's agreement for use of the land requires that residents of the county get first shot at a reserved portion of the purchases.

“It substantiates for us and everyone else involved that this is the future,” Spencer said when the project was approved in November. “It's sort of a ‘coming out’ for community arrays, proving that the concept can be done on a very large scale.”

## **Possibilities endless in valley**

CEC is exploring several sites throughout the Holy Cross service area for possible projects. That service area stretches from Aspen to Glenwood Springs and from the Rifle area to Vail. Sixteen landowners in the Roaring Fork Valley have contacted CEC about land that is available, and some of those sites are larger than the five acres at the Garfield County Airport, according to Spencer.

“It's the beginning, not the end,” he said of CEC's maturation. “If we run out of space, we'll build more. We've got some good sites identified in Pitkin County, but there are some hurdles.”

County officials haven't altered land use regulations to allow for solar farms, but they are contemplating the issue.

But regional construction of solar farms is just part of the future envisioned by Spencer. Licensing the model to other firms is one possible wave and partnership with solar system installers and manufacturers is another. In licensing agreements, CEC would need to make sure it was working with firms that would uphold its principles and quality control, Spencer said. The partnerships give CEC the opportunity to apply its concept and expertise on a larger scale with the backing of investors with deep pockets. Spencer said he is exploring various partnerships, including some in California and Florida, two markets with vast potential for community-owned solar farms.

The potential deals fuel Spencer's vision of a solar revolution.

“It's well on its path and showing all the signs it's going to happen,” he said.

[scondon@aspentimes.com](mailto:scondon@aspentimes.com)

