

Take a shine: Solar gardens finding room to grow

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Paul Spencer, founder and president of Clean Energy Collective, stands at the Boulder Cowdrey Meadows solar garden outside Superior on Wednesday. The solar array can provide power for about 90 homes. (*Cyrus McCrimmon, The Denver Post*)

The day of the solar garden — first planted in Colorado — has dawned as the number of projects and investment dollars have piled up across the nation. About 30 community-based solar arrays, or gardens, have been built or are planned in Colorado, while at least 37 are slated in 17 other states, according to industry data.

The gardens, in which area residents can buy a fractional ownership, are aimed at people who can't put solar panels on their roofs.

"Rooftop solar doesn't work for 75 percent to 90 percent of the market," said Hannah Masterjohn, new markets director for the solar advocacy group VoteSolar. "They may be renters, living in condos, have shady roofs or not qualify for financing, but they still want solar."

While sharing panels from a central location may seem a simple solution, the details — from how shares can be sold to how they are credited for the electricity produced — are complex.

The 2010 Colorado Community Solar Garden Act, the first law of its kind in the nation, sought to address those issues.

"Colorado helped create the market," said David Amster-Olszewski, CEO of Denver-based SunShare, the state's second-largest solar-garden developer.

Now, Colorado is being surpassed as a solar-garden market by other states that are creating bigger programs and markets, industry executives say.

The main driver in Colorado has been Xcel Energy's Solar Rewards Community program, which created 25 solar-garden projects with a total of 18 megawatts in the past two years.

Xcel, in its 2014 renewable energy plan submitted to the Colorado Public Utilities Commission, proposing adding another 6 megawatts of projects.

"This was a pilot program," said Lee Gabler, Xcel's director of renewable energy programs. "We want to see how it builds out."

But Xcel is not growing the program as quickly as gardeners would like. In a filing to PUC, SunShare is asking the commission to approve a 30-megawatt expansion of Xcel's program.

"Colorado was a leader," Amster-Olszewski said. "Now it is becoming a laggard."

Administrative law judge G. Harris Adams, who oversaw hearings on Xcel's renewable energy plan, has recommended that the PUC set the solar-garden target between 6.5 and 30 megawatts.

The PUC is expected to rule on the plan by the end of the year.

Eight states — from Massachusetts to Washington — and the District of Columbia now have solar-garden rules, and 10 other states are likely to see legislation next year, VoteSolar's Masterjohn said.

The California program will create 600 megawatts of solar gardens, and Minnesota's new plan has no cap at all.

"The Colorado market is artificially constrained," Amster-Olszewski said.

SunShare and Boulder-based Clean Energy Collective, or CEC, dominate the Colorado market.

"The market's expansion has been rapid," said Paul Spencer, CEO of CEC, Colorado's top solar-garden developer.

CEC last month was named one of the country's 200 fastest-growing private companies in 2013 by Inc. Magazine, as its three-year revenues rose by more than 2,000 percent to \$9.5 million.

"We are targeted to do \$50 million in revenue this year," Spencer said.

Among CEC's projects are solar gardens in Fort Collins, Denver, Leadville, Rifle and Carbondale. The company also has 15 projects in nine other states, including gardens in Westby, Wis.; Rockford, Minn.; Putney, Vt.; and Colby, Kan.

In CEC's program, customers buy a portion the solar array — at prices, the company says, ranging from \$800 to \$1,100 a panel, depending on the project — and get credited on their bills for the electricity produced.

Customers can resell their share of the garden if they move or no longer wish to participate.

"We've had waiting lists, so there is a good secondary market," Spencer said.

The payback period for the initial investment, depending on the efficiency of the array, ranges from eight to 15 years, Spencer said.

SunShare sells 20-year solar power purchase agreements from its solar gardens to homes and government operations, senior vice president Jonathan Postal said.

The contracts require no upfront cost to customers — which now include Adams County and the cities of Westminster and Manitou Springs.

The contracts offer a rate lower than the rate Xcel charges residential customers and can be sold in a secondary market.

In the 2013 round of Xcel's solar-garden contracts, SunShare captured 7 megawatts of the 9 megawatts offered.

Overall, SunShare has 9.5 megawatts of projects worth \$25 million in transactions, Postal said.

As robust as the market has been, there are challenges on the horizon, CEC and SunShare executives say.

One of the key mechanisms for funding projects has been a 30 percent federal solar tax credit, which is slated to drop to 10 percent at the end of 2016.

"We will have to get a lot more efficient," CEC's Spencer said.

The companies also will have to consolidate more projects into bigger financing packages to make the tax incentives attractive, Spencer said.

SunShare's Postal agrees, saying that his company's goal is to be able to market 100 megawatts a year.

The success of the market also is drawing attention from the big rooftop solar installers.

CEC has been in talks with some of those companies about partnering, Spencer said.

"We anticipate more competition. That's another reason we want to get to scale," Postal said.

Utilities across the country have had an uneasy relationship with residential rooftop solar, whose expense, industry executives say, exceeds its benefits.

In 46 states, including Colorado, owners of rooftop arrays get a payment for kilowatt-hours they put on the power grid.

In most states, it is equal to the rate residential customers pay for a kilowatt-hour.

In a filing to the PUC, Xcel said that while its Colorado average residential electricity rate is about 11.5 cents a kilowatt-hour, the value of rooftop solar energy is just under 6 cents a kilowatt-hour.

Xcel is seeking to have a net metering charge replaced with a lower-value credit, and utilities in Arizona, Louisiana, Georgia and at least five other states have proposed doing the same.

Solar gardens are easy to connect to the grid, and kilowatt-hours put on the grid get a credit that is negotiated with the utility.

"Utilities generally like community solar rather than rooftop solar," said SunShare's Postal.

"Operationally, it is a very clean process," said Xcel's Gabler.

Still, the Colorado solar industry is banging up against Xcel's program.

"Clearly, there is tremendous demand," said Rebecca Cantwell, director of the Colorado Solar Energy Industries Association, a trade group.

"This is a program that should be expanded."

SunShare is setting up an office in Minnesota, and CEC has one in Massachusetts, which also has no cap on how many solar gardens can be built.

Xcel's director of regulatory administration said the company supports solar energy at all levels — residential, community and utility-scale.

"We want to see the 25 gardens on line and see how they perform," Xcel's Gabler said. "Let's get them on line and see where the conversation goes."

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