

A Bright Future for Tucson Community Solar Program

Utilities across the United States are leading the development of community solar projects aimed at expanding access to clean, affordable power for their customers.

Arizona's Tucson Electric Power (TEP) was the country's first investor-owned utility to offer residential and business customers the opportunity to purchase energy from local utility-scale solar arrays in "blocks" of 150 kilowatt-hours (KWH). Customers can purchase each block of locally generated solar power for \$3 per month.

Under the Bright Tucson Community Solar (BTCS) program, launched in 2011, residential and commercial customers can choose how much solar energy to purchase from company-owned photovoltaic (PV) solar systems.

TEP has expanded its utility-scale renewable resources by working with solar developers to design, site, build, and manage local solar resources. Customers who are eligible for BTCS can choose how much power to purchase through the program.

Providing Customer Value

In developing BTCS, one of TEP's goals was to offer a solar program for the diverse set of customers who could not or did not want to participate in rooftop solar, including those who live in condominiums or apartments; customers in single family homes that are geographically or structurally unsuited to rooftop solar; customers who find the upfront costs prohibitive; and customers who don't want to make a long-term commitment to solar. The program also is an innovative and cost-effective solution for larger customers such as municipal governments.

Customers purchase solar energy blocks in 1-kilowatt (KW) increments for \$3 per 150-KWH block—adding about 2 cents per KWH to the customers' average rate—and giving all customers access to solar energy at very reasonable prices. On a monthly cost basis, TEP customers can purchase solar energy up to their average monthly KWH consumption. When customers purchase a block of solar energy, they receive an exemption from paying the fuel and purchase power charge and the renewable surcharge on their monthly bill equivalent to the blocks purchased through BTCS. Customers are

not under contract and are free to drop out of the BTCS program at any time. Because there are no upfront expenses, equipment maintenance costs, or long-term contracts, the flexible, affordable program appeals to TEP's diverse customer base.

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Keys to Success

Community involvement was critical to the early success of the BTCS program, particularly in the development of TEP's 1.6-megawatt solar project at the University of Arizona Science and Technology Park, which offered the first blocks of solar for sale. The program has a wide range of customers, and engagement has increased rapidly. In 2014, more than 1,200 customers

purchased more than 3,300 megawatt-hours (MWH) of locally generated solar energy through BTCS to meet their electricity needs—a tenfold increase in three years.

For residential customers in good standing with TEP, the BTCS program is not only more cost-effective than purchasing a rooftop solar PV system, but it also allows them to purchase solar energy regardless of their credit scores. Factors critical to the program's success include:

- ▶ **A smart and simple choice.** Today's energy customers want guided choice, so they can make decisions without feeling overwhelmed. Through BTCS, TEP gives customers choice in their program participation level. In addition, BTCS residential customers are allowed to sign up and cancel at any time with minimal contract period commitments.
- ▶ **Customer value ties back to the local community.** One of the biggest benefits of community solar is the strong link to where customers live. Only local solar resources are used in the program, so customers know they are helping the community both environmentally and economically. TEP also prefers to build the solar projects on brownfield, previously disturbed, or limited-use properties. By investing in solar in the Tucson metropolitan area, TEP expands its renewable energy portfolio while helping to create jobs.
- ▶ **Clear education on costs and benefits.** TEP highlights both the costs and the benefits of BTCS so that customers can make the right choice for themselves.
- ▶ **Long-term economic benefits.** Because rooftop solar PV is often the reference point for many customers



David Sanders/TEP

Community solar at the University of Arizona Science and Technology Park.

evaluating community solar as an option, TEP communicates the long-term economic benefits.

Future Plans

TEP intends to modify its bill presentation and other customer communications to augment communications about the benefits of the program.

TEP received regulatory approval in mid-December for a plan to install rooftop solar panels at customers' homes and provide their electric service for a set monthly fee that would remain fixed for up to 25 years. The Residential Solar Program will allow customers to go solar with no installation or maintenance costs. After paying a \$250 administrative fee, participants will pay a fixed monthly electric rate that roughly matches their current average bills, generating significant savings if TEP's rates or energy costs increase in the future.

The first-of-its-kind program will be made available this spring to 500-600 customers. The company will seek participants in areas where TEP's solar arrays would maximize benefits for the local electric grid that serves all customers. System-size requirements, proximity to the grid, and opportunities to integrate advanced inverter technologies will be considered. TEP also will look for sites where solar panels can be positioned to maximize output that more closely coincides with peak demand.

TEP was recognized as the Solar Electric Power Association's investor-owned utility of the year in 2012. To read more about TEP's program, visit www.tep.com. **EP**

Advantages of Community Solar

1. Community solar democratizes solar access, giving eligible customers the option to go solar at a reasonable price. For residents in homes that are not suitable for solar, such as renters and multi-family dwellers, community solar is an ideal option. At most, 25 percent of U.S. homes, or 33 million homes, are rooftop solar PV appropriate. Community solar also offers an affordable pay-as-you-go solution that eliminates the upfront purchase cost or financing hurdle. It also is flexible, allowing customers to decide how much solar energy to purchase and for how long.
2. Under current net energy metering practices, rooftop solar PV customers do not always share equitably in the costs of the grid services they use. These costs are shifted onto non-solar customers. In contrast, community solar customers continue to pay for the grid services they use and do not shift costs onto non-solar customers.
3. With a community-scale, grid-tied project, the utility is able to appropriately size and locate the solar resource. On a per-watt basis, these types of projects cost considerably less than rooftop solar facilities. Community solar is cost-effective.