Southern Environmental Law Center

SOLAR INITIATIVE POLICY BRIEF

COMMUNITY SOLAR:

BEST PRACTICES FOR UTILITIES IN THE SOUTH

As solar energy continues to become more affordable, many families are expressing interest in this local, clean power source, but are unable to install a solar system at their homes for various reasons. In fact, due to structural constraints, shading from trees, and other issues, about 75% of residential rooftop area in America is not suitable for hosting a solar system.[1] This prevents a large segment of the population from taking advantage of solar energy.

The solution to this problem is Community Solar. Community Solar (aka Shared Solar) takes place through the development of solar energy projects that provide power to multiple community members. Community Solar systems are typically sited close to the community they will serve. These programs leverage economies of scale to reduce the price of solar for individual customers. This model allows Southerners to access the benefits of solar energy even if they would be unable to install solar panels on their own homes or businesses.

Community Solar can be utility-sponsored (either a utility developing its own program or working with a solar company to offer a program), or it can be third party-sponsored in states that allow for competition. By offering well-designed Community Solar projects, utilities can give their customers meaningful access to affordable, local solar power and tangible control of their energy choices. By providing families more options to lower their energy costs and take advantage of the South's vast solar resource, Community Solar can create healthier, cleaner, and stronger communities across the region.

Community Solar programs also provide benefits for utilities by increasing customer satisfaction, bolstering clean energy investment, and contributing to local economic development. Utilities can take advantage of economies of scale by choosing the optimal system size and number of participants. They can also decide which location will offer the most value to the grid.

Community Solar can be a win-win by providing tangible benefits to participating customers, strengthening local communities, and delivering valuable clean energy to the grid. We encourage utilities to adopt the following best practices when developing Community Solar programs to ensure that all customers receive meaningful access to solar power through this innovative program.

Best Practices for Utility-Sponsored Community Solar

On-Bill Crediting

Customers who enroll in a Community Solar program should receive a direct tangible economic benefit. Although some customers choose solar energy for its environmental attributes, most customers seek the financial benefit of clean energy. A recent survey by the Solar Foundation found that customer demand is first driven by an interest to "save money" (51.4% of respondents), followed by a recognition that solar power costs are now more competitive with utility rates (22.9%).[2]

Participating customers' economic benefit should be proportional to 1) the customer's subscription size and 2) the energy generated by the solar project.[3] Ideally, customers receive these benefits as a credit on their utility bills rather than as a direct payment. On-bill crediting avoids creating unintended taxable income and

prevents participating customers from inadvertently triggering securities laws. It is a simple way for customers to see the results of their investment. It also encourages energy efficient behavior, as customers are motivated to further decrease their bills to maximize their solar investment.

This credit should be allocated in proportion to a customer's subscription size. Subscriptions should allow for long term investments of at least 20 years, the low end of a solar system's projected lifespan. This will ensure participants obtain the benefit of hedging against future bill increases over time due to fossil fuel price volatility. Any net excess generation should be rolled over and credited to the next month's consumption.

Utility leaders: Orlando Utilities Commission's Community Solar program allows participants to lock in a rate of 13 cents/kWh for 25 years for electricity generated by their Community Solar share.[4] Similarly, Vernon Electric's program in Wisconsin provides monthly bill credits for the power produced on participants' electric bills, with an upfront cost of $600 per panel and a projected first year payback of 5.8%, and these savings will increase as energy prices rise.[5]

ESARENEWABLES.COM

Requirements for Enrollment

Many Community Solar programs use an ownership model where a customer makes an upfront purchase, giving them an ownership stake in the project. Additionally, utilities should give customers the option to make ongoing payments on their electricity bills so they can pay over time as they save. This can be structured either as a purchase or a long-term lease. Customers should be given the option to choose from a range of subscription sizes based on the level of participation that works best for them. Maximum subscription sizes could be capped at a certain level based on participants' energy demands, such as 120% of participants' average annual electricity consumption. In addition, participation should be open to both residential and commercial customers, with caps in place to ensure that both customer segments have sufficient opportunity to participate.

Utility leaders: Tucson Electric Power's Bright Tucson Community Solar Program allows participants to purchase 150 kWh "blocks" of solar power for $3.00 apiece on monthly bills with no upfront cost. Each block replaces the charges for an equivalent amount of traditional power at a price that is fixed for 20 years, allowing customers to see savings as utility rates increase.[6] Similarly, Orlando Utilities Commission's Community Solar program offers subscriptions of 1 kW up to 15 kW, with a one-time deposit of $50 that is credited back to the participant with accrued interest after two years.[7]

TEP.COM

Setting the Credit

One important question is how utilities should value solar power for crediting purposes. Either a retail rate credit approach (similar to net energy metering) or a "value of solar" approach can effectively value solar credits. Existing distributed generation policies, be they net metering or other, should be extended to Community Solar participants to give all customers the opportunity to take advantage of these policies, not just those who are able to install solar on their rooftops. This means that if a utility offers net metering to rooftop solar customers, it should offer retail rate credit to Community Solar participants as well. If rooftop solar customers are compensated with a value of solar-based credit, the same should be given to Community Solar participants. This approach is simplest for utilities to administer and ensures fair access to existing policies for customers. Additionally, a small bill credit "deduction" may be warranted to cover operations and maintenance costs through the life of the project.

Utility leader: Florida Keys Electric Cooperative's Simple Solar Program offers participating customers a monthly bill credit equal to their retail rate for each kilowatt-hour generated from their Community Solar subscription for 25 years, based on the actual production of the leased panels.[8]

Making Enrollment Accessible to Families on a Budget

Utilities should strive to make participation accessible to all customers, especially those who most need relief from rising utility bills. Low and moderate income families pay a greater percentage of their income on utility bills than higher-wage earners. These customers will benefit the most from affordable solar power, allowing them to use savings from solar for other important necessities. However, they may be unable to access rooftop solar because they are renters or live in multifamily housing. Thoughtful project design can lower barriers to entry by allowing for a minimum subscription size of one panel; letting customers pay enrollment costs over time on their utility bills rather than through a hefty upfront payment, so they can pay as they save; and exploring ways to pair existing energy efficiency programs with Community Solar enrollment to maximize bill savings for customers, allowing for joint energy efficiency and solar investments on customers' monthly utility bills.

State leader: The state of Colorado enacted the Community Solar Gardens Act in 2010, which requires that a certain percentage of Community Solar gardens be reserved for low income residents. Also in Colorado, Grand Valley Power, an electric cooperative utility based in Colorado, is developing a Community Solar project in partnership with nonprofit Grid Alternatives that will exclusively serve low income customers, allowing 6-10 families to offset up to 90 percent of their electricity costs.[9]

Treatment of RECs

Renewable energy certificates (RECs) represent the environmental benefits of generating electricity from clean sources rather than conventional gas or coal-fired power plants. These benefits are bundled together as RECs and can be sold separately from the electricity produced. Utilities have the option to retain RECs to help them comply with existing or future laws and regulations, or to sell them on REC markets; if utilities opt to retain RECs, the value of those RECs should be built into the bill credit offered to participating customers. In the alternative, utilities should consider giving customers the option to claim RECs if they would like to do so, in exchange for a lower credit value. Either way, it is important that utilities are transparent about who owns RECs and how their value is being treated.

Utility leader: The Lake Region Electric Cooperative in Minnesota makes clear that any renewable energy credits associated with the solar output from its Lake Region Community Solar project belong to participating customers.[10]

Portability and Transferability

Subscriptions in Community Solar should be *portable*, so that customers can take their subscriptions with them if they move within the utility's territory. They should also be *transferable*, allowing customers who move outside of the territory to either relinquish subscriptions to their utility or transfer them to another subscriber.

Utility leader: Sacramento Municipal Utility District's SolarShares program allows customers who move within the utility's territory to take their subscriptions with them, and customers may cancel their subscriptions after the first year.[11]

Public Input

In designing Community Solar offerings, utilities should seek input and incorporate feedback from members of the public, consumer advocates and other stakeholders to ensure buy-in from the community. This early work can lay the foundation for higher levels of participation, giving the public and community groups the confidence that the program has been structured well. These community groups can then spread awareness and encourage enrollment by the public.

Utility leader: Central Electric Cooperative in Oregon held a series of public meetings prior to launching its Community Solar program to engage its members about the concept and discuss issues and challenges with moving the concept forward.[12]

Siting

Utilities can enhance the value of Community Solar by optimizing siting at locations that most benefit their distribution system, such as areas where the grid is constrained. Solar systems can also be built to best align with utilities' peak load, increase capacity value and obtain additional grid services through the use of advanced inverters, providing benefits like voltage regulation, energy imbalance, and reactive supply.

Utilities should consider siting in visible locations near communities where people live, so participants feel a tangible connection to their investment in the project. Special consideration should be given to underserved communities, areas with high unemployment, persistent poverty counties, and at brownfield sites, with community input. One way to ensure siting in underserved communities is to request that utilities incorporate this as a preference or requirement in its requests for proposals (RFPs).

Utility leader: Xcel Energy has developed a Solar Rewards Community Program, which allows participating customers to invest in a community solar project and receive credits on their bills for the power generated. Through this program, a community solar project was developed by Clean Energy Collective on a Superfund landfill in Boulder, Colorado. The 2,000 solar panel project was supported by the EPA's RE-Powering Brownfields program, which assists in the development of renewable energy projects on brownfield sites.[13]

Similarly, California's Community Solar legislation reserves one-sixth of Community Solar projects for siting in disadvantaged communities.[14]

Creating Additional Value

Community Solar gives utilities greater control over where and how to develop solar power, which creates opportunities for solar to provide even greater value to the grid. Utilities should consider how Community Solar programs can be paired with other programs and utility needs, such as energy efficiency, load shifting and demand response programs.

Utility leader: The Steele-Waseca Electric Cooperative in Minnesota offers a steep discount for the first Community Solar panel that a customer purchases, if that customer agrees to install a free electric water heater that interfaces with the utility system, allowing the water heater to respond to utility price signals during times of peak demand. This is a win-win-win for the utility, participating customers, and the grid as a whole.[15]

Conclusion

Community Solar provides an exciting new opportunity for utilities to expand their customers' access to local solar power. As a greater number of residential customers express an interest in solar, but many are unable to install solar on their homes, Community Solar is a solution that provides benefits both to utilities and to customers.

For further information about how utilities can best implement these best practices to ensure the development of successful Community Solar programs, please contact:

Southern Environmental Law Center

Katie Ottenweller
Staff Attorney and Leader of Solar Initiative
Southern Environmental Law Center
kottenweller@selcga.org

End Notes

[1] National Renewable Energy Laboratory, *Supply Curves for Rooftop Solar PV-Generated Electricity for the United States* (November 2008), available at www.nrel.gov/docs/fy09osti/44073.pdf.
[2] The Solar Foundation, *National Solar Jobs Census 2013: The Annual Review of the U.S. Solar Workforce* (January 2014), available at http://www.thesolarfoundation.org/national-solar-jobs-census-2014/.
[3] National Renewable Energy Laboratory, *A Guide to Community Solar: Utility, Private, and Non-profit Project Development* 8 (May 2012), available at http://www.nrel.gov/docs/fy12osti/54570.pdf.
[4] Orlando Utilities Commission, *Community Solar: A First for Central Florida*, http://www.ouc.com/environment-community/solar/community-solar.
[5] Vernon Electric Cooperative, *Community-Owned Solar is for Everyone* (April 4, 2014), http://www.vernonelectric.org/sites/vernonelectric.coopwebbuilder.com/files/fact_sheet_3.pdf.
[6] Tucson Electric Power, *Bright Tucson Community Solar*, https://www.tep.com/renewable/home/bright/#tab2.
[7] Orlando Utilities Commission, *Community Solar: A First for Central Florida*, http://www.ouc.com/environment-community/solar/community-solar.
[8] Florida Keys Electric Cooperative Association, *Simple Solar: Cooperative Offers Hassle-Free Solar Energy*, http://www.fkec.com/Green/simplesolar.cfm.
[9] Business Wire, *GRID Alternatives and Grand Valley Power Announce Community Solar Partnership to Serve Low-Income Customers* (March 26, 2015), http://www.businesswire.com/news/home/20150326006162/en/GRID-Alternatives-Grand-Valley-Power-Announce-Community.
[10] Lake Region Electric Cooperative, *Lake Region Community Solar*, http://www.lrec.coop/solar.
[11] Sacramento Municipal Utility District, SolarShares FAQ, https://www.smud.org/en/residential/environment/solar-for-your-home/solarshares/solarshares-FAQ.htm.
[12] Central Electric Cooperative, Inc., *A Bright Idea: Community Solar*, http://www.cec.coop/save-money-save-energy/renewable-energy-program/community-solar/.
[13] Center for Social Inclusion, *Marshall Landfill Solar Array*, http://energydemocracy.centerforsocialinclusion.org/cec-marshall-landfill-solar-array/.
[14] Communities for a Better Environment, *Bridging the Green Divide with Shared Renewables* (Sept. 8, 2014) http://www.cbecal.org/bridging-the-green-divide-with-shared-renewables/.
[15] Clean Energy Resource Teams, *Steele-Waseca Cooperative Electric Offers Sweet Community Solar and Water Heater Bundle* (Jan. 27, 2015), http://www.cleanenergyresourceteams.org/blog/steele-waseca-cooperative-electric-offers-sweet-community-solar-and-water-heater-bundle.