COALITION FOR COMMUNITY SOLAR ACCESS

The Role of Net Metering in the Evolving Electricity System

April 28, 2022

Background

The Coalition for Community Solar Access is a national coalition of over 90 businesses and non-profits working to expand customer choice and access to solar for all American households and businesses through community solar. Our mission is to empower every American energy consumer with the option to choose local, clean, and affordable community solar. We work with customers, utilities, local stakeholders, and policymakers to develop and implement policies and best practices that ensure community solar programs provide a win, win, win for all, starting with the customer.

What is Community Solar?

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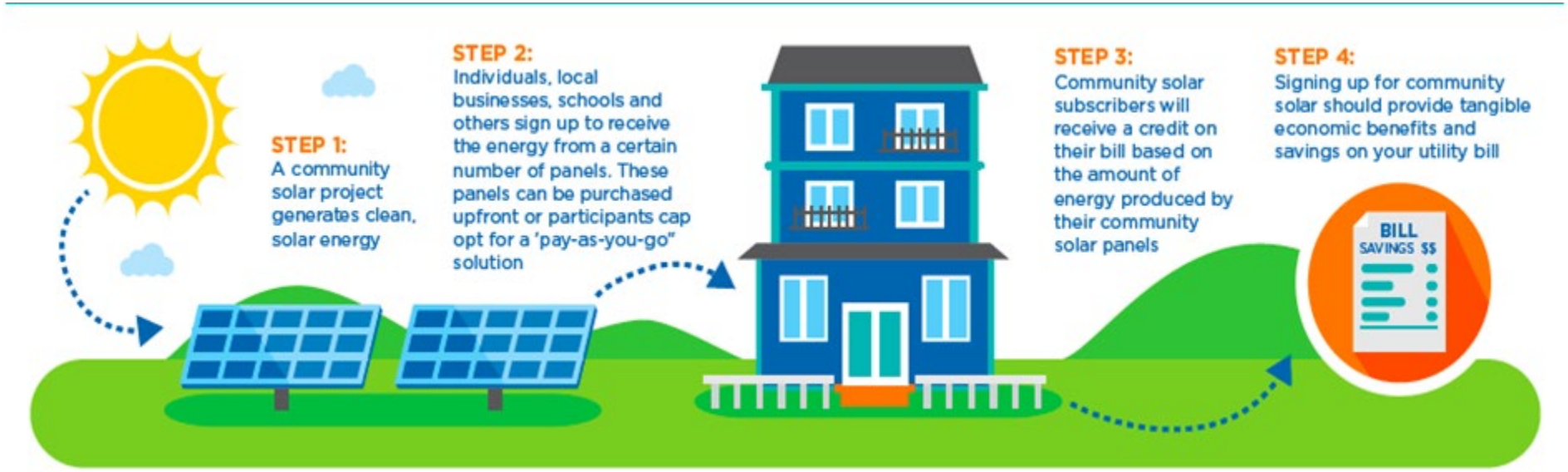

General Principles

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- The ability to move bill credits from a generator's account to end use customer accounts has been a critical component of successful community solar programs to date.

- CCSA recognizes the important role that net energy metering plays for rooftop and other behind-the-meter solar facilities and supports its continued application for those types of projects, however, it may be appropriate to treat community solar facilities differently from a credit valuation standpoint.

- Community solar projects export 100% of their output to the grid and are typically larger facilities that can take advantage of economies of scale, so full retail net metering is often not necessary to make community solar projects viable.

- However, it is important that the credit value results in fair compensation to the community solar facility and, at a minimum, provides sufficient value to: (1) finance community solar projects and (2) pass on savings to end-use customers.

- While some jurisdictions have provided full net metering credit to community solar facilities, most now provide a lower credit value that is calculated through a variety of methodologies.

Example: New York

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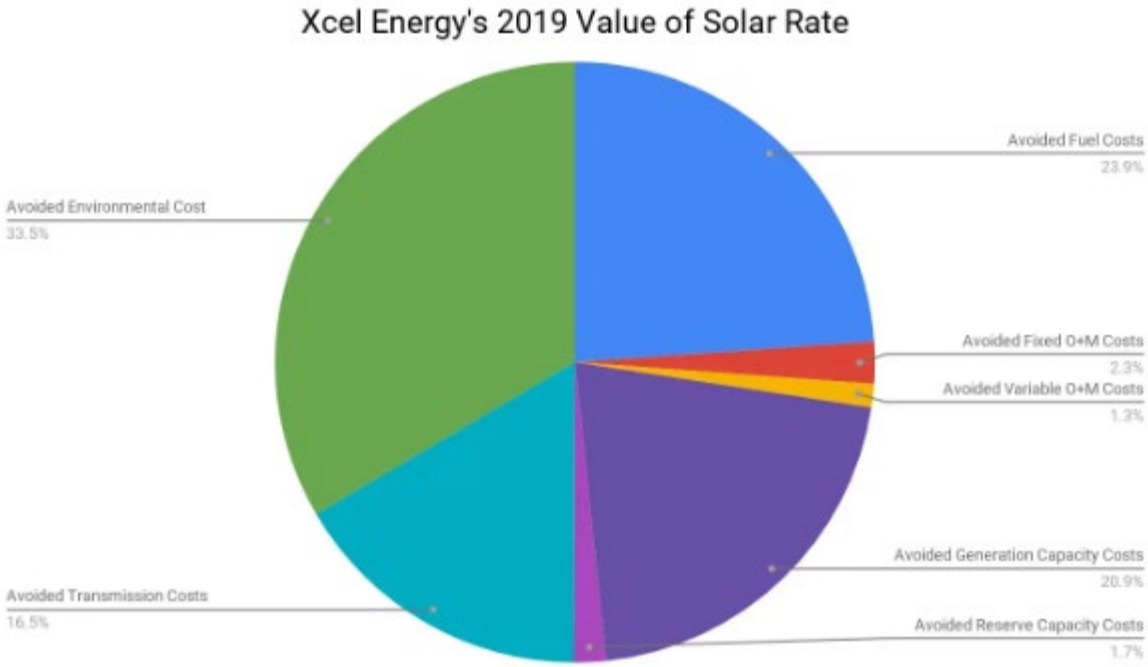
- **Installed Community Solar Capacity as of 1/1/22:** 1,036 MW
- Beginning in early 2017, New York began a transition away from net metering to what it refers to as the "Value Stack," or Value of Distributed Resources (VDER), which includes a DER's: (1) energy value; (2) capacity value; (3) environmental value; (4) demand reduction value; and (5) locational system relief value.
- The methodology that was developed to calculate the Value Stack applies to on-site DERs larger than 750 kW and all Community Distributed Generation (CDG) DERs.
- The Value Stack determines the value of each kWh a facility produces, which results in a monetary bill credit that can then be applied to customer bills.
- Values can vary considerably depending on the type of DER and its location. They also fluctuate from month to month based on a variety of factors, mostly related to seasonal conditions on the electric grid.

How the Value Stack is calculated

Value Name	Description	Eligible DERs
Energy Value (LBMP)	LBMP is the day-ahead wholesale energy price as determined by NYISO. It changes hourly and is different according to geographic zone.	All technologies: PV, storage, CHP, digesters, wind, hydro, and fuel cells.
Capacity Value (ICAP)	ICAP is the value of how well a project reduces New York State's energy usage during the most energy-intensive days of the year. Developers can choose from three payout alternatives and most ICAP rates change monthly.*	All technologies receive ICAP. Dispatchable technologies (stand-alone storage, CHP, digesters, and fuel cells) will receive Alternative 3.
Environmental Value (E)	E is the value of how much environmental benefit a clean kilowatt-hour brings to the grid and society. The E value is locked in for 25 years.**	PV, wind, hydro, and storage charged exclusively from PV or wind energy. Stand-alone storage is not eligible at this time.
Demand Reduction Value (DRV)	DRV is determined by how much a project reduces the utility's future needs to make grid upgrades. DRV is locked in for 10 years.**	All technologies.
Locational System Relief Value (LSRV)	LSRV is available in utility-designated locations where DERs can provide additional benefits to the grid. Each location has a limited number of MW of LSRV capacity available. The LSRV is locked in for 10 years.**	All technologies. Project must be on a utility-specified substation.
Community Credit (CC)	CC is available on a limited basis to encourage the development of Community Distributed Generation (CDG) projects. CC is the successor to the Market Transition Credit (MTC) and is similar in structure. The CC is locked in for 25 years.** PV projects in utility territories that have fully expended their CC may be eligible for the Community Adder – an upfront incentive administered by NY-Sun.	Available for CDG projects including PV and digesters. Wind, hydro, and fuel cells receive CC at a derated value. Not available for stand-alone storage or CHP.

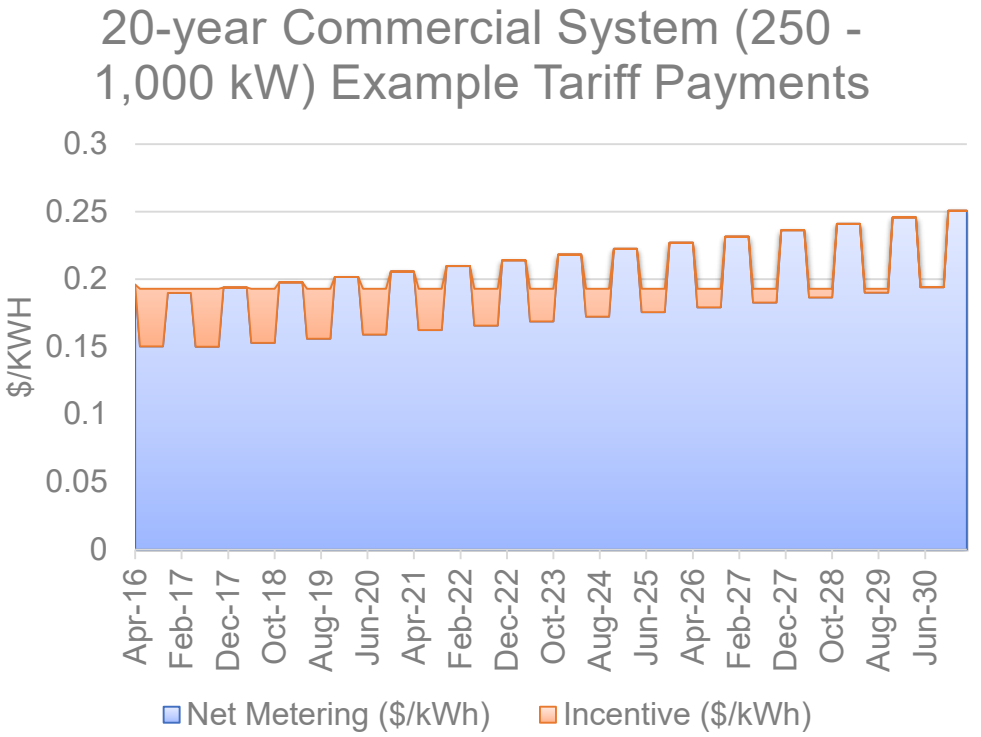
Example: Minnesota

- **Installed Community Solar Capacity as of 1/1/22:** 957 MW
- Beginning in 2013, Minnesota began to develop a “Value of Solar” rate, which was designed to be “value neutral” and to take into account the following values of distributed PV: (1) energy and its delivery; (2) generation capacity; (3) transmission capacity; (4) transmission and distribution line losses; and (5) environmental value.
- Following extensive work by the MN Department of Commerce, the MN PUC, and other stakeholders, a methodology was established and began to be applied to community solar projects in 2017.
- Each year, a new Value of Solar rate is calculated that applies to community solar facilities that go into operation in that year.
- Following the initial setting of a rate for a particular vintage year, the rate increases annually thereafter.
- Beginning in 2019, a 1.5 cent per kWh adder was applied to subscriptions provided to residential customers.



Example: Massachusetts

- **Installed Community Solar Capacity as of 1/1/22:** 853 MW
- Massachusetts has been supporting community solar for about a decade, originally through full retail rate virtual net metering paired with SRECs but has done so since 2018 through its SMART Program, which is a tariff-based incentive program with several mechanisms in place designed to support community solar facilities.
- With existing caps preventing most facilities from qualifying for net metering, the vast majority of community solar facilities under SMART utilize Alternative On Bill Credits (AOBCs) to provide savings to subscribers.
- AOBCs are valued at the default supply/generation rate (i.e., does not include T&D) that the utility charges small commercial customers, which changes every six months but has generally fallen between $0.08/kWh and $0.15/kWh in the last five years (lower in summer and higher in winter).
- Credit rate volatility for facility owners is managed through the incentive delivery mechanism, which sets a total compensation rate and provides RECs at a value that is equal to the difference between the total compensation rate and the AOBC rate (i.e., as AOBC values decrease, REC values increase and vice versa).



Example: Illinois

- **Installed Community Solar Capacity as of 1/1/22:** 165 MW
- Illinois launched its Adjustable Block Program in January 2019, which carved out just over 190 MW statewide for community solar facilities.
- Similar to Massachusetts, Illinois provides a bill credit that is equal in value to the utility's supply/generation rate and does not attempt to derive a precise value of the solar energy being produced by the facility like in New York or Minnesota.
- A significant amount of value to generating facilities is derived from a 20-year REC contract, with base values for community solar projects under the program falling between $37.68/MWh and $53.75/MWh (depending on utility service territory, project size, and which capacity block the project falls under).
- An additional $250/kW rebate is available for facilities using smart inverters.
- Lastly, similar to Minnesota, Illinois historically provided an adder to the REC contract value if the community solar project is serving higher percentages of "small subscribers," which falls approximately between $11/MWh and $22/MWh (depending on utility service territory and the percentage of customers that are small subscribers).

Billing and Crediting

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- While efficiency and accuracy of billing and crediting for any customer receiving net metering or other types of bill credits, it is particularly important for community solar, which relies entirely on the ability to move credits between customer accounts.
- Delays in processing credits are a major obstacle to the success of community solar programs.
- Inaccurate credit totals can also create massive challenges to all parties involved.
- The ability to regularly update subscriber lists is also extremely important.
- If utilities are going to be the facilitator for community solar programs, it is critical that they have billing systems and processes that are adequate for the task of moving millions of dollars of bill credits between thousands of customer accounts annually.

Community Solar + Storage

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- Solar + storage is important for integrating larger quantities of distributed resources and states need to think about how storage fits into their existing NEM and community solar policies.

- In particular, it is important to address:

    1. Permissible configurations
    2. Metering for solar + storage (DC-coupled vs. AC-coupled)
    3. Access to wholesale market revenue opportunities for storage
    4. Other barriers that may exist

Potential Future Innovations

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- Community Choice Aggregations
- Utility Managed Programs / Consolidated Billing
- Low Income Access
- Direct Pay


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Thank you!