Community Solar and HUD Subsidized Housing


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**About SAHF**

Stewards of Affordable Housing for the Future (SAHF) is a nonprofit collaborative of 12 exemplary multi-state nonprofit affordable housing providers. Launched in 2003, SAHF and its members are driven by a shared mission of advancing the creation and preservation of healthy, sustainable, affordable homes that foster equity, opportunity, and wellness for residents. SAHF draws on the experience of its members’ portfolio of more than 149,000 affordable rental homes to inform its policy and thought leadership work. SAHF members are known for both their wide expertise with complex financing structures and their deep local relationships in the communities they serve.

**Disclaimer**

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Introduction

In response to President Biden’s Executive Order on Tackling the Climate Crisis at Home and Abroad, which called for a whole-of-government approach to address climate, the U.S. Department of Housing and Urban Development (HUD) released a climate action plan, recognizing that HUD “plays an essential role in mitigating climate change by reducing greenhouse gas emissions” through housing, and also recognizes that scaling up deployment of renewable energy is a necessary strategy. Additionally, HUD outlines several actions the agency will take in the short and long-term, including that HUD will “work towards building a more equitable future.” If implemented at full potential, this action plan can strongly support the Justice40 Initiative, which aims to deliver 40% of the overall benefits that result from federal government investments to disadvantaged communities.¹

Below, the authors discuss the opportunity to expand solar access to renters living in subsidized affordable housing. This overview:

- describes the current state and barriers to solar access for disadvantaged communities,
- conducts a high-level review of existing community solar program structures and goals based on readily-available information,
- presents the opportunity to extend HUD utility allowance guidance for the California Solar on Multifamily Affordable Housing (SOMAH) and DC Solar for All programs to similarly designed community solar programs, and
- provides recommendations for increasing access to community solar for households in HUD-subsidized buildings.

¹ Image Courtesy of National Housing Trust
Problem

Strong federal tax incentives, state and local policies, and decreasing costs have led to significant growth in solar deployment over the last few decades. The Solar Energy Industries Association (SEIA) collects data on U.S. solar installations and has found that installations have increased significantly over the past decade, with projections for continued growth.

Solar energy programs can be a solution to address both climate and housing disparities, but the benefits from traditional solar programs have difficulty reaching residents of subsidized affordable housing. Barriers to participation include the upfront costs for affordable housing owners, as well as the split incentives between building owners and renters, the latter of which lack the agency to install solar on their buildings.

Due to the factors listed above, while more residential properties, especially single-family homes, have capitalized on the benefits of solar than ever before, “residential adopters of rooftop solar have a median income that is 54%, or $32,000, higher than all U.S. households.” This data demonstrates that disadvantaged communities, renters, and low-income households still encounter significant barriers to access. Current incentives, financing mechanisms, and the lack of agency of renters to install solar on their buildings are all barriers to increased adoption.
One promising sector of the solar market is community solar. According to the U.S. Department of Energy’s National Community Solar Partnership “broadly define(s) community solar to include any solar project or purchasing program, within a geographic area, in which the benefits flow to multiple participants.” While a small portion of all solar installations are currently community solar projects, community solar capacity has more than doubled every year since 2010. The U.S. Department of Energy defines a community solar project as one that has multiple subscribers who receive benefits on utility bills that are directly attributable to the project. A community solar subscription means ownership of a financial share in a community solar project that serves multiple consumers. Subscribers can receive benefits regardless of homeownership status. Community solar provides an opportunity for disadvantaged communities, low-income households, and renters to participate in the benefits of solar, and also removes the physical location requirements, up-front costs and financing qualifications that come with traditional solar installations. In most cases, community solar programs are the only way for households with housing subsidies to access solar energy for their homes and provide support for the necessary deployment of clean energy to lower carbon emissions.

According to a study published by the Environmental Defense Fund, with the right policies in place, states and utilities can make it easier for low-income households to access opportunities to cut their energy costs by 20% or more, saving hundreds of dollars per year on electricity bills. Community solar programs can be one of these policy tools and can reduce the electricity costs of low-income households. For example, in Massachusetts, the average community solar subscription with inclusion of a low-income adder reduces average annual electricity costs by 35% from $1,180 to $770 per year. In Washington, D.C., community solar subscriptions can reduce the energy burden for the lowest income households from 13.5% to 8.8%.

While solar technology is not new, the community solar model and accompanying virtual net metering is in early stages of deployment. It is important to take caution and ensure that low-income households are accessing financial benefits regardless of housing subsidy status. Of the eleven programs listed in Exhibit 2: Landscape Analysis of Community Solar Programs Serving Affordable Housing Residents, only two have been in existence for longer than five years, and over half were created less than four years ago. There is little information available on the performance of the projects originating through these programs and time is needed for evaluation. Until the community solar market has matured and there is sufficient experience to understand the potential impact on residents with housing subsidies, it would ensure equity to residents and building owners alike if community solar credits are disregarded when calculating utility allowances. While these barriers exist today, they may be less problematic as the community solar market matures.
Opportunity to Provide Equitable Access to Community Solar

The HUD Climate Action Plan recognizes community solar as an important pathway to address greenhouse gas reduction stating the agency will “support the DOE Multifamily Solar Collaborative to address barriers and implement community solar in affordable multifamily housing.” To that end, participants in the California Solar on Multifamily Affordable Housing (SOMAH) and DC Solar for All Program have access to HUD guidance that provides owners with direction on how to treat the financial benefits residents receive from community solar programs. This guidance has allowed uptake of community solar programs in HUD-assisted housing, providing owners and operators with clarity regarding compliance requirements and ensuring community solar investments yield actual benefits for residents. These programs demonstrate that community solar programs, when properly designed and provided HUD guidance, can overcome the structural barriers that affordable housing owners and residents face in accessing traditional solar programs. Currently, the guidance only applies to SOMAH and DC Solar for All participants. However, it is anticipated that additional state and national guidance will be released by HUD in the coming months. Formally issued guidance on the relationship between utility allowance and subsidy programs will increase participation in community solar programs, as HUD assisted housing owners and operators will have clarity that the time invested will yield actual benefits for residents.

There are many reasons why national HUD guidance would have a positive impact on community solar and affordable housing residents:

**Community solar is a growing renewable energy strategy that provides inclusive access to disadvantaged communities.**

All eleven community solar programs reviewed have created set-asides to serve low-to-moderate income households. Subsidized housing provides an important pathway to bring community solar benefits to disadvantaged communities. Residents of subsidized housing should not be excluded from the benefits of community solar, and ensuring that residents in subsidized housing have access will help reduce barriers to solar.

**Many community solar programs follow the same structure as the California SOMAH program, meaning that the HUD guidance is transferrable.**

SOMAH is the only community solar program for which HUD has issued guidance that explicitly directs building owners to disregard community solar credits when calculating utility allowances (UA). Expanding HUD guidance to other community solar programs is essential to ensure that programs are accessible and equitable.
This means that the HUD guidance for the SOMAH program can be utilized by other community solar programs for subsidized housing.

**Community solar programs provide HUD assisted properties with a prime opportunity to expand rooftop solar, cut carbon emissions, and lower energy bills.**

HUD properties are more likely to be suitable for rooftop solar than the average property in the United States. HUD assisted properties have the potential to generate over 11,548 GWh of solar electricity annually and reduce carbon emissions by more than eight million metric tons, the equivalent of taking 1.8 million cars off the road every year. By investing in community solar, HUD assisted properties can help move towards their state’s climate goals.

**Data collection and monitoring of community solar impacts on households with housing subsidies and affordable housing owners is necessary to inform future guidance.**

Issuing expanded guidance will allow HUD-assisted housing owners to increase investments in community solar, and present an opportunity to monitor, collect data, and study the impacts. Pertinent data to track over the long-term include average benefits realized by community solar subscriptions and the costs and savings to HUD-assisted housing. Similar to the development of policies and guidelines for green and energy efficient building practices, utility allowance guidance that includes data collection requirements presents an opportunity to conduct research and collect data to ensure that future policies and guidelines are appropriate as community solar programs mature and evolve.

**The issuance of guidance will be a no-cost opportunity for HUD to support the deployment of renewable energy.**

The SOMAH guidance successfully increased the deployment of renewable energy on HUD-assisted housing at no up-front cost for HUD; we anticipate that extending the guidance nationally would produce the same result. As these community solar programs scale over time, HUD can determine equitable future policies that will begin to address and ultimately decrease the estimated $6.9 billion cost in utilities that HUD accrues on an annual basis.

While the HUD guidance does not extend beyond SOMAH and DC Solar for All program participants, a scan of existing community solar programs reveals a clear standardized program design approach that aligns with SOMAH. Extending HUD guidance would support community solar program participation while simultaneously advancing Justice40 objectives, addressing climate concerns and creating benefits for residents of subsidized housing.
Current HUD Guidance for the California Solar on Multifamily Affordable Housing (SOMAH)

In 2015, the California legislature passed Assembly Bill 693 that granted authority to the California Public Utility Commission (CPUC) to create a new multifamily affordable housing solar program to be funded at $100 million annually from the state’s electric investor-owned utilities. The legislation required the CPUC to “ensure that electrical corporation tariff structure affecting the low-income tenants participating in the program continue to provide a direct economic benefit from the qualifying solar energy system.”

In 2017, the CPUC adopted the Solar on Multifamily Affordable Housing (SOMAH) program as a vehicle to implement the legislation. To ensure that the program met the statutory requirement of providing direct economic benefits to tenants, the CPUC required that tenants receive utility bill reductions from program participation. The CPUC determined that federally subsidized housing would not be eligible to participate in the program because the on-site solar would not reduce total costs for tenant households.

Faced with the prospect of excluding a significant subset of the affordable housing stock, affordable housing stakeholders approached HUD for guidance to ensure that tenants receive direct benefits so they could participate in the program. HUD published a memo in July 2019 that states that any community solar virtual net metering credits that affordable housing residents receive from the California SOMAH program cannot be counted as tenant income or cause adjustment to the utility allowance. This guidance allows residents to benefit from participate in community solar without unfairly altering the housing cost burdens. The memo also states that the guidance is applicable to several programs (project-based Section 8 vouchers, Section 202, and several other types of PRACs). HUD arrived at this conclusion because of the following:

Virtual Net Energy Metering (VNEM) credits are an incidental benefit. The resident receives benefit because the property owner elects to participate in the community solar program. A resident could not initiate this benefit on their own.

Benefit is assigned to the unit, not the resident. The property owner is the participant, the benefit remains with the unit. When or if a resident decides to move, they will no longer receive the benefit credit.

A resident’s energy consumption does not determine their benefit credit. The credit that a resident receives on their monthly bill is predetermined by the owner of the property and the utility company. The individual resident is neither directly nor indirectly involved in determining the credit amount.
The guidance provided by the HUD memo has allowed the SOMAH program to serve a much wider market and has allowed affordable housing providers to pass benefits to residents in their communities. The DC Solar for All guidance HUD issued in April 2022 provides similar opportunities.

**Community Solar Program Findings in Comparison to SOMAH and DC Solar for All**

Community solar program benefits have led many state agencies and utilities to adopt community solar policies as a top strategy for providing disadvantaged communities and low-income households with access to renewable energy. Stewards of Affordable Housing for the Future (SAHF), and the National Housing Trust (NHT) researched community solar programs in eleven states (see Exhibit 2 for the detailed results of the high-level landscape analysis). While there were variations in program design, implementation, and goals, there are common themes amongst the community solar programs that demonstrate effort to serve the affordable housing sector and align with SOMAH and DC Solar for All program structures (See Exhibit 3: Owner/Resident Utility Payment Structure and Current Community Solar Programs). Similarities in program design and implementation elements are discussed below:

**Every program identifies serving low-income household as a priority.**

All programs include requirements for allocating a minimum percentage of solar generating capacity to low-income households. The required percentage of capacity that low-income households receive range from 5% to 100%. The median minimum percentage of solar capacity that low-income households are required to receive across all ten programs is 25%. Several programs also provide financial incentives, such as low-income adders, to further encourage enrolling low-income household subscribers.

**Most programs require community solar subscriber organizations to demonstrate that low-income households receive economic benefits from program participation.**

However, not all programs provide a clear definition of what qualifies as tangible economic benefits when residents do not pay their own electricity bills or when residents receive UAs. Several program administrators identified the lack of HUD guidance on serving residents with utility allowances as a key barrier to ensure low-income households directly benefit from the program. For example, the D.C. Solar for All program requires building owners to agree not to raise rents, but the program acknowledges that such a requirement cannot apply when tenants receive utility allowances because the rent will automatically increase.
All but one program explicitly allows affordable multifamily housing providers to participate in the program, and in several cases, programs provide pathways for multifamily housing providers to enroll behalf of residents. Housing providers can serve as community solar subscribers, i.e., subscribe to a community solar project, or subscribing organizations, i.e., own and/or host the community solar project. Five of the programs provide targeted incentives to encourage affordable housing providers to participate in the program. Several of the programs also permit building owners to enroll in the community solar program and provide credits to tenants through virtual net metering. In these instances, the residents cannot determine their residence at the property. HUD acknowledged in its guidance that the benefits residents receive “result from the property owners’ participation in the SOMAH program” as part of its justification for excluding the financial benefits of community solar participation as additional income.15

Authority to determine how credits should be allocated to individual tenants is vested with the community solar subscriber and unrelated to actual tenant energy consumption.

Several of the programs examined provide discretion to the community solar subscriber or property owner for determining how to allocate the credits across the building units. The building owner is required to submit a spreadsheet to the utility provider showing the percentage of total system output allocated to each unit. The building owner is not required to justify their allocation methodology other than to attest that each unit’s allocation amount does not exceed a certain percentage of the average historical energy consumption of that unit.16 Beyond that limitation, there is no correlation between the tenant’s actual energy consumption and the amount of solar system output allocated to them. In the case of SOMAH, HUD determined that “Because there is no connection between the tenant’s actual electricity consumption and these credits, owners and management agents must disregard the solar credit when calculating utility allowances.”17

In summary, affordable housing providers are not only a clear target audience for community solar installations due to the populations served, but they also present a higher-than-average opportunity for siting community solar. According to an analysis created by the National Renewable Energy Laboratory (NREL)18, almost 50% of HUD-assisted facilities have been identified as developable for rooftop solar systems, much higher than the national average of 26% of buildings. NREL has identified as much as 8.7 GW of rooftop solar technical potential across approximately 200,000 HUD-supported facilities. These buildings have the potential to generate over 11,548 GWh of electricity annually.
Conclusion

To nationally increase community solar participation by HUD-assisted housing owners, HUD should extend the California SOMAH guidance, allowing all owners and operators of HUD-assisted housing to disregard community solar credits when calculating UAs and income. As described below and illustrated in Exhibit 3: Owner/Resident Utility Payment Structure and Current Community Solar Programs, the justification for this recommendation is two-fold. First, several current community solar programs follow the same program design and implementation elements as the SOMAH program. Second, for those community solar programs that do not follow the same approach as SOMAH, there is insufficient data to understand the bill impacts of subscribing to community solar; any changes to utility allowance calculations could have negative unintended consequences by increasing the housing burden and/or creating uncertainty for low-income households with subsidies.

Low-income households must not be left behind in the transition to cleaner and more affordable energy. Community solar can provide renters access to the financial benefits of solar energy. While community solar capacity has more than doubled on average annually since 2010 and more program administrators are prioritizing serving LMI households, there are limitations on subsidized housing residents’ access to solar benefits. However, California’s SOMAH and DC Solar for All programs and the corresponding HUD guidance issued demonstrate how barriers can be removed to enable owners of HUD-assisted buildings to deploy rooftop solar and share the benefits of clean energy with their residents.
Exhibit 1: National Renewable Energy Laboratory (NREL) HUD Assisted Housing Technical Analysis

This technical potential analysis was provided to the U.S. Department of Energy National Community Solar Partnership Multifamily Affordable Housing Collaborative Team by Jeff Cook from NREL.

This technical potential analysis provides an upper boundary estimate of potential generation of rooftop photovoltaics (PV) on Dept. of Housing and Urban Development (HUD) multifamily assisted properties across the United States (excluding territories). The estimates of developable area per roof are based on delineated and classified PV-developable roof planes created by Gagnon et al. 2016. This study generated statistically representative models of PV-suitable roof planes for 23% of United States building stock in 128 cities using 3D LiDAR surfaces. Multifamily HUD-assisted facilities were identified using publicly available spatial datasets published by HUD, including HUD Insured Multifamily Properties, Multifamily Properties – Assisted, and Public Housing Authorities. These datasets were sorted to exclude facilities not currently receiving assistance and identify assistance type, then combined and de-duplicated for a final dataset of 26,830 facilities in the United States. Within this population, 34% (n=9,227) of multifamily housing facilities considered were within geographic areas that were modeled previously for rooftop PV.

Because locations represented by these HUD datasets are approximate locations of properties, the HUD properties were geocoded using Placekey, a universal standard identifier for any physical place. As many 2% of facilities were actually located > 0.5 mile from their HUD-provided location. Parcel vector data (licensed from LightBox) were overlaid with HUD assisted facilities to identify each facilities extent and building envelope vector data (Microsoft Maps 2021). In cases where building envelopes were not found within a facility’s parcel (n=1,743), post-analysis averages were applied. Developable area was imputed for building envelopes associated with each facility using a simple linear regression fit based on the nearest 100 HUD assisted facilities and their previous classification. Training and validation samples strongly correlate in predictions of developable area (r= .94). Fitting data to local samples allows for better representation of regional architectural and building patterns. Overall, the average rooftop area considered developable for rooftop PV for HUD assisted facilities is 48%, which is well above the national average for all building stock (26%) and is consistent with medium-size buildings (5k-25k square feet) from Gagnon et al. (2016).

Building-level capacity was calculated assuming a capacity density of 170 W/square meter (assuming a 72-cell module with 19.3% efficiency and packing density of 88%). Aspect and slope were based on weighted proportionally based on local sampling of previously classified HUD assisted buildings.
No aspect or slope combinations were omitted. Losses were assumed to be 14.08%, premium module type, fixed roof array type, 1.2 DC-AC ratio, 98% inverter efficiency. Annual energy production was calculated using NREL’s System Advisor Model’s PVWatts module with hourly solar irradiance from the National Solar Radiation Database (Sengupta et al. 2018) from 2019. Building level statistics were then aggregated by state.

Sources


Exhibit 2: Landscape Scan of Community Solar Programs Serving Affordable Housing Residents

This document provides the results of a non-exhaustive review of the operational and benefits structure of ten community solar programs as they pertain to Low-and-Moderate Income residents (LMI), subsidized affordable housing, and utility allowances. The programs represent the largest community solar programs that launched prior to 2020 for which program data was readily accessible and the data presented was collected in November - December 2021. The programs reviewed vary in size, geographic location, age, management, and oversight requirements. The programs include: Colorado Xcel Energy Solar Rewards Program; Connecticut Shared Clean Energy Facility program; District of Columbia Solar for All; Illinois Solar for All; Maryland Community Solar Pilot Project; Solar Massachusetts Renewable Target (SMART); Minnesota Xcel Company’s Solar Rewards Program; New York Sun; New Jersey Community Solar Energy Pilot Program; and Oregon Community Solar Program.

The landscape analysis is organized into two sections. The first section provides a high-level summary of key program characteristics. The summary includes the California Solar on Multifamily Affordable Housing (SOMAH) program as a reference point to compare to the ten programs examined. The second section provides a more detailed overview of each individual program. The overview includes a summary of program structure, LMI definitions, program capacity, program incentives, definition of resident benefits, and approach to allocating solar output to subscribers.

Section 1: Summary of LMI Community Solar Program Characteristics

The table below summarizes program characteristics based on the following criteria:

Minimum Capacity for LMI Subscribers: At minimum, what percentage of energy generating capacity of the full program, or a specific project within the program, must serve LMI residents?

Pathways for Affordable Housing: Does the program offer targeted incentives to encourage multifamily affordable housing owners to participate as community solar providers or subscribers?

Affordability/Economic Benefit Requirements: Does participation in the utility program require affordability/economic benefits to LMI residents? Direct benefits can include requiring owners to maintain property affordability, ensuring rents do not increase due to utility allowance changes, or providing other direct tangible benefits to residents. Indirect benefits can include providing improved amenities and services to residents.

Determining Community Solar Benefit Allocation: Does the program require that the share of community solar generating capacity allocated to residents be tied directly to the amount of energy they consume?
<table>
<thead>
<tr>
<th>Utility Program (Date Launced)</th>
<th>Min. Capacity for LMI Subscribers</th>
<th>Pathways for Affordable Housing</th>
<th>Affordability/ Economic Benefits Requirement</th>
<th>Determining Community Solar Benefit Allocation</th>
<th>HUD-Issued Guidance for Utility Allowances</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA SOMAH (2017) ²⁰</td>
<td>100%: LMI only</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>CO Xcel Energy Solar* Rewards Program (2011)</td>
<td>10% of program</td>
<td>No</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
<tr>
<td>CT Shared Clean Energy Facility Program (2017)</td>
<td>20% of each project</td>
<td>Yes</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
<tr>
<td>DC Solar for All (2016)</td>
<td>100%: LMI only</td>
<td>Yes</td>
<td>No</td>
<td>Only to define max benefit</td>
<td>Yes</td>
</tr>
<tr>
<td>IL Solar for All (2018)</td>
<td>100%; LMI only</td>
<td>Yes</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
<tr>
<td>MD Community Solar Pilot Project (2017)</td>
<td>30% of program</td>
<td>No</td>
<td>No</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
<tr>
<td>Solar MA Renewable Target (2018)</td>
<td>5% of program</td>
<td>Yes</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
<tr>
<td>MN Xcel Company's Solar* Rewards Program (2019)</td>
<td>20% set aside of funding for LMI projects</td>
<td>Yes</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 1: Summary of LMI Community Solar Program Characteristics (as of December, 2021)
Table 1 (Continued): Summary of LMI Community Solar Program Characteristics (as of December, 2021)

<table>
<thead>
<tr>
<th>Utility Program (Date Launched)</th>
<th>Min. Capacity for LMI Subscribers</th>
<th>Pathways for Affordable Housing</th>
<th>Affordability/Economic Benefits Requirement</th>
<th>Determining Community Solar Benefit Allocation</th>
<th>HUD-Issued Guidance for Utility Allowances</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY-Sun (2011)</td>
<td>35% of program</td>
<td>Yes</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
<tr>
<td>NJ Community Solar Energy Pilot Program (2019)</td>
<td>40% of program</td>
<td>No</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
<tr>
<td>OR Community Solar Program (2016)</td>
<td>10% of each project</td>
<td>No</td>
<td>Yes</td>
<td>Only to define max benefit</td>
<td>No</td>
</tr>
</tbody>
</table>
Section 2: Detailed Program Overviews

Colorado Xcel Energy Solar* Rewards Program
Xcel offers an array of customer choice solar options under the umbrellas of its Solar*Rewards® and Solar*Rewards Community®. Solar*Rewards® is a program available to customers who install solar facilities at their own premises. Solar*Rewards Community® enables customers to subscribe to third-party (and Company-owned) community solar gardens (CSGs) located off-site from the customer’s own premises. Xcel procures most of its Solar*Rewards Community® capacity through competitive solicitations, which result in market-based pricing.

Xcel’s Solar*Rewards® program includes a carve out for a low-income solar rooftop program of up to .35 MW capacity per year. However, the program is limited to a maximum system size of 3.5 kW, the average consumption size for smaller households.

Xcel’s Solar*Rewards Community® requires a minimum of 10% of total annual MW capacity to benefit low-income subscribers. This includes a carve-out of 8.5 MWs per year for projects that are only offered to low-income subscribers.

LMI Definitions
A low-income subscriber means:
- A residential customer who has a household income at or below 185 percent of the current federal poverty level.

A low-income service provider means:
- A nonprofit or public housing authority operator where at least 60 percent of the residents have incomes at or below 185 percent of the current federal poverty level.
- A non-profit corporation that can demonstrate that it provides essential services including, but not limited to, food, clothing, job training, housing, or medical services primarily to low-income recipients.

Solar Production Capacity

<table>
<thead>
<tr>
<th>Capacity</th>
<th>2020-2021 Solar*Rewards® Offering</th>
<th>2020-2021 Solar*Rewards Community® Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Capacity</td>
<td>104.7 MW</td>
<td>96 MW</td>
</tr>
<tr>
<td>LMI Set Aside (included in total capacity)</td>
<td>0.7 MW</td>
<td>16.5 MW</td>
</tr>
</tbody>
</table>
Definition of Benefits to Residents
A nonprofit or public housing authority must provide verifiable information that low-income residents are the beneficiaries of the community solar garden (CSG) subscription(s). It is unclear how benefits are defined or what constitutes verifiable information.

The utility’s CSG acquisition plan shall be designated to ensure reasonable access for low-income residential customers as distinct from low-income service providers.

Xcel’s scoring criteria for evaluating CSG bids includes a bonus of 2 points awarded for every 10% of capacity dedicated to direct billed low-income customers.

Determining Solar Benefit Allocation
The billing credit is calculated by multiplying the subscriber’s share as a percentage of the electricity generated by the CSG times the utility’s total aggregate retail rate of the subscriber’s rate class. The allocation cannot exceed 120% of a subscriber’s average monthly kWh energy usage based on the subscriber’s previous 12 consecutive month period.

If, in a monthly billing period, the CSG subscriber’s billing credit associated with a CSG subscription exceeds the customer’s bill from the utility, the excess billing credit will be rolled over as a credit from month to month indefinitely until the customer terminates service with the utility, at which time no payment shall be required from the utility for any remaining billing credits associated with the customer’s CSG subscription.
Connecticut Shared Clean Energy Facility (SCEF) Program

The objectives of the SCEF program are (1) to annually and cost-effectively allocate up to 25 MW to SCEFs; and (2) to provide savings to specific categories of customers, particularly customers with low- to moderate-income (LMI), low-income service organizations, and customers who reside in environmental justice communities. On an annual basis, Eversource and United Illuminating will issue an RFP to solicit competitive bids for the purchase of Renewable Energy Credits (RECs) and energy from eligible projects. A price cap per MWh will be established each year. Once generating, SCEF owners will receive payments for up to 20 years.

For each SCEF, 20% of the estimated annual output must be subscribed by low-income customers. An additional 40% of the estimated annual output of the SCEF must be subscribed by: LMI customers; customers who serve as landlords or entities responsible for an affordable housing facility, with subscriptions applicable only to such affordable housing facility; and/or customers who qualify as low-income service organizations.

LMI Definitions
A low-income subscriber means:
- Household whose income is at or below 175% of the federal poverty limit or is at or below 80% of the greater of the (1) area median income or (2) state medium income.
- An affordable housing facility means housing for which persons and families pay 30% or less of their annual income, where such income is less than or equal to the area median income for the municipality in which such housing is located.
- A low-income service organization means a for-profit or nonprofit organization that provides service or assistance to low-income individuals.

A moderate-income subscriber means:
- Household whose income is between 80-100% of the area median income.

Solar Production Capacity
Beginning in 2020, the Public Utilities Regulatory Authority (PURAA) has authorized the utilities to procure 25 MW per year for 6 years, or up to 150 MW total.

Definition of Benefits to Residents
Not defined.

Determining Community Solar Benefit Allocation
A subscriber may not subscribe for an amount that exceeds 100% percent of their historic average annual electric use (or, for a Subscriber with less than 12 months of electric use, a reasonable estimate of historical use). The utility delivers the monetary credit to a subscriber monthly through the subscriber’s electric bill. If on March 31st of any given year a subscriber has a credit balance on their bill, the utility will return the credit balance to the subscriber by check.
DC Solar For All Program

The purpose of the Solar for All Program is to increase the access of seniors, small local businesses, nonprofits, and low-income households in the District to the benefits of solar power. The Program will reduce by at least 50% the electric bills of at least 100,000 of the District’s low-income households with high energy burdens by December 31, 2032. The Program is funded from the Renewable Energy Development Fund. The program is administered by the D.C. Department of Energy and the Environment (DOEE).

Solar for All provides incentives for the installation of solar facilities on single-family and multifamily homes, and for the construction of community renewable energy facilities (CREFs).

LMI Definitions
A low-income subscriber means:
- A household income equal to, or less than, 80% of the area median income.

Solar Production Capacity
In total over 2019 and 2020, Solar for All supported the creation of 134 CREFs with a total solar PV capacity of more than 13 MW.

Definition of Benefits to Residents
In 2019, DOEE released guidance on verifying participant income and ensuring that tenants receive benefit, including the following requirements:

- An affordable housing owner must demonstrate that the property will remain under an affordability covenant that aligns with the Solar for All Program income guidelines for the duration of the grantee’s solar benefit commitment period.

- Affordable housing owners installing solar on master metered properties and providing indirect or non-monetary benefits to income-qualified households must document how the benefits will flow to income-eligible households over 15 years, e.g., improved amenities like playgrounds and computer rooms in affordable housing properties.

- An affordable housing owner must agree not to raise the rent of the participating Solar for All tenant units because of the solar energy installation, and the tenant must be notified of this rent cap agreement. This applies to all cases unless the property receives a utility allowance from HUD, in which case the rent automatically increases when utility bills decrease. In these cases, the grantee and property owner must develop a DOEE-approved plan to pass the savings and benefits on to the residents.
In 2020, DOEE identified securing commitments from building owners and ensuring the benefits continue to accrue to low-income households for the life of the solar system as critical to the success of the program. DOEE also said it will continue to work with grantees and partners to identify innovative methods to provide benefits to low-income households that is equivalent to a 50% reduction in electricity bills, particularly where directly applying benefits on energy bills is not practical or possible. DOEE is developing criteria to ensure these benefits are fully realized by low-income households and agree with the goals of Solar for All.

Determining Community Solar Benefit Allocation
Under Solar for All, residents receive electricity bill credits from the power generated by the installed units. The utility may choose to apply the kilowatt-hour credit to each subscriber’s bill as either a reduction in kilowatt-hour usage OR a dollar credit to the subscriber’s billed amount.

CREF providers are required to share with the utility: (i) name, address, and account number of each Subscriber; and (ii) the percentage interest of each Subscriber in the capacity of the CREF. A customer’s total CREF subscriptions cannot exceed 120% of the customer’s historical annual energy consumption.
**Illinois Solar For All Program**

Illinois Solar for All Program incents low-income (as well as non-profit and public facility) participation in solar photovoltaic projects, whether as a system owner, community solar project subscriber, or system host. The program provides more generous Renewable Energy Credit (RECs) prices to ensure low-income participation. Illinois Solar for All is funded through the Renewable Energy Resources Fund and funding generated through RPS riders. Projects receive a set payment in exchange for all RECs generated over their first 15 years of operation, paid upfront upon verification of energization.

Illinois Solar for All consists of three subprograms: Low-Income Distributed Generation Incentive, Low-Income Community Solar Project Initiative, and Incentives for Non-Profits and Public Facilities. The Climate and Equitable Jobs Act signed into law on September 15th, 2021, divided the Low-Income Distributed Generation Incentive program into two separate programs: the Low-income Single-family and Small Multifamily program serving buildings of 1-4 units and the Low-Income Large Multifamily Solar Incentive program serving buildings with five or more units.

**LMI Definitions**

A low-income household means:
- Households whose income does not exceed 80% of area median income

Affordable housing means:
- Residential housing occupied by low-income households or very low-income households where payment of monthly housing costs is no more than 30% of the maximum allowable income for low-income and very low-income households.

Low income communities mean:
- Census tracts having a majority (50% or greater) of households at 80% or less of AMI.

Environmental justice community means:
- Communities are identified through a methodology that multiplies the average of exposures and environmental effects with average socioeconomic factors. The calculation identifies the top 25% of qualifying census block groups across the state.

**Solar Production Capacity**

Not available

**Definition of Benefits to Residents**

Project owners are required to “ensure tangible economic benefits flow directly to program participants.” This can be done by verifying that for residential program participants there are no up-front payments for distributed generation projects, or up-front subscription fees for community solar projects.
Illinois Solar for All Approved Vendors must also provide documentation to both the program participant(s) and to the Program Administrator explaining how the project or community solar subscription will result in a cash-flow positive experience for the participant(s) (including an estimate of the monthly savings) – and specifically, ensuring that the savings accruing to each participant, net of any ongoing participation fees, are at least 50% of the value produced by the solar system through avoided usage or net metering credits.

Affordable housing owners must either (1) demonstrate that at least 50% of the energy savings will be passed on to tenants through reduced (or not raised) rents, or by other means, or (2) must commit to offering all tenants the opportunity to participate in net metering.

Where tenant rents and/or utilities are subsidized based on a percentage of income (for example HUD Section 8 or other programs that provide subsidies in a way that ensures housing and utility costs are 30% of income), the property owner should find ways to pass value to tenants that do not affect rent or utility payments to ensure the benefits are realized directly.

Additionally, in order to facilitate the direct flow of tangible economic benefits to low-income residential participants, the Agency and its Illinois Solar for All Program Administrator will explore, and if deemed feasible and prudent, pursue the possibility of receiving guidance from the United Stated Department of Housing and Urban Development that would clarify the treatment of Illinois Solar for All benefits with regard to cost allowance-based low-income housing programs.

**Determining Community Solar Benefit Allocation**

For the purpose of calculating the bill credit, a community solar subscriber must provide their interest in the subscription expressed in kW. The subscriber must ensure that the aggregate sum of its interest in the project does not exceed total electric power and energy requirements.
Maryland Community Solar Pilot Project

Maryland electric companies are required to establish a program to accept and administer community solar energy generating system projects for a period of 7 years through 2024. The program’s regulations require 30% of the solar capacity be assigned to low- to moderate-income (LMI) projects, with 10% of the total array energy to be used only for the low-income participants.

The Maryland Energy Administration offers a Community Solar LMI-PPA Grant Program to offset the costs of providing community solar to LMI households.

LMI Definitions
A low-income household means:
- Maryland households who earn at or less than the 175% of the federal poverty limit.

A moderate-income resident means:
- Maryland residents who earn at or less than 80% of the median state income.

Solar Production Capacity
The statewide capacity cap is 418 MW. About 125 MW is set aside for projects focused on low- and moderate-income customers.

Definition of Benefits to Residents
Not defined.

Determining Community Solar Benefit Allocation
A subscriber organization shall provide the electric company with a document indicating the proportion of a community solar energy generating system’s output that shall be applied to each subscriber’s bill. An electric company shall determine the amount of kilowatt hours to be credited to each subscriber by multiplying the subscriber’s most recent generation proportion by the metered output of the community solar energy generating system.

A customer may not subscribe for greater than 200% of their baseline annual usage. The customer’s baseline annual usage is the total of the customer’s previous 12 months of electricity use in kWh. If the customer does not have 12 months of electric energy use in kWh at this time, then the baseline annual energy usage may be estimated based on a mutually agreeable method subject to approval by the Maryland Public Service Commission. The electric company may choose to apply the appropriate kilowatt-hour credit to each subscriber’s bill as either a reduction in metered kilowatt-hour usage or a dollar credit to the subscriber’s billed amount.
Solar Massachusetts Renewable Target (SMART)

On April 11, 2016, Governor Baker signed legislation directing the Department of Energy Resources (DOER) to create a long-term sustainable solar incentive program to promote cost-effective solar in the Commonwealth. The Act further directed DOER to “… differentiate incentive levels to support diverse installation types and sizes that provide unique benefits, including, but not limited to, community-shared solar facilities, low-income solar facilities and municipal or other governmental entity-owned solar facilities.”

The SMART program provides base compensation incentives to distributed and community solar generation units on a per-kWh production basis. The program provides bonus incentives, or “adders,” that increase the per-kWh incentive for certain projects, e.g., LMI projects. Incentive payments are provided over a 20-year period for projects larger than 25 kW and are in addition to net metering incentives. The program supports both distributed generation and community solar projects for affordable housing providers and residents.

LMI Definitions

A low-income household means:

- A customer that is on a low-income discounted rate of a Distribution Company or a resident in a Low-Income Eligible Area, which is defined as a neighborhood, as identified through American Community Survey data, which has household income equal to or less than 65 percent of the statewide median income for Massachusetts.

Low- to moderate-income housing means:

- Any housing subsidized by the federal or state government under any program to assist the construction of low- or moderate-income housing as defined in the applicable federal or state statute, whether built or operated by any public agency or any nonprofit or limited dividend organization.

- Further eligibility requirements differ for public housing authorities, as opposed to private entities.

  - Public Housing: Any public housing authority in Massachusetts meets the eligibility criteria to qualify as low- or moderate-income housing. If an applicant can document that 100% of their generation output is being delivered to a public housing authority, the Generation Unit will be deemed eligible as a low-or moderate-income Generation Unit.
Private Entity: When considering the eligibility of a Generation Unit serving privately-owned low- or moderate-income housing (for-profit and non-profit), additional criteria must be met in order for the property being served by the Generation Unit to be deemed eligible. The applicant must provide evidence satisfactory to the Department that: (1) at least 25% of the housing available at the properties to be served by the Generation Unit is required to be rented to households that are at or below 80% of the AMI; or (2) at least 20% of the housing available at the properties to be served by the Generation Unit is required to be rented to households that are at or below 50% of the AMI.

Solar Production Capacity
A minimum of 5% of its total available capacity dedicated to Low-Income Community Shared and Low-Income Property Solar Tariff Generation Units.

Definition of Benefits to Residents
Solar Tariff Generation Units serving eligible Low-Income Customers must demonstrate to the Department’s satisfaction that any such customers will receive a net savings by enrolling in the solar contract. Evidence to support this requirement includes, but is not limited to, the following information:

- a rate comparison between the customer’s one-year average basic service rate and the rate offered under the solar contract, including all applicable discounts, posted on a recent bill and the corresponding rate charges and/or credits pursuant to the solar contract, to be computed on the customers’ kilowatt hour usage. If the customer is paying for a supply rate other than basic service, the rate comparison should be customized to that customer’s unique costs. The escalator in the solar contract must not exceed 3% per year.
- demonstrating bill credits or electricity are delivered each month to the customer at no cost to the customer, and resulting in a net reduction in the customer’s total electricity bill; or
- other evidence to the DOER’s satisfaction that the customer is receiving savings.

For Low-Income Property Solar Tariff Generation Units, the applicant must also provide evidence satisfactory to DOER that demonstrates that the property will remain in compliance with the affordability requirements for a term that is at least coincident with the 20-year SMART term.

Determining Community Solar Benefit Allocation
Output can be delivered to customers in either in the form of electricity or bill credits. In the case of Low-Income Community Shared Solar Units, the unit owner must demonstrate that at least 50% of the output is being provided to low-income customers by indicating the percentage of net metering credit or bill credits allocated to each customer.
In the case of Low-Income Property Solar Tariff Generation Units, the owner must provide evidence satisfactory to DOER that demonstrates that 100% of its output will be delivered in the form of electricity or bill credits to the low- or moderate-income housing or the residents of low-or moderate-income housing. If output is being provided in the form of electricity, the applicant must demonstrate that 100% of the electricity generated by the Generation Unit will be delivered to an On-Site Load. To make this demonstration, the applicant must attest that the Generation Unit is interconnected behind-the-meter of the low- or moderate-income housing and provide a copy of the most recent utility bill for the facility that shows at least one year of historical load data. Estimates may be provided for new construction or in cases where less than one year of historical data exists. If the output is being delivered in the form of bill credits, the owners must provide documentation indicating the percentage of bill credits allocated to each customer.
Minnesota Xcel Company’s Solar*Rewards and Solar*Rewards Community Program

The Solar*Rewards program provides production incentives for customer-sited solar energy generating units and for the development of community solar projects through the Solar*Rewards Community program. System owners receive an incentive based on the system’s energy production. Incentives are based on customer type and include an upfront incentive to help offset costs for income-qualified customers and a production incentive paid for a 10-year period. Xcel’s budget for the 2021 Solar*Rewards program is $9.7M with 20% ($1.9M) set aside for income-qualified projects. Funding for the Solar*Rewards program is provided through the Renewable Development Account (RDA).

LMI Definitions
Eligible multifamily means:
- At least 66% of all units are rented to tenants with an annual income of less than or equal to 60 percent of the area median income.

Solar Production Capacity
In 2020, income-qualified multifamily customers with onsite systems accounted for 0.349 MW of capacity and received $606,000 in total production-based and upfront incentives. The total capacity for onsite solar systems in 2020 is approximately 24 MW.

As of 2021, the Solar*Rewards Community program has 800 MW of connected solar garden generation online.

Definition of Benefits to Residents
Tenants in a multifamily residence are only eligible to receive net metering benefits from a customer-sited solar energy generating unit in instances where the photovoltaic system is wired directly to individual tenant meters. Master-metered and common areas in income-qualified buildings are also eligible for incentives.

In a master-metered building, the building owner can apply for Solar*Reward, but they must provide proof that their tenants will receive a benefit (from energy savings or other). Examples of benefits include:
- The tenant(s) receives a credit on their rent/utilities check
- Improvements are made to the common areas of the building
- Host events/programming that benefit the tenants
Determining Community Solar Benefit Allocation

There are two options, depending on the specific project and participating utility. With the monetary credit model, a subscriber’s monthly electric bill will show a credit based on the dollar value of their share of the project’s energy output. With the energy credit model, a subscriber’s share of the project’s energy output is subtracted from the energy usage shown on their monthly bill. A customer cannot subscribe to output that exceeds 120% of their average annual electric usage.
New Jersey Community Solar Energy Pilot Program

In 2018, the New Jersey Board of Public Utilities (NJBPU) approved the program rules for a 3-year Community Solar Energy Pilot Program. As of recent NJBPU press release, “there will not be a Program Year Three of the Pilot Program, but rather the BPU will move directly into the permanent program”. The competitive program requires community solar developers to apply for authorization to build a community solar facility. The program requires at least 40 percent of overall program capacity benefit LMI projects. Through the competitive application process, developers are encouraged to allocate more than 50% of project capacity to LMI subscribers and to guarantee a minimum level of kWh or bill savings.

LMI Definitions
A LMI subscriber means:
- A low-income household is a household with gross income at or below 200% of the Federal poverty level
- A moderate-income household is a household with gross income at or below 80% of the median income, as determined by HUD annual limits.
- Affordable housing is defined as rent-restricted housing affordable to households with a gross income at or below 80% of AMI.

Solar Production Capacity
The authorized capacity of the program was 75 MW in year 1 (2020) of the pilot and 150 MW in year 2 (2021) of the pilot. The capacity limit has not yet been established for the permanent program.

Definition of Benefits to Residents
Affordable housing providers may qualify as an LMI subscriber for the purposes of a community solar project if they sign and submit to the Board an affidavit indicating that they will pass along specific, substantial, identifiable, and quantifiable long-term benefits to their residents/tenants.

Determining Community Solar Benefit Allocation
Community solar pilot project subscriptions shall not exceed 100 percent of the subscriber’s historic annual usage, calculated over the past 12 months, available at the time of the application. In cases where a 12-month history is not available, the community solar subscriber organization shall estimate, in a commercially reasonable manner, a subscriber’s load based on available history.
NY-Sun Incentive Program

The New York State Energy Research and Development Authority (NYSERDA) provides financial incentives and financing options through the NY-Sun Incentive Program for the installation of new grid-connected (solar electric) that offset the use of grid-supplied electricity. Funding is provided by the New York State Public Service Commission through the Clean Energy Fund (CEF) with additional funding made available through the Regional Greenhouse Gas Initiative. The program offers two incentive options for affordable housing providers and residents: Multifamily Affordable Housing Incentive and the Inclusive Community Solar Adder Program. The incentives are in addition to the base compensation rate that non-LMI projects receive. The incentives are paid upfront or over a 3-year period. Incentives for larger projects are paid out over a 3-year period. The incentives ensure that the benefits of decreased costs and increased access to solar are provided to both individual households and affordable housing providers.

LMI Definitions

A LMI subscriber means:

- LMI Individuals: residential subscriber with documented household income under 80% of Area Median Income (AMI) or 80% of State Median Income (SMI), whichever is higher.
- Affordable housing: Residents of rent-regulated properties limited to households with incomes 80% AMI or below.

Solar Production Capacity

ICSA: It is expected that 25,000 to 50,000 households, affordable housing providers, and other facilities serving such communities will be served by roughly 250 to 500 MW of CDG.

Definition of Benefits to Residents

For projects sited on affordable housing that serve the building load, there are no requirements to share benefits with individual tenants.

For affordable housing owners that operate a CDG, projects must (1) demonstrate that no less than 40% of project capacity will be dedicated to LMI subscribers, or (2) the property must be owned by a nonprofit or public housing authority and demonstrate that not less than 20% of the project capacity will be dedicated to LMI subscribers, or (3) the property must be owned by a nonprofit or public housing authority and demonstrate that not less than 20% of the project capacity will be dedicated to an eligible affordable housing building within the same affordable housing portfolio or development.
For affordable housing owners served by a CDG, all residents of a regulated affordable housing property can be deemed eligible if the property (1) meets the eligibility requirements of the NY-Sun Multifamily Affordable Housing Adder, (2) residence is limited to LMI households and (3) participation in CDG will not result in increased costs (e.g., rent or common charge increase) for the residential subscriber due to the utility allowance mechanism or other policies or practices.

Determining Community Solar Benefit Allocation
Members of CDG projects must take a percentage that amounts to at least a minimum of 1,000 kWh annually and cannot take a percentage that is more than its historic average annual consumption.

In some months, the member’s share of the facility’s monthly output may result in a credit that exceeds the member’s monthly consumption. In those circumstances, the utility shall carry over the excess credit to the next month.
Oregon Community Solar Program

In 2017, the Oregon Public Utility Commission adopted rules to require electric utilities to procure energy from community solar projects (CSPs) and enter into up to 20-year power purchase agreements with certified projects. The PUC has defined the overarching objective of the CSP as establishing parity for consumers that have not been able to access solar customer generation opportunities and incentives. A minimum of 10% of the total generating capacity of each CSP must be allocated exclusively for use by low-income residential customers.

LMI Definitions
A qualifying low-income customer means:

- A residential customer whose annual income is less than or equal to 80 percent of the Oregon State Median Family (or Household) Income.
- A residential utility account holder with a utility allowance or other requirements of rent-assisted housing. A residential utility account holder is considered eligible if they are unable to directly monetize the bill credit because of a utility allowance or other requirements of rent-assisted housing. This avoids unfair accessibility limits and recognizes the possibility that the participant will enjoy community solar benefits if they move into a different housing type.
- An affordable housing provider that directly pays for the electricity costs of residential tenants with household incomes that meet the income requirements and additional conditions for direct tenant benefits.

Solar Production Capacity
The program’s total capacity is set at 160 MW. As of October 2021, 79 MW of the initial capacity tier remained available to new CSPs.

Definition of Benefits to Residents
CSP project managers must ensure that bill credits and other benefits of qualifying low-income participation are linked to discrete residential participants regardless of the housing type.

A housing provider may qualify as a low-income subscriber if they:

- Identify to the low-income customers, by name and housing units, on whose behalf they are participating (the "low-income beneficiaries"),
- Share at least 75 percent of any financial savings that result from the Subscription with the low-income beneficiaries, and
- Educate the low-income beneficiaries about community solar, the Project, how they benefit, and how to sign up with the Low-Income Facilitator for another Project if they move.
As of July 2021, 86% of low-income subscribers were affordable multifamily properties as compared to individual subscribers. PUC staff has expressed interest in ensuring the program remains available for customers in affordable housing as well as individual low-income customers. Staff is considering changes to the next phase of the program to require that 5% of total project capacity (half of the total 10% minimum low-income requirement), is filled by individual low-income subscribers rather than by affordable housing providers.

**Determining Community Solar Benefit Allocation**

Subscribers are limited to receiving output that does not exceed their average annual consumption of electricity.

For low-income participants, the monthly cost to participate, inclusive of fees, may not exceed the value of the bill credits. CSP project managers are required to provide low-income participants a subscription discount of at least 40% below the bill credit rate.

A participant’s monthly total bill credit is calculated by multiplying the bill credit rate by the participant’s share of total project generation in the month. This will be a dollar value referred to as the “total bill credit.” If the value of the total bill credit exceeds the participant’s total utility bill amount (in dollars), less any other on-bill repayment expenses, the excess bill credit amount (in dollars) is carried forward as a positive balance on the participant’s account. This amount is referred to as the carry-over bill credit value. At the end of the annual billing cycle, any remaining carry-over bill credit value (in dollars) attributable to CSP participation must be donated to the low-income programs of the electric company serving the participant.
Exhibit 3: Owner/Resident Utility Payment Structure and Current Community Solar Programs

This flowchart shares the different pathways in which residents participating in community solar programs receive benefits based on whether the resident or affordable housing owner pays the electric utility and if the benefits are tied to energy consumption. It also identifies which pathways are offered by current community solar programs.

The solar benefits are distributed as a dollar or energy credit on the residents’ bill. Distribution IS NOT tied resident energy consumption.

In this scenario, the resident does not have a way to directly access community solar.

Current Community Solar Programs: CO Xcel Energy Solar Rewards, CT SCEF, DC Solar for All, IL Solar for All, Solar MA Renewable Target, MN Xcel Company’s Solar Rewards, NJ Community Solar Energy Project, NY-Sun, OR Community Solar

Current Community Solar Programs: None
A property located where community solar is available, but the affordable housing provider is not participating. Residents subscribe to community solar through a third party.

A property located where community solar is available and the affordable housing provider is participating. Residents subscribe to community solar through the provider or a third party.

A property located where community solar is available, but the affordable housing provider is not participating. Residents subscribe to community solar through a third party.

The solar benefits are distributed as a dollar or energy credit on the residents’ bill. Distribution IS NOT tied to energy consumption.

The solar benefits are distributed as a dollar or energy credit on the residents’ bill. Distribution IS NOT tied to energy consumption, but maximum benefit is.

The solar benefits are distributed as a dollar or energy credit on the residents’ bill. Distribution IS tied to energy consumption.

In this scenario, the resident does not have a way to directly access community solar.

The property has only owner-paid electricity bills.

The property has resident-paid electricity bills.

Current Community Solar Programs: None


See previous page
Endnotes

3. The term low-income households and low-to-moderate income (LMI) households are used interchangeably throughout the memo. However, there is not currently a unified definition of low-income nor LMI. In the absence of a unified definition, SAHF and NHT are defining these terms broadly as low-income and LMI households are any household that could qualify for HUD housing subsidies and low-income focused utility programs. See Exhibit 2: Landscape Analysis of Community Solar Programs for individual community solar program definitions of low-income and LMI.
5. NREL, Sharing the Sun: Community Solar Deployment, Subscription Savings, and Energy Burden Reduction
7. Ibid.
8. Ibid.
10. See Exhibit 1 for a summary of this research.
11. CPUC Rulemaking 14-07-002, Decision Adopting Implementation Framework for Assembly Bill 693 and Creating the Solar on Multifamily Affordable Housing Program, Decision 17-12-022 December 14, 2017
12. Ibid
13. Ibid
15. Ibid
16. For example, in Colorado the allocation cannot exceed 120% of a subscriber’s average monthly kWh energy usage based on the subscriber’s previous twelve consecutive month period. In New Jersey, community solar subscriptions cannot exceed 100% of the subscriber’s historic annual usage.
18. See Exhibit 1: NREL HUD Technical Potential Analysis for additional information.
19. To note, the definition of LMI and income limits varies by utility program. Refer to each utility program’s full programmatic overview for additional information.
20. The only policy guidance HUD has issued to date is with regards to community solar and utility allowances is for the CA Solar on Multifamily Affordable Housing and DC Solar for All.
21. Offering capacity for 2022 and beyond has not been determined yet.