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Clean Energy
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JUST
SOLUTIONS

Community Solar: A Critical Tool for Energy Justice

- 1 What Is Community Solar?
- 2 Community Solar Policy Barriers and Solutions
- 3 How to Design an Equitable Community Solar Program
- 4 Conclusion
- 5 Additional Resources

Community solar projects can play a critical role in a just and equitable transition to cleaner electricity by allowing community members who could otherwise not install solar to participate in the renewable energy transition. Installing community solar has many benefits for community members as well as the grid. It can make a community's energy system more resilient, democratic, and affordable, all while improving reliability for the grid. Overall, community solar is a great way to transition to renewable energy and away from polluting energy resources.

Several states, however, have policy barriers that prevent communities from accessing the full benefits of community solar. For example, some community solar ownership models may make it difficult for participating households to save on energy bills. And even if the state allows community solar development, programs must be thoughtfully designed to ensure that environmental justice and low-income communities are prioritized.

To mitigate climate impacts and ensure an equitable energy transition, community solar development must clearly prioritize low-income households and environmental justice communities.

An equitable community solar program should:

1. Allow virtual net metering;¹
2. Allow multiple owners and non-utility ownership;
3. Provide access to grants, incentives, and low-interest capital through mechanisms such as green banks;
4. Prioritize low-income and environmental justice communities;
5. Promote community partnerships and transparent, accessible outreach and program materials; and
6. Offer meaningful benefits to subscribers and communities.

This policy brief describes how community solar works, how it can be a tool for energy justice, and how it can be designed equitably.



¹ Virtual net metering refers to a billing and metering arrangement where owners of solar panels (or other kinds of distributed generation) are paid for any energy they generate that is exported to the grid, see Section 2.

1 What Is Community Solar?

“Solar power should be available to everyone—not just sunny rooftop owners.”

– *Institute for Local Self-Reliance (ILSR)*²

Community solar projects, sometimes referred to as community solar gardens, can play a critical role in the transition to cleaner electricity. In community solar projects, the benefits flow to multiple customers within a geographical area, such as households and nonprofits. Through community solar, individuals can usually subscribe to a portion of a nearby solar project by either purchasing or leasing a portion of the project or agreeing to purchase part of the electricity and receive credits on their energy bill for the solar electricity produced.³ Members of a community who purchase energy from community-owned solar panels can often receive the same type of benefits as if the panels were located on their property.

Currently, millions of Americans lack access to solar energy because upfront costs are unaffordable, they are renters, or their house does not have a suitable rooftop.⁴ Community solar programs have the potential to bring solar energy (and lower energy bills!) to underserved communities that would otherwise not have access. And it gets better: the cost of community solar per unit of electricity is typically lower than that of residential rooftop solar, largely due to the larger scale of community solar installations.

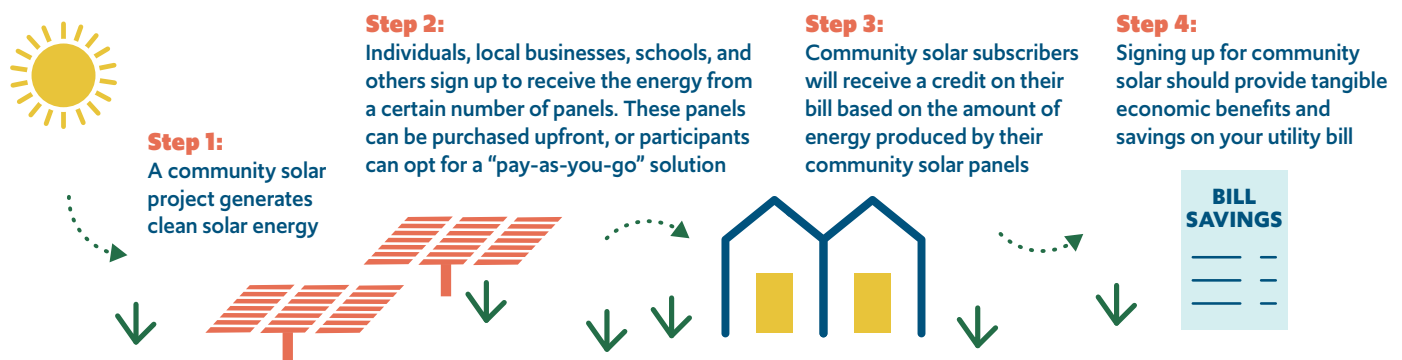
Despite the obvious benefits of this model, most community solar subscribers to date have been businesses, universities, government agencies, and higher-income households. Equitable community solar programs designed to reach under-resourced communities that otherwise would not have access must play a crucial role in our clean energy transition.

How Community Solar Works

Community solar projects are owned by a neighborhood, a cooperative, a non-profit organization, or even a for-profit company (like an investor-owned utility). Community solar can be developed either on site, as in the case of solar on multifamily homes, or it can be located off site in the community. Community solar has been installed on buildings, on brownfields (previously contaminated sites that have been remediated), and over parking lots. Community solar projects can also include energy storage solutions, such as batteries, to better ensure economic and community resiliency benefits.

The owners of the project typically enroll “subscribers” who either purchase the electricity produced from the community solar project or lease part of it and receive credits on their electric bill. Some projects allow community members to also purchase and therefore own some of the solar panels. The electricity is sold to the grid or utility at a set rate, and the subscribers receive a credit for the sale on their electric bill, as **Figure 1** illustrates.

Figure 1. How Community Solar Works



² <https://ilsr.org/community-power-interactive-toolkit/>

³ Members of the community may also be able to lease or purchase the panels for a set timeframe. See, e.g., Colo. Rev. Stat. Section 40-2-0127 (allowing organizations to enter leases and other ownership arrangements).

⁴ A study by the National Renewable Energy Laboratory (NREL) found that only 26 percent of residential rooftops are suitable for installing a solar system after accounting for structural, shading, or ownership issues. <https://www.nrel.gov/docs/fy16osti/65298.pdf>

The Benefits of Community Solar

Community solar can play an essential role in helping communities use renewable energy and reduce their need to rely on polluting resources, which in turn can result in both climate and air quality benefits. When community solar is equitable, it paves the way for environmental justice communities to participate in the transition to cleaner energy.

The many other benefits of community solar include:

- **Increased access:** Anyone with an electric bill can potentially subscribe to a community solar program, including people who rent or who live in multi-unit buildings. Community solar programs can benefit households that would otherwise not have access to solar, either because they can't afford it on their own or their roof is unsuitable. Many low-income families rent their homes, and even those who own may have roofs that cannot support solar or may not be able to afford the initial costs of buying and installing solar panels. Complicated processes to connect to the grid can also be a barrier to renewable energy.⁵ A well-designed community solar program can help overcome these barriers that low-income households face when trying to install solar.
- **Economic benefits:** Well-designed community solar can lower electric bills and save community members money. Low-income households spend a far higher share of their income on energy costs. High energy cost burdens have a significant impact on lower-income households that are often forced to make impossible choices between heating or cooling their homes and other necessities, such as paying rent or buying food or medicine. More extreme weather events (heat waves, flooding, wildfires, etc.) tend to raise bills for everyone, but low-income households have fewer resources to manage and reduce such unexpected expenses. Community solar can be a valuable tool to help lower these energy burdens. In **Colorado**, low-income households participating in community solar saved between 15 to 50 percent on their electric bills.⁶
- **Increased energy resilience:** Installation of community solar, especially with storage, can increase community resilience by providing emergency power during outages. For example, an affordable housing project in

Washington, D.C., has up to three days of emergency power available from a community solar array and batteries installed in 2019.⁷ Community solar can also lead to electrical grid benefits such as improved resilience.⁸

- **Increased job opportunities and training:** Community solar development can also provide valuable employment opportunities in the renewable energy industry. In **Minnesota**, the Renewable Energy Partners initiative will be training up to 200 workers in the largest Black community in Minneapolis.⁹
- **Health benefits from cleaner energy:** Studies show that environmental justice communities are disproportionately burdened by fossil fuel infrastructure and pollution and face negative health impacts as a result. Community solar can provide access to clean, renewable energy that can lessen the reliance on harmful polluting resources.
- **Community wealth building:** Revenue from solar subscriptions can be reinvested into community projects. Cooperative Energy Futures in **Minnesota** directs any additional profits back to members.¹⁰
- **Increased energy democracy:** Depending on program design, community solar can allow participants to have more agency in decision making about their energy resources.¹¹

These benefits vary widely depending on how the community solar project is designed, who owns the project, and what type of compensation subscribers receive. As of 2018, less than one half of community solar projects in the United States included low-income households, and only 5 percent of projects included low-income households as 10 percent or more of subscribers.¹² This inequitable reality needs to change.

A well-designed community solar program can help overcome barriers that low-income households face when trying to install solar.

⁵ <https://www.eenews.net/articles/want-more-solar-panels-good-luck-connecting-to-the-grid/>

⁶ <https://www.lowincomesolar.org/best-practices/community-solar-colorado/>

⁷ <https://www.cleaneenergy.org/ceg-projects/resilient-power-project/featured-installations/maycroft-apartments/>

⁸ https://energycenter.org/sites/default/files/docs/nav/policy/resources/Community_Solar_in_California-A_Missed_Opportunity.pdf at p. 2.

⁹ <https://energynews.us/2021/03/17/solar-project-aims-to-deliver-training-and-equity-to-north-minneapolis/>

¹⁰ <https://www.cooperativeenergyfutures.com/community-solar>

¹¹ For example, see *ibid.*

¹² <https://www.nrel.gov/docs/fy21osti/80532.pdf> at p. 2.

2 Community Solar Policy Barriers and Solutions

First and foremost, states and local governments must not only allow community solar development, but actively incentivize its development. Lack of government support is a significant barrier in some states and localities. Once the state or local government encourages community solar, program design should prioritize low-income and environmental justice communities.

Policy Barriers to Overcome

Many states lack policies to promote solar market development. Some states even block distributed solar potential through harmful policy barriers and restrictions. Other states have policies in place that prevent investment in community solar.¹³ The two primary state-level barriers: 1) limit solar development to projects that have only one owner; or 2) prohibit use of net metering, a mechanism for compensating solar owners. Here are two examples of states with policy barriers:

- **Florida** significantly limits who is able to own and distribute solar energy. In early 2022, SB 1024 passed in the Florida senate. The bill aimed to end net metering for rooftop solar customers, creating a very difficult market environment for solar. The legislation would have increased the costs of customers' utility bills and likely ruined the economic feasibility for distributed solar.¹⁴ Significant organizing efforts throughout the state resulted in Governor DeSantis's veto of the bill, echoing the voices of communities.¹⁵ While this unexpected win in Florida was a tremendous victory, bills like these targeting net metering are all too common in many states throughout the country.
- In **Pennsylvania**, it is currently illegal to build community solar projects.¹⁶ Specifically, Pennsylvania bans ownership of solar arrays by more than one entity.¹⁷ Attempts to end this limitation have failed due to energy companies' opposition. Two bills introduced in the 2021-2022 legislative session sought to legalize community solar power and allow solar projects, but neither moved forward into law.¹⁸

Renewable projects throughout the United States also face local opposition by some communities that do not want the projects sited nearby.¹⁹ However, community solar projects are less likely to be challenged than other renewable energy projects.²⁰

Solutions for Promoting Community Solar

Several types of general policies can promote community solar development, including virtual net metering and green banks. Utilizing available incentives and requiring a transparent interconnection process linking the solar system to the grid can also help ensure community solar development.

1. Virtual Net Metering and Tariffs

Virtual net metering (VNM) is a billing and metering arrangement where owners of solar panels (or other kinds of distributed generation) are paid for any energy they generate that is exported to the grid. VNM allows households to receive credit for solar energy that is not generated on their roof. VNM policies can be a strong way to promote community solar and ensure that consumers see an economic benefit, especially low- and moderate-income (LMI) households. Policy requirements should include full retail credit for customer-generated solar power without excess fees or harsh restrictions on participation, system size, or eligibility of the customer, as well as the ability to rollover excess credits or credit payouts.²¹ Through VNM, an owner can allocate a solar system's benefits to tenants across multiple units. In **California**, VNM tariffs were piloted under the Solar Initiative Multifamily Affordable Housing Program (MASH), originally established in 2008 by the California Public Utility Commission (CPUC).²²

Legislation allowing community solar to use virtual net metering can help ensure viable community solar development. Many states currently allow VNM, including

¹³ https://www.biologicaldiversity.org/programs/population_and_sustainability/energy/pdfs/ThrowingShade.pdf

¹⁴ <https://www.utilitydive.com/news/Florida-desantis-vetoes-rooftop-solar-bill-behind-the-meter-cost-shifting/622820/>

¹⁵ Ibid.

¹⁶ <https://www.sustainlv.org/focus-on/solar-united-neighbors/>

¹⁷ <https://grist.org/fix/energy/pennsylvania-community-solar-farm-cooperative/>

¹⁸ <https://www.pa4communitiesolar.com/>

¹⁹ https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1186&context=sabin_climate_change

²⁰ Ibid.

²¹ <https://www.lowincomesolar.org/toolbox/net-metering/>

²² <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/california-solar-initiative/csi-multifamily-affordable-solar-housing-program>

Massachusetts, Colorado, Minnesota, and New York.²³

Virtual net metering is an essential policy for ensuring that community members who subscribe to community solar reduce their overall energy bills.

Virtual net metering allows households to receive credit for solar energy that is not generated on their roof.

2. Green Banks

Green banks help secure low-cost capital for clean energy projects, such as community solar.²⁴ One of the largest barriers in creating cost-competitive solar energy is the availability of low-cost financing. Green banks can offer favorable rates and terms to underserved markets, expanding access to affordable financing for low-income communities.²⁵ Specifically, they can provide credit enhancement mechanisms, like loan guarantees or loan-loss reserves.²⁶ These mechanisms reduce the risk that comes with financing a project serving customers with lower credit scores or lower debt-to-income ratios by having the green bank guarantee the loan itself.

The DC Green Bank in **Washington, D.C.**, is a good example.²⁷ Through the 2018 Green Finance Authority Establishment Act, the DC Green Bank was created to support clean energy projects with a focus on low-income communities. In 2022, the DC Green Bank, along with Virginia Community Capital and Flywheel Development, announced a permanent loan facility for a community solar installation located in a low-income area in the District. Such access to guaranteed funding and low-interest rates allows clean energy development to move forward more easily in low-income areas.

Notably, the 2022 Inflation Reduction Act included the creation of the Greenhouse Gas Reduction Fund, a \$20 billion national green bank program that will offer grants to provide capital for new state- or local-level green banks or expand the scope of existing banks. This funding can be used to increase access to low-cost capital to finance the development of community solar projects.

3. Fiscal Incentives for Solar

Incentives and grants can also help promote development of community solar. The Inflation Reduction Act provides tax incentives and grants that can be used to promote the development of solar and community solar projects. Correctly designed community solar projects are eligible for the 30-percent tax credit if they meet the prevailing wage and apprenticeship requirements.²⁸ On top of this, community solar projects are also eligible for the energy community bonus and/or the bonus for low-income solar projects.²⁹ Community solar projects may also qualify for the Environmental and Climate Justice Block Grants, a \$3 billion program to reduce pollution and climate threats in low-income communities and communities of color.³⁰ Community solar projects may also likely qualify for an energy resilience program for rural and remote areas under the 2021 Infrastructure Investment and Jobs Act.³¹

States can also develop programs to provide grants and incentives to encourage community solar development. Programs that help fund or finance the initial capital costs for community solar make these projects more economically feasible.

4. Increased Transparency With Grid Operators

Community solar projects can only come online if they can connect to the grid.³² Yet, community solar projects sometimes wait months or even years for this interconnection.³³ Such delays are a significant barrier to community solar development. To reduce this barrier, community groups can advocate for grid operators to increase transparency and reduce interconnection wait times.³⁴ Likewise, favorable operating agreements can reduce the costs of connecting.³⁵

5. Legislation Allowing for Multiple and Non-Utility Owners

Legislation explicitly allowing for multiple owners of a solar project, as well as owners that are not utility companies, helps to remove barriers to community solar development that exist in some states.³⁶

²³ https://www.researchgate.net/publication/329549851_Non-utility_Photovoltaic_Deployment_Evaluation_of_US_State-level_Policy_Drivers; <https://www.solarreviews.com/blog/what-is-virtual-net-metering-and-who-is-it-for>

²⁴ <https://www.nrel.gov/state-local-tribal/basics-green-banks.html>

²⁵ <https://www.lowincomesolar.org/toolbox/green-banks/>

²⁶ <https://www.energy.gov/scep/spsc/loan-loss-reserve-funds-and-other-credit-enhancements>

²⁷ <https://dcgreenbank.com/press/dc-green-bank-virginia-community-capital-and-flywheel-development-announce-1-8-million-permanent-loan-for-community-solar/>

²⁸ IRA, sections 13101, 13103.

²⁹ IRA, sections 13101, 13103; <https://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses>

³⁰ IRA, section 60201. <https://www.epa.gov/inflation-reduction-act/advancing-environmental-justice>

³¹ Infrastructure Act, section 40103(c), Division J, Title 3.

³² <https://www.eenews.net/articles/want-more-solar-panels-good-luck-connecting-to-the-grid/>

³³ Ibid.

³⁴ <https://www.sciencedirect.com/science/article/pii/S2772940022000157>

³⁵ <https://www.nrel.gov/docs/fy22osti/81960.pdf>

³⁶ https://www.researchgate.net/publication/329549851_Non-utility_Photovoltaic_Deployment_Evaluation_of_US_State-level_Policy_Drivers

3 How to Design an Equitable Community Solar Program

An equitable community solar program should center low-income and environmental justice communities by including four key components: 1) clear requirements to target and prioritize environmental justice communities and low-income households; 2) project designs that are appropriately sited, as well as accessible and affordable to residents; 3) transparent and understandable outreach and program materials; and 4) meaningful benefits to subscribers and communities.

1. Requirements must clearly prioritize environmental justice communities and low-income households.

Community solar programs should ensure that low-income households and environmental justice communities are targeted and prioritized by means of carveouts, targeted programs, and/or incentives.

- **Carveouts:** To ensure that community solar programs target low-income households and residents of environmental justice communities, a carveout can set aside a specified percentage for these groups.

A carveout should be as high as possible to ensure that low-income households are truly prioritized: they should be thought of as the floor rather a ceiling. For example, the Inflation Reduction Act's low-income solar tax incentives require that "economic benefit projects" have at least 50 percent of the project's benefits go to low-income households.³⁷ Here are some state examples:

- In **Connecticut**, at least 20 percent of the total capacity of the community solar produced by the Shared Clean Energy Facility must be provided to either LMI households or low-income service organizations.³⁸
- Under the Community-Based Renewable Energy program in **Hawaii**, a recent request for proposals for community solar requires that at least 60 percent of the project's capacity is reserved for LMI customers.³⁹
- **Maryland** set aside around 125 MW for an LMI-focused program requiring that at least 30 percent of subscribers are low and moderate income as part of the Community Solar Energy Generating Systems Pilot Programs.⁴⁰

Lessons Learned

Set environmental justice criteria: Colorado initially required only 5-percent LMI subscribers on a portfolio basis. This carveout was found to be too low as it often represented a ceiling for the projects.⁴¹

Establish a time frame: A community solar program should be sustained over time, since projects may take a while to develop. For example, one program in New York was not successful because it had a short time frame of only six months.⁴²

- **Targeted projects/programs:** Requirements should specify that community solar to be developed expressly for an environmental justice or low-income community. For example, as part of an affordable housing initiative.
 - **California** has a community solar program, the Solar on Multifamily Affordable Housing (SOMAH) program, that is exclusive to multifamily affordable housing and funded through cap-and-trade revenue.⁴³
- **Additional incentives:** In addition to carveouts, other incentives can be used to help ensure that low-income households subscribe to community solar programs, for example:
 - The Low-Income Community Solar Program in **Illinois** passes the revenue from selling renewable energy credits to the developer of the project and all the savings on electric bills go to the households.⁴⁴
 - **Massachusetts** has included a number of additional upfront incentives (or "adders") for community solar for low-income subscribers, affordable housing, and solar built on landfills. For example, an additional 6 cents/kWh payment is provided for projects that serve at least 50-percent low-income customers. These adders offset higher costs and have proven effective.⁴⁵

37 IRA, section 13103.

38 <https://www.cga.ct.gov/2018/ACT/pa/pdf/2018PA-00050-R00SB-00009-PA.pdf>

39 https://www.hawaiianelectric.com/documents/clean_energy_hawaii/selling_power_to_the_utility/competitive_bidding/20220316_lmi/lmi_cbre_rfp_body_consolidated.pdf

40 See *ibid.*, discussing lessons from New York.

41 [lowincomesolar.org/practices/community-solar/lessons-learned/](https://www.lowincomesolar.org/practices/community-solar/lessons-learned/)

42 [lowincomesolar.org/practices/community-solar/lessons-learned/](https://www.lowincomesolar.org/practices/community-solar/lessons-learned/) (discussing lessons from New York)

43 Cap and trade is a market-based mechanism for emissions control. Though it can generate revenue, cap and trade has many critiques: <https://insideclimatenews.org/news/25022022/why-do-environmental-justice-advocates-oppose-carbon-markets-look-at-california-they-say/>

44 <https://www.illinoisfa.com/programs/community-solar/>

45 <https://www.lowincomesolar.org/best-practices/massachusetts/>

Lesson Learned

Make environmental justice non-optional:

A Connecticut law allows the state utility commission to create preferences and incentives for environmental justice communities but does not require it.⁴⁶ Although this state is examining the potential of preferences now, they were not included in the first three years of the program.⁴⁷ This shows why it's important to *require* consideration of environmental justice instead of allowing it to be optional.

2. Project designs must be appropriately sited, as well as accessible and affordable to residents.

- **Siting the project:** Location is a fundamental consideration in developing a community solar project. Any kind of solar project, including community solar, must be sited in a place where the solar panels can receive adequate, reliable sun exposure. At the same time, siting community solar within environmental justice communities increases the project's profile to residents, which may increase subscriptions, help to invoke a sense of ownership and engagement within the community, and potentially provide local employment/training opportunities. Because 5 to 10 percent of electricity is lost on the transmission and distribution lines that link generators (including utility-scale solar projects) to end users in homes and businesses, it is also more energy efficient to locate community solar projects close to where the electricity generated will be used. Community solar projects with storage can also provide resiliency benefits, especially in areas prone to power disruptions.

As discussed above, rooftop solar may not be suitable for many households because they are renters or because the roof is in the shade, too small, too steep, or would require prohibitively expensive upgrades to support solar panels. If the roof is suitable, multifamily affordable housing buildings may be ideal sites for rooftop community solar projects, with residents forming an easily enrollable subscriber base.

- **Project size:** Another critical consideration in designing any solar project is the project's size. According to the U.S. Energy Information Administration (EIA), the average community solar project in the United States has a capacity of 2.0 MW.⁴⁸ Some states limit the size of

community solar projects or have a cap on system size for net metering. At minimum, a solar project should have enough generating capacity to meet (or at least offset) subscribers' usage needs, in combination with applicable compensation rates or tariffs and other incentives like tax credits. Likewise, the project should be big enough that the operational and administrative costs of the program are economical, including the costs of purchasing solar panels, installation, other necessary electrical work, and interconnection fees, accounting for compensation rates and incentives as well as payment rates by subscribers (if any).

3. Outreach and program materials must be transparent and understandable.

- **Outreach led by the community or a trusted organization:** Targeted outreach to low-income communities is critical for success as low-income communities often face language, trust, and financial barriers. Examples of community-led or -based processes include:
 - UPROSE, a community-based organization in **New York** helped develop a cooperatively owned community solar project that delivers electric bill savings to the low-income neighborhood.⁴⁹
 - In Lebanon, **New Hampshire**, Mascoma Meadows—a manufactured housing community cooperatively owned by its residents (a resident-owned community or ROC)—built a community solar project that has lowered energy bills, used profits from power sold back to the grid to lower lot fees, and raised property values. This model, however, is dependent on ROC-friendly state laws and grant financing.⁵⁰
 - **Illinois** requires that projects qualifying for the Low-Income Community Solar program must demonstrate community engagement through outreach, education, and recruitment and must have the support of community-based organizations.⁵¹
- **Simple eligibility verification:** Verifying whether a subscriber is eligible must not be burdensome and should be linked to other public programs.
 - In **Massachusetts**, the state's Department of Energy Resources determines eligibility through the Housing Authority.⁵²

46 <https://www.cga.ct.gov/2018/ACT/pa/pdf/2018PA-00050-R00SB-00009-PA.pdf>

47 <https://portal.ct.gov/DEEP/Energy/Shared-Clean-Energy-Facilities/Shared-Clean-Energy-Facilities>

48 <https://www.eia.gov/todayinenergy/detail.php?id=38272>

49 <https://www.uprose.org/sunset-park-solar>

50 <https://www.lowincomesolar.org/best-practices/new-hampshire/>

51 <https://www.illinoisfa.com/programs/community-solar/>

52 <https://www.mass.gov/doc/guideline-regarding-the-definition-of-low-or-moderate-income-housing/download>

- **New York** looks at whether the subscriber households participate in other assistance programs to determine eligibility.⁵³ The program application page is clear and understandable.
- **Clear billing and consumer protection requirements:** It is important that participants receive an electric bill credit that clearly and properly compensates them for the clean energy produced.⁵⁴ Programs should include well-enforced consumer protection requirements to ensure participant confidence.
 - A single bill is preferred. Rather than having households receive separate bills for community solar and electricity, a combined bill is more transparent and easier to understand. **New York** offers consolidated billing that allows subscribers to readily see the savings from their community solar subscription and the impacts of the community solar on their electric bill.⁵⁵
- The **New York** program Solar for All guarantees electric bill credits, with an estimated \$10 monthly credit, and signing up is free.⁵⁸ This type of bill assistance program has the benefit of reducing energy costs while allowing households to participate in solar.
- **Upfront financial assistance or grants:** Upfront funding or low-interest financing can be necessary to develop community solar projects aimed at low-income households that ensure savings on electric bills. Low-income households often do not have the means for a large upfront payment.
 - A partnership between Habitat for Humanity and a **Kentucky** utility allowed for low-income households to subscribe without any upfront cost.⁵⁹
 - In **Colorado**, GRID Alternatives worked with Boulder Housing Partners and financed upfront costs for affordable housing community solar through grants, a foundation, and financing.⁶⁰

Lesson Learned

Audit billing practices regularly: In Massachusetts, an audit of community solar documentation found that seven of fifteen community solar project developers were not in compliance with consumer protection requirements related to required net savings.⁵⁶

4. Subscribers and communities must enjoy obvious benefits.

- **Guaranteed savings on electric bills:** Clear and guaranteed savings are especially important for low-income customers.
 - **Illinois** requires that electric bill credits from the Low-Income Community Solar program not count for more than 50 percent of the value of participating in the program. For example, if a participant receives \$100 worth of electric bill credits from their system, they cannot be charged more than \$50 that month.⁵⁷
- **Brownfield development and mitigation of environmental impacts:** Environmental justice communities are often located on or near previously contaminated sites that have been remediated. Community solar projects may be a safer option for these so-called brownfields than housing or other uses. Community solar installations on brownfields may also be eligible for various federal or state incentives, including the Inflation Reduction Act's amendment of the Investment Tax Credit or the new Clean Electricity Investment Credit (although permitting may be more complex and increase project development costs).
 - **Connecticut** has developed a bid preference for community solar projects that are sited on brownfields or landfills.⁶¹
 - **Massachusetts** has included a number of additional upfront incentives for community solar for low-income households, affordable housing, and solar built on landfills under Massachusetts SMART. These adders pay a higher amount for electricity generated by a qualifying community solar project, which helps to offset higher costs. These types of adders have proven to be cost effective.⁶²

53 <https://www.nyserdera.ny.gov/All-Programs/NY-Sun/Solar-for-Your-Home/Community-Solar/Solar-for-All>

54 <https://www.lowincomesolar.org/best-practices/community-solar/>

55 <https://www.solarpowerworldonline.com/2019/12/new-york-state-will-consolidate-billing-for-community-solar-customers/>

56 <https://www.mass.gov/info-details/solar-massachusetts-renewable-target-smart-program>

57 <https://www.illinoisfa.com/programs/community-solar/>

58 <https://www.nyserdera.ny.gov/All-Programs/NY-Sun/Solar-for-Your-Home/Community-Solar/Solar-for-All>; <https://www.nyserdera.ny.gov/solar-for-all#:~:text=Solar%20for%20All%20is%20a,while%20lowering%20their%20energy%20costs>

59 <https://lge-ku.com/newsroom/press-releases/2019/12/17/ky-habitat-humanity-announces-unprecedented-partnership-lge-and>

60 <https://boulderhousing.org/news/solar-garden-installation-completed-clean-affordable-energy-production-begin-2021>

61 <https://portal.ct.gov/DEEP/Energy/Shared-Clean-Energy-Facilities/Shared-Clean-Energy-Facilities>

62 <https://www.lowincomesolar.org/best-practices/massachusetts/>

- In **Washington, D.C.**, a 2.6 MW community solar project was built on a contaminated site to offset energy costs by \$500 annually for some 750 income-qualified households. The project also restores native plants and shrubs.⁶³
- **Community resilience:** Energy storage, like batteries, can be installed along with community solar projects to provide community resilience benefits by stocking up energy that can be used during power shut offs or other emergencies. Battery storage can also contribute to demand-response efforts, discharging when needed to reduce peak demand and providing grid services like frequency and voltage regulation.
- The Maycroft Apartments, an affordable housing development in **Washington, D.C.**, fully powers a resiliency center by pairing solar with battery storage. The system can power critical loads for up to three days, including refrigeration for food and medicine, outlets for charging cell phones and medical equipment, as well as running exhaust fans and lighting.⁶⁴
- **Employment benefits:** Low-income community solar should also be designed to provide jobs and training for the local community.⁶⁵
 - In **California**, the state legislature passed AB 2316 (2022), which would create a community renewable energy program with requirements for prevailing wages for project construction.⁶⁶ These prevailing wage requirements unlock complementary tax credit incentives from the Inflation Reduction Act, making the project cheaper to develop.

4 Conclusion

To be successful, community solar policies must be equitably designed at the forefront. At a minimum, equitable community solar programs must prioritize low-income and environmental justice communities, include transparent and accessible outreach, and offer clear benefits for subscribers

and communities. With all the pieces in place, equitable community solar can be a critical tool for decarbonizing the grid while ensuring that environmental justice communities and low-income households are not left behind in this transition.

5 Additional Resources

Federal Opportunities

- The National Community Solar Partnership under the Department of Energy (DOE) offers free technical assistance. <https://www.energy.gov/communitysolar/community-solar>
- The DOE's Community Clean Energy Coalition Prize awards funding for community coalitions addressing clean energy inequity. <https://americanmadechallenges.org/challenges/cleanenergycoalition/>
- In January 2023, the DOE launched the Community Power Accelerator Prize, a \$10 million competition that provides development funds to organizations to build and develop community solar projects. <https://www.herox.com/CommunityPowerAccelerator>
- The National Renewable Energy Laboratory (NREL) offers technical assistance for cities, islands and other remote communities, and tribes. <https://www.nrel.gov/state-local-tribal/technical-assistance.html>

63 <https://doee.dc.gov/service/oxonrunsolar>

64 <https://www.cleaneenergy.org/ceg-projects/resilient-power-project/featured-installations/maycroft-apartments/>

65 <https://pv-magazine-usa.com/2021/04/09/expanding-community-solar-can-bring-jobs-and-economic-benefits-to-hard-hit-communities/>

66 https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB2316

Examples of Savings From Community Solar

Your Bill with Community Solar

UTILITY BILL		COMMUNITY SOLAR BILL	
Energy Charge	\$120	Solar Bill Credits Value	\$100
Solar Bill Credits	\$100	Discount	10%
Utility Bill with Solar Bill Credits	\$20	Cost for Solar Bill Credits	\$90
TOTAL ENERGY COSTS		\$110	
TOTAL SAVINGS		\$10	

- Energy Sage, 2023. "What is community solar?" <https://www.energysage.com/solar/solar-101/what-is-community-solar/>

Relevant General Reports/Sources

- Department of Energy, 2023. "Community Power Accelerator." Provides a credit-ready checklist, technical assistance, and a community power accelerator learning lab and connects community-based organizations with developers and investors. <https://www.energy.gov/communitysolar/community-power-accelerator>
- National Renewable Energy Laboratory, 2021. "Sharing the Sun: Community Solar Deployment, Subscription Savings, and Energy Burden Reduction" A summary of the current community solar market. <https://www.nrel.gov/docs/fy21osti/80246.pdf>
- National Renewable Energy Laboratory, 2010. *A Guide to Community Solar: Utility, Private, and Non-profit Project Development, Energy Efficiency & Renewable Energy (EERE)*. <https://www.nrel.gov/docs/fy11osti/49930.pdf>
- Solar Energy Industries Association, 2022. "Community Solar Project Siting." <https://www.seia.org/sites/default/files/2022-02/SEIA%20Community%20Solar%20Project%20Siting%20-%20Land%20Use%20Framework%202.28.22.pdf>

- Elevate, 2021. "What You Need to Know When Determining a Community Solar Project Model." A good look at the business case that includes a tool to project costs and revenue for community solar. <https://www.elevatenp.org/solar/what-you-need-to-know-when-determining-a-community-solar-project-model/>

Equity-Focused Publications

- Groundswell, (n.d.). *LIFT Solar Toolkit*. Highlights community solar program designs and financing structures for LMI residential households. Provides a map of more than 450 LMI community solar projects. <https://lift.groundswell.org/>
- National Renewable Energy Laboratory, 2021. "Equitable Access to Community Solar: Program Design and Subscription Considerations." <https://www.nrel.gov/docs/fy21osti/79548.pdf>
- Institute for Self-Reliance Community Solar Equity Report, 2020. "Equitable Community Solar: Policy and Program Guidance for Community Solar Programs that Promote Racial and Economic Equity." <https://cdn.ilsr.org/wp-content/uploads/2020/02/Equitable-Community-Solar-Report.pdf>
- Subin G. DeVar, 2020. "Equitable Community Solar: California and Beyond." *Ecology Law Quarterly*. Vol. 46, Issue 4. <https://www.ecologylawquarterly.org/print/equitable-community-solar-california-beyond/>

State Tracking Resources

- National Renewable Energy Laboratory, 2021. "Sharing the Sun, Community Solar Project Data." Contains an Excel spreadsheet of all current community solar projects, by state. <https://data.nrel.gov/submissions/185>
- Shared Renewables, (n.d.). "Community Energy Projects." Information on relevant legislation in several states. <https://www.sharedrenewables.org/community-energy-projects/>