Community Solar Policy Landscape and Pathways to Meaningful Benefits: A Review of Equitable Access and Household Savings

Kaifeng Xu, Sarah Nabirye, and Simon Sandler

National Renewable Energy Laboratory

NREL is a national laboratory of the U.S. Department of Energy
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List of Acronyms

ACS	American Community Survey
AMI	area median income
D.C.	District of Columbia
EPA	U.S. Environmental Protection Agency
FPL	federal poverty level
GWac	gigawatt alternating current
LMI	low- and moderate-income
MWac	megawatt alternating current
SMI	state median income

Executive Summary

As of August 2024, community solar legislation and policies have been implemented in 24 U.S. states and localities, including the District of Columbia. These policies have driven significant growth in the community solar market. The states that have enacted community solar legislation account for over 62.8% of the country's installed capacity. Community solar policy designs are evolving, with many states expanding programs, enhancing equitable access, and ensuring household savings.

The National Community Solar Partnership+ (NCSP+) goal is to enable community solar to power the equivalent of 5 million U.S. households by 2025. NCSP+ has identified five meaningful benefits of solar energy, in alignment with the priorities of the Justice40 Initiative: equitable access and consumer protections; meaningful household savings; resilience, storage, and grid benefits; community-led economic development; and solar workforce. This report focuses primarily on recent policy trends concerning equitable access and household savings.

Several leading states have updated their programs to extend access, particularly to low- and moderate-income customers. Seventeen states now have carve-outs for income-qualified customers, with a notable increase in the size and number of these carve-outs in recent years. States are also using various methods to determine income qualification, mainly household income, geographic eligibility, and categorical eligibility. Furthermore, policies increasingly mandate household savings for community solar subscribers, with 10 states requiring some form of savings. This emphasis on financial benefits is reinforced by new federal initiatives like the U.S. Environmental Protection Agency's Solar for All program.

With 7.87 GWac of community solar capacity deployed and an additional 8 GWac expected to come online in the next ~2 years, legislative and policy frameworks are key to ensuring broad access to community solar. The ongoing refinement of these policies highlights the importance of equitable access and economic benefits in driving community solar growth across the United States.

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1 Community Solar Policy and Program Landscape

As of August 2024, community solar legislation and policies have been enacted in 24 states and localities, including the District of Columbia (D.C.). Although voluntary community solar projects—which are primarily deployed by utilities—exist in states without enabling policies, the states with policies account for more than half (at least 62.8%) of the total installed capacity in the United States.[1]

Community solar policy designs are continually evolving, and several leading states have revised their programs to extend their reach, enhance equitable access, and guarantee household savings. This section provides an overview of states with enabling community solar policies and their capacity deployments, as well as a discussion of major policy changes since 2023. The policy landscape prior to 2022 was covered in a previous study.[2]

1.1 Policy Overview

The policies and legislation for community solar development vary significantly across states. Although most are based on the foundation of virtual net metering, states differ in how they incorporate community solar into legislation. This includes setting solar deployment targets, planning for future community solar inclusion, developing state-level community solar programs, and specifying detailed requirements for solar access, such as ensuring accessibility for low- and moderate-income (LMI) customers. As shown in Figure 1, 24 states and localities, including D.C., have enacted community solar legislation. Nearly all the states with legislation include considerations for LMI households in their policies, with the exceptions of Alaska, North Carolina, South Carolina, and Vermont. Furthermore, 20 states without enabling community solar policies have installed at least one community solar project, indicating potential for market growth in these regions.

[1] Heeter, Jenny, Kaifeng Xu, and Gabriel Chan. 2021. "Sharing the Sun Community Solar Project Data (Dec 2020, Revision)." NREL Data Catalog. Golden, CO: National Renewable Energy Laboratory. Last updated: July 24, 2024. DOI: 10.7799/1781404. https://data.nrel.gov/submissions/244.

[2] Xu, Kaifeng, Jenny Sumner, Emily Dalecki, and Robin Burton. 2023. *Expanding Solar Access: State Community Solar Landscape (2022)*. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-84247. https://www.nrel.gov/docs/fy23osti/84247.pdf.

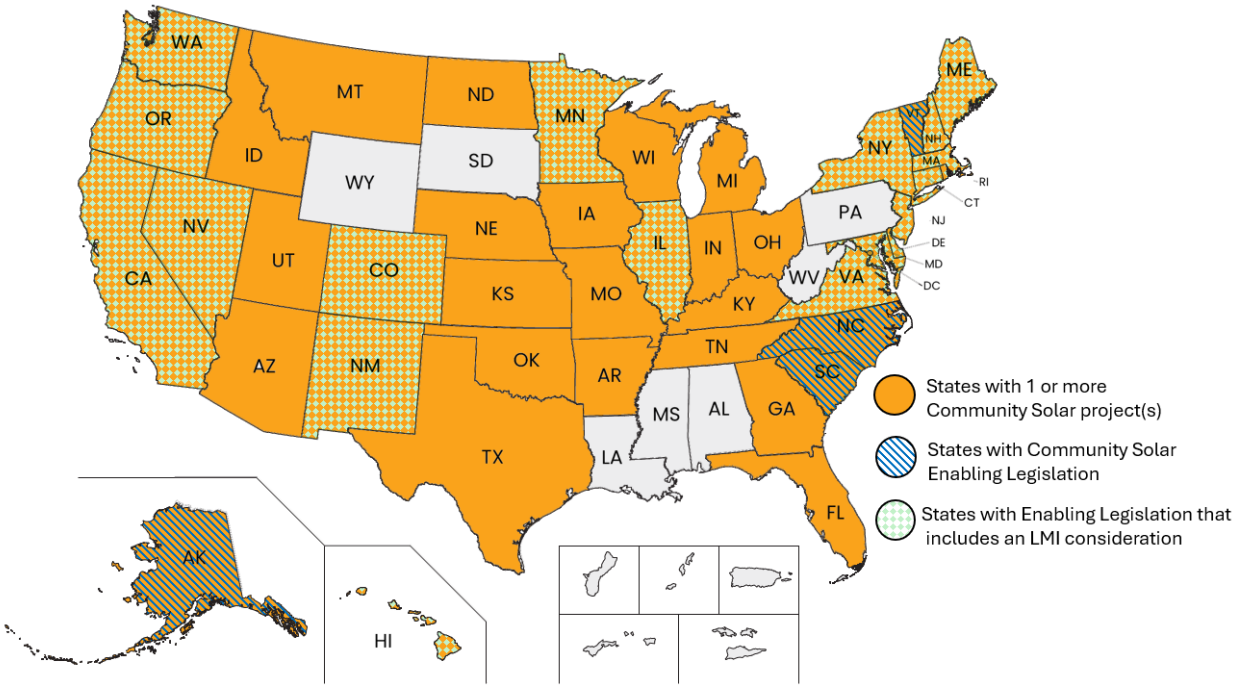

Figure 1. Community solar policy and program landscape[3]

1.2 Community Solar Market Trend

As of the first half of 2024, the United States has deployed 7.87 gigawatts alternating current (GWac) of community solar capacity, with an additional 8.0 GWac of projects planned for the coming years[4]. States with enabling community solar legislation are leading in planned capacity. For example, New York and Illinois have 2.5 GWac and 1.3 GWac of planned capacity, respectively. Other states with legislation, including Colorado, Hawaii, Maryland, Massachusetts, Minnesota, New Jersey, and New Mexico each have over 200 megawatts alternating current (MWac) of planned capacity.

[3] Xu, Kaifeng, Simon Sandler, and Jenna Harmon. 2024. "State Policies and Programs for Community Solar (2024 Q2 Update)." NREL Data Catalog. Golden, CO: National Renewable Energy Laboratory. Last updated: April 3, 2024. DOI: 10.7799/2332826. https://data.nrel.gov/submissions/234.

[4] Planned projects include those that have been awarded, approved, or are currently under construction. These projects are mostly expected to be completed within the next two years. For details on the scope of the planned projects, refer to the data source methodology: https://data.nrel.gov/submissions/220

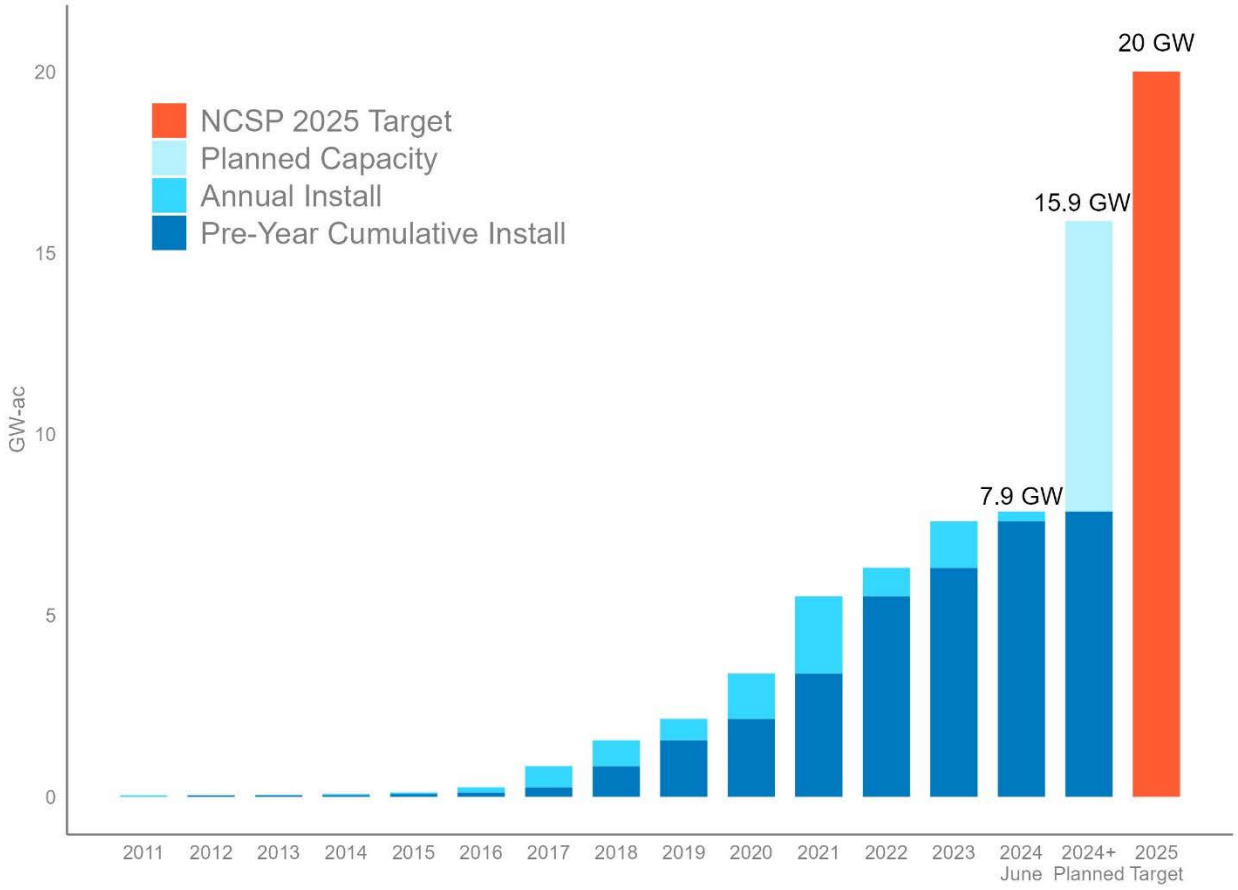

Figure 2. Community solar market status and trend toward 2025[5]

As illustrated in Figure 2, the combined total of current deployed capacity and planned capacity is expected to reach 15.9 GWac upon the completion of all planned projects.

States with enabling community solar policies that consider LMI populations are leading the way in expanding future LMI community solar access. For example, New York and New Jersey have at least 291 MWac and 133 MWac of LMI community solar capacity planned, respectively, followed by 100 MWac in New Mexico and 86 MWac in Massachusetts.[6] Additionally, recent

[5] Xu, Kaifeng, Gabriel Chan, and Sudha Kannan. 2024. "Sharing the Sun Community Solar Project Data (June 2024)." NREL Data Catalog. Golden, CO: National Renewable Energy Laboratory. Last updated: August 30, 2024. DOI: 10.7799/2438583. https://data.nrel.gov/submissions/244.

[6] From the NREL Sharing the Sun Update (Xu, Kaifeng, Gabriel Chan, and Sudha Kannan. 2024. "Sharing the Sun Community Solar Project Data (June 2024)." NREL Data Catalog. Golden, CO: National Renewable Energy Laboratory. Last updated: August 30, 2024. DOI: 10.7799/2438583. https://data.nrel.gov/submissions/244.). The LMI list for this spreadsheet focuses on states with community solar in operation. Additionally, New Mexico has awarded a 200-MWac community solar program, requiring that at least 50% of the capacity be dedicated to LMI customers. Although none of the projects have been completed yet, we assume that at least 100 MWac will be allocated to LMI community solar.

efforts in Minnesota and Maryland[7] over the past 2 years have introduced carve-outs for LMI subscribers, which will increase solar access for income-qualified customers.

1.3 Leading States Updates

Community solar is expanding in the United States, both in terms of capacity deployment and policy landscape. In the past 2 years, several states have either extended their current programs, amended their policies, or adopted new initiatives to create more meaningful benefits. As shown in Table 1, at least five states have taken action to update their community solar policies and programs.

Table 1. State-Level Community Solar Enabling Legislation Changes 2023–2024

State	Cumulative Installed Capacity (as of June 2024)	Capacity Procurement Plan	Policy Update
Alaska	<1 MWac	No capacity limit	Establishes enabling community solar policy in 2024
Colorado	198 MWac	100 MWac through 2027, then annual procurement plan	Update newly requires 51% of each project to be dedicated to income-qualified subscribers
Maryland	157 MWac	No capacity limit	Made the 583-MWac pilot program to permanent in 2023
Minnesota	910 MWac	Between 60 MWac and 100 MWac annually	Update requires 30% of each project to be dedicated to income-qualified subscribers
New Jersey	124 MWac	225 MWdc for 2024, then annual procurement plan	Made the 2-year, 243-MWdc pilot program to permanent in 2023

In August 2024, Alaska officially enacted state legislation under Senate Bill 152, enabling community energy facilities, bringing the total number of states and localities, including D.C., with community solar legislation to 24.[8]

Colorado and Minnesota, two early adopters of community solar legislation (in 2010 and 2013, respectively), revised their programs in 2024 to build on the legacy of their existing initiatives. Colorado passed Senate Bill 24, which requires more than 50 MW of inclusive community solar to be procured annually in 2026 and 2027, with at least 51% of each project reserved for income-qualified subscribers; future years' capacity amounts will be determined by the Public Utilities Commission.[9] The new legislation also mandates new consumer protections and subscription

[7] Maryland extended its pilot program to a permanent status in 2023 and increased the capacity dedicated to income-qualified customers from 30% to 40%.
[8] U.S. Congress. Senate. *An Act relating to community energy facilities.* SB 152. https://www.akleg.gov/basis/Bill/Text/33?Hsid=SB0152Z.
[9] U.S. Congress. Senate. *An Act Concerning Access to Distributed Energy, and, in Connection Therewith, Establishing Requirements for the Development of Inclusive Community Solar Capacity That Investor-Owned Electric Utilities Must Make Available to Utility Customers, Requiring the Acquisition of Distributed Generation Facilities Paired With Energy Storage, and Making an Appropriation.* SB 24-207. https://leg.colorado.gov/sites/default/files/2024a_207_signed.pdf.

discounts for LMI subscribers, and it requires the state's largest investor-owned utility to offer consolidated billing. Similarly, Minnesota updated its community solar garden legislation in 2023, introducing the new LMI-Accessible Community Solar Garden Program. This program aims to procure 100 MW of community solar annually from 2024–2026, 80 MW annually from 2027–2030, and 60 MW annually after 2031. Additionally, the program mandates that 30% of system capacity be reserved for LMI subscribers, with an additional 25% allocated for a mix of LMI subscribers, affordable housing providers, and/or public interest subscribers.[10]

States like Maryland and New Jersey initially developed state-level community solar pilot programs with capacity limits. In 2023, Maryland made its pilot Community Solar Energy Generating Systems Program permanent by removing the capacity limit through House Bill 908. Additionally, it requires electric companies to offer consolidated billing for a fee not exceeding 1% of the bill credit value.[11] This permanent program mandates that at least 40% of the energy output be dedicated to LMI subscribers. The program requires subscriber organizations to charge no more than 90% of the monetary value of the bill credit for LMI subscribers and includes provisions for customers on budget billing. New Jersey took similar actions in 2023 by extending its pilot program to permanent.[12] New Jersey started its pilot program in 2019, procuring 78 MWdc and 165 MWdc of capacity in 2019 and 2020, respectively. The permanent community solar energy program was established in 2023, and it has an annual community solar adoption target with a target of 225 MWdc in 2024.

[10] Minnesota Department of Commerce. 2024. "Community Solar Gardens." Accessed September 15, 2024. https://mn.gov/commerce/energy/consumer/energy-programs/community-solar-gardens.jsp.
[11] U.S. Congress. House. *Economic Matters/Education, Energy, and the Environment: An Act Concerning Electricity – Community Solar Energy Generating Systems Program and Property Taxes.* HB 908. https://mgaleg.maryland.gov/2023RS/bills/hb/hb0908E.pdf.
[12] State of New Jersey Board of Public Utilities. "Order Setting Community Solar Energy Program for Megawatt Blocks for Energy Year 2024." Docket No. QO22030153. https://nj.gov/bpu/pdf/boardorders/2024/20240430/8D%20ORDER%20Community%20Solar%20Energy%20Program.pdf.

2 Policy Design on Meaningful Benefits

The National Community Solar Partnership+ (NCSP+) continues to see progress toward its goal of 20 GWac of community solar capacity being deployed in the United States by the end of 2025.[13] As part of its evaluation framework for distributed solar deployment, NCSP+ has identified five meaningful benefits (equitable access and consumer protections; meaningful household savings; resilience, storage, and grid benefits; community-led economic development; and solar workforce) that align with the priorities of the Justice40 Initiative.[14] Although community solar policies may prioritize any number of these meaningful benefits, this report focuses on recent policy trends related to (1) equitable access and consumer protections and (2) meaningful household savings.

On the topic of equitable access, this section provides an overview of state-level community solar programs with a focus on LMI program requirements, including a detailed discussion of subscriber income eligibility. In terms of meaningful household savings, we also examine state policy mandates that set minimum thresholds for subscription discounts.

2.1 LMI Carve-Outs

Community solar has been touted as an innovative business model that gives a wider range of households access to clean energy. Community solar increases access to solar for renters and residents in multifamily buildings who typically don't have the authority or exclusive roof space to pursue rooftop solar.[15] Similarly, community solar can be an affordable option for LMI households with the potential for guaranteed savings and no upfront costs. Such benefits have helped drive a shift in community solar program design with a push for LMI accessibility.

To ensure equitable access to community solar, some states require a minimum portion of the program, also termed a carve-out, to be dedicated to LMI or low-income customers. These carve-outs can be structured based on the capacity (MW), number of customers, or even energy generated (kWh). A review of policies found that 17 states and localities, including D.C., have implemented specific measures within their community solar policies and programs to promote equitable access. Details of these programs are documented in Table 2. 17 states and localities have formal LMI carve-outs, but an additional three states (for a total of 20) address LMI households in their community solar policies and programs generally, without a carve-out.[16] LMI

[13] U.S. Department of Energy. n.d. "National Community Solar Partnership Targets." Accessed September 14, 2024. https://www.energy.gov/communitysolar/national-community-solar-partnership-targets.
[14] U.S. Department of Energy Solar Energy Technologies Office. 2024. "2023 National Community Solar Partnership Annual Update." https://www.energy.gov/sites/default/files/2024-04/2023_NCSP_Annual_Update_FINAL.pdf.
[15] O'Shaughnessy, Eric, Galen Barbose, Sudha Kannan, and Jenny Sumner. 2024. "Evaluating community solar as a measure to promote equitable clean energy access." *Nature Energy* 9: 955–963. https://doi.org/10.1038/s41560-024-01546-2.
[16] Rhode Island, New Hampshire, and Hawaii are the three states that do not explicitly provide a carve-out.

carve-outs are an increasing trend, with 5 of 17 states adding or updating this requirement in new or updated policy since 2020.[17]

Table 2. Community Solar Income-Qualified Carve-Outs for States with Enabling Legislation

State	Specific Program	LMI or Low-Income Carve-Out or Other Requirement
CA	Disadvantaged Communities Green Tariff Program	100% of project capacity is dedicated to income-qualified subscribers
	Community Solar Green Tariff Program	50% of project capacity is dedicated to income-qualified subscribers
CO	Black Hills Energy Community Solar Garden	Up to 1.5 MW per year of standard offer capacity is 100% dedicated to income-qualified subscribers
	Xcel Energy Solar*Rewards Community Program	The program size dedicated to LMI is 70% of the total annual spending, or a target of 160 MW
	Senate Bill 24-207	Starting in 2026, 51% of new program capacity will be dedicated to LMI
CT	Statewide Shared Clean Energy Facility Program	70% of the energy output is dedicated to LMI subscribers
D.C.	Solar for All	100% of project capacity is dedicated to low-income subscribers
DE	Delaware Community Solar Program	15%, measured by the percentage of low-income customers out of the total number of subscribers of the community energy facility
IL	Illinois Solar for All Program	100% of project capacity is dedicated to LMI subscribers
MA	Solar Massachusetts Renewable Target ("SMART" Program)	50% project capacity carve-out for projects receiving the low-income community solar adder
MD	Community Solar Energy Generating Systems Program (established after July 1, 2023)	40% of a project's output serves LMI subscribers
	Community Solar Pilot Program (established before July 1, 2023)	Maryland has allocated 30% of community solar capacity to LMI projects, and each LMI project must have a minimum of 30% LMI subscriber volume
ME	Net Energy Billing Program	10% project nameplate capacity is dedicated to LMI subscribers
MN	LMI-Accessible Community Solar Garden Program (2024)	30% of system capacity is reserved for LMI subscribers. An additional 25% is reserved for a mix of LMI subscribers, affordable housing providers, and/or public interest subscribers
NJ	New Jersey Community Solar Energy Pilot Program	51% of system capacity is dedicated to LMI subscribers
	New Jersey Community Solar Energy Program	51% of system capacity is dedicated to LMI subscribers
NM	New Mexico Community Solar Program	30% of system capacity is dedicated to LMI subscribers
NV	Nevada Community Solar Target	25% of customers, not capacity

[17] Xu, Kaifeng, Simon Sandler, and Jenna Harmon. 2024. "State Policies and Programs for Community Solar (2024 Q2 Update)." NREL Data Catalog. Golden, CO: National Renewable Energy Laboratory. Last updated: April 3, 2024. DOI: 10.7799/2332826. https://data.nrel.gov/submissions/234. Also see forthcoming Q4 publication that will include the most current data on state policies and programs.

State	Specific Program	LMI or Low-Income Carve-Out or Other Requirement
NY	New York Solar for All	100% of system capacity is dedicated to LMI subscribers
	NY-Sun	LMI community solar will receive adders
OR	Oregon Community Solar Program	10% of system capacity is dedicated to LMI subscribers
VA	Shared Solar Program	Dominion: First 200 MW is not capped. For the next 150 MW, 75 MW is limited to serve no more than 51% low-income subscribers
WA	Washington State University Extension Energy Program (Washington State University Energy Program)	100% of system capacity is dedicated to LMI subscribers

Most of these states have established capacity-based carve-outs ranging from 10%–100% for income-qualified customers, but there are a few states that vary their policy design. For instance, Delaware and Nevada mandate that 25% of customers, rather than capacity or energy output, must be income-qualified subscribers. Five of the 17 states (California,[18] D.C., Illinois, New York, and Washington) have programs that are designed to serve only low-income or LMI customers (100% carve-out). Programs that allow a mix of LMI and non-LMI customers within a project can be helpful for financing such projects by providing a mix of revenue by customer class. However, programs or projects that only serve one customer type have the benefit of providing clarity on applicable program rules, consistent marketing, and a standard revenue type for developers.

Although five states appear to have multiple LMI programs with multiple rows in Table 2, upon further investigation, most states either have multiple programs implementing the same state policy (California and Colorado) or a pilot program transitioning to a permanent program (Maryland and New Jersey). For example, in California, the Disadvantaged Communities Green Tariff program and the Community Solar Green Tariff Program were both established because of Assembly Bill 327 (2013)[19], which required the California Public Utilities Commission to design measures to increase the adoption of renewables in disadvantaged communities. This study found that only New York actually has multiple distinct LMI programs. The two independent programs also have different eligibility criteria.

2.2 Subscriber Income Eligibility

States that mandate carve-outs for low-income or LMI customers must also determine what qualifies as such. States have therefore prescribed definitions for low-income or LMI, creating selective criteria to ensure that these funds have the intended impact. LMI eligibility requirements generally fall into three categories: household income eligibility, geo-eligibility, and categorical eligibility. States combine these eligibility requirements in different ways. Table

[18] California's Assembly Bill 2316, passed in 2022, mandates that renewable energy subscription programs allocate at least 51% of their capacity to serve low-income customers. Only one of the programs in California exclusively serves LMI customers.

[19] California Legislature, Assembly. *Electricity: natural gas: rates: net energy metering: California Renewables Portfolio Standard Program.* House Bill 327. Introduced in the Assembly February 13, 2013. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB327

A-1 in the appendix summarizes the eligibility requirements in each of the 21 states and localities identified.[20]

Household Income Eligibility

By far the most common type of eligibility requirement is household income eligibility, which establishes an annual gross or median household income threshold level that qualifies households for LMI programs. These thresholds for low-income, moderate-income, or LMI are usually pegged on federal poverty levels (FPL) (eight states), area median income (AMI) (13 states), or state median income levels (SMI) (seven states). Where AMI is used as the eligibility standard, the most common threshold income is 80% of the median (11 of 13 states use this). Two exceptions are the Connecticut Statewide Shared Clean Energy Facility Program, which defines moderate income as between 60% and 100% AMI, and Minnesota, which has an exceptionally high AMI threshold of 150% AMI for its LMI-Accessible Community Solar Garden Program (2024). FPL is used to determine eligibility for at least one LMI community solar program in eight states. In six out of the eight states, the upper limit of the FPL threshold is 200%. Although the overwhelming majority of state programs use standardized income measures such as SMI, AMI, and FPL, Delaware publishes median income charts for three counties alongside the SMI eligibility requirements for the rest of the state.

Geo-Eligibility

Given the wealth of existing income-based geospatial data from environmental justice initiatives that delineate LMI communities, overburdened and underserved communities, and disadvantaged communities, some states look at where a customer lives to (pre)qualify them for an LMI community solar program. Three states have geo-eligibility LMI requirements. These geographic boundaries range in size.

Some geo-eligible programs are based on American Community Survey (ACS) neighborhood boundaries (one state). Others are based on ACS census tract areas (one state) or state-mapped disadvantaged community census tract areas (two states). Geo-eligibility is used as a secondary or alternative form of qualification in conjunction with household income eligibility, except in Massachusetts, where geo-eligibility is used as the sole source of qualification.

Categorical Eligibility

Categorical eligibility (pre)qualifies households by proxy through local, state, or federal assistance programs, whereby participation in an income-qualified program (e.g., Low Income Home Energy Assistance Program, Weatherization Assistance Program, Supplemental Nutrition Assistance Program) makes an individual eligible for LMI community solar. Ten out of the 21 states with LMI community solar requirements accept participation in another income-qualified program to determine eligibility for LMI community solar, therefore using categorical eligibility.

The programs used for qualification vary between states and programs. Not all categorical eligibility programs will have the same income thresholds as the household income rules for the community solar program. If qualified programs have a higher income threshold than the

[20] Four states—Florida, Hawaii, New Hampshire, and South Carolina—have programs or policies that specify income qualification, even though these states do not provide a specific LMI carve-out or mandate. This explains the variation between the 17 states discussed above in the "LMI Carve-Outs" section and the 21 states discussed here.

community solar program, categorical eligibility will broaden the community solar program's potential customer base. Maryland however, requires verified eligibility for the qualifying assistance program and specifies that the income eligibility criteria of the assistance program must be the same as or less than the income threshold for the LMI community solar program (200% of the FPL).

Alternatives and Self-Attestation

More income qualification methods and approaches have come into use as community solar programs mature, including self-attestation and opt-out programs. Self-attestation is used in three states (Maryland, New Jersey, and New Mexico) to qualify individuals in the household income LMI category. These states allow income-qualified customers to self-declare that they meet income eligibility requirements, which is a simpler method of eligibility verification. For example, the Maryland Community Solar Energy Generating Systems Program specifies that the subscriber organization can verify that the prospective subscriber is low-income through "self-attestation that is not under oath and has no penalty of perjury, amongst other verification methods."[21] New Mexico uses self-attestation as a preliminary qualification method but requires the subscriber organization to qualify the household using another method within 90 days. [22]

A shortcoming of self-attestation is that if there is a dispute over a customer's claim to eligibility, the burden of proof is often on the subscriber organization, which will incur additional burden and cost.[23] Furthermore, self-attestation may not be sufficient to comply with federal regulations for projects seeking investment tax credit bonuses from the Low-Income Communities Bonus Credit Program or other funding from the U.S. Environmental Protection Agency (EPA) Greenhouse Gas Reduction Fund's Solar for All program.

Opt-out programs use a method where all qualified customers are included in a program unless they explicitly request to be removed. Two recent examples of this are policies in New Jersey and New York. In the now-permanent New Jersey community solar program, it was proposed that local governments be given the authority to operate projects with automatic enrollment that include additional requirements for customer protection, such as using consolidated billing, no fee for being enrolled in the program, and no fee to exit the program.[24] In New York, under the newly adopted statewide Solar for All Program (E-SFA), all customers enrolled in the low-income Energy Affordability Program will now also receive additional savings by being auto-

[21] U.S. Congress. House. *Economic Matters/Education, Energy, and the Environment: An Act Concerning Electricity – Community Solar Energy Generating Systems Program and Property Taxes.* HB 908. https://mgaleg.maryland.gov/2023RS/bills/hb/hb0908E.pdf.
[22] New Mexico Public Regulation Commission. 2022. "Title 17: Public Utilities and Utility Services, Chapter 9: Electric Services, Part 573: Community Solar." https://www.srca.nm.gov/parts/title17/17.009.0573.html.
[23] Leventis, Greg, Sydney Forrester, and Bentham Paulos. 2024. *Income verification strategies for income-based solar programs*. Berkeley, CA: Lawrence Berkeley National Laboratory. https://live-etabiblio.pantheonsite.io/sites/default/files/income_verification_strategies_berkeley_lab.pdf.
[24] New Jersey Board of Public Utilities. 2023. "Community Solar Energy Program Proposed Amendments: N.J.A.C. 14:8-9.1, 9.2, 9.3, 9.6 through 9.11, 11.2, 11.5, and 11.7; Proposed Repeals and New Rules: N.J.A.C. 14:8-9.3 and 9.5; Proposed Repeal: N.J.A.C. 14:8-9.4." https://www.nj.gov/bpu/pdf/rules/PRN%202023-095%20(55%20N.JR.%201985(a)).pdf.

enrolled in the E-SFA program. Customers will receive savings from the pooled value of all energy generated by the suite of projects in the E-SFA program.[25]

In general, this study shows a trend toward diversification of income verification techniques that go beyond the traditional methods and allowing other forms, such as geo-eligibility or categorical eligibility, and in some cases even self-attestation or opt-out schemes. Using a combination of verification methods may be beneficial to a program, providing flexibility for program participants and reducing the burden on subscribers where possible. There is notable variation in household income qualification between states that use different thresholds and data sources. Each state has a prerogative to decide who they would like to target using these definitions; however, it may be valuable, where possible, to align rules across income-qualified programs to reduce confusion and administrative burden. Carve-outs and income qualification rules continue to be a key part of ensuring equitable access.

2.3 Consumer Protections

As access to community solar grows, ensuring protections for consumers—especially LMI households—is necessary for a healthy market. As programs have expanded, so have policies to provide consumer protections and federal guidance on the topic. The U.S. Department of the Treasury, the Consumer Financial Protection Bureau, and the Federal Trade Commission have all released resources to counteract unfair and deceptive consumer acts and practices in the residential solar power sector.[26] These resources not only address topics that apply to both community solar and rooftop solar, but also address community solar specifically. The U.S. Department of Energy's Solar Energy Technologies Office has supported solar consumer protection guidance via their Homeowner's Guide to Going Solar, publications from the Clean Energy States Alliance[27] , and the National Consumer Law Center,[28] and has embedded consumer protections in NCSP+ initiatives such as the Clean Energy Connector and the Equitable Solar Communities of Practice.[29] Resources have also been issued from industry associations including the Coalition for Community Solar Access,[30] the Solar Energy Industries

[25] Public Service Commission. 2024. "Order Approving Statewide Solar for All Program with Modifications." Item 137. https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=327577&MatterSeq=61254.
[26] U.S. Department of the Treasury. 2024. "U.S. Department of the Treasury, Consumer Financial Protection Bureau, and Federal Trade Commission Announce Steps to Protect Residential Solar Consumers, Ensure Access to Credits." *U.S. Department of the Treasury.* August 7, 2024. https://home.treasury.gov/news/press-releases/jy2522.
[27] Chace, Diana, and Nate Hausman. 2017. *Consumer Protection for Community Solar: A Guide for States.* Montpelier, VT: Clean Energy States Alliance. https://www.cesa.org/wp-content/uploads/Consumer-Protection-for-Community-Solar.pdf.
[28] Haynes, Berneta. 2024. "Community Solar: Expanding Access and Safeguarding Low-Income Families." *National Consumer Law Center*. February 26, 2024. https://www.nclc.org/resources/community-solar-expanding-access-and-safeguarding-low-income-families/.
[29] U.S. Department of Energy. n.d. "Equitable Solar Communities of Practice." https://www.energy.gov/communitysolar/equitable-solar-communities-practice. Accessed September 14, 2024.
[30] Coalition for Community Solar Access. n.d. "Recommended Best Practices for Community Solar Consumer Protection." Coalition for Community Solar Access. https://communitysolaraccess.org/wp-content/uploads/Consumer-Protection-Best-Practices_FINAL.pdf.

Association[31], and the industry is developing new consumer protection standards in collaboration with the American National Standards Institute[32].

States have also responded to the need for solar consumer protections. Many states, such as Minnesota, Colorado, and Maryland, have passed community solar program updates, all of which include new consumer protections. Consumer protections can include many components, such as Colorado's inclusion of a uniform disclosure form that includes costs, benefits, and grievance protocols. Minnesota has included provisions such as restricting checking credit scores/reports, charging exit fees, using misleading or deceptive practices, and not charging upfront costs for LMI customers.[33] Minnesota and Maryland included consolidated billing requirements in their recent policy updates, which, when deployed appropriately, provide the key benefit of transparency and predictability in community solar savings and costs.[34]

2.4 Subscription Discount Requirements

Community solar offers access to renewable energy for people who cannot install solar panels on their own rooftops by allowing them to subscribe to offsite arrays. One of the main factors influencing individuals to subscribe is how community solar impacts their utility bills and whether they can achieve meaningful savings. In general, the subscriber pays a monthly subscription fee and receives a bill credit based on the capacity of solar panels subscribed to and the related solar generation output. Some community solar programs have mandated subscription discounts to ensure that the bill credits subscribers receive exceed the subscription fees they pay, meaning subscribers will achieve net savings on their electricity bills. A recent trend in state policy is the inclusion of required minimum discounts on the subscription discount or bill credit for subscribers, particularly for LMI customers. This trend has been adopted by six of the states discussed below in the last 5 years.

As shown in Table 3, at least 13 states and localities, including D.C., discuss subscription discounts for community solar subscribers in their policies and programs. Three states—Connecticut, Hawaii, and New Mexico—do not require savings for LMI customers, whereas the remaining states ensure or mandate a minimum savings.

[31] Solar Energy Industries Association. 2023. *Consumer Protection Primer V1.0.* Washington, DC: Solar Energy Industries Association. https://seia.org/research-resources/seia-consumer-protection-primer/
[32] Solar Energy Industries Association. n.d. "Standards Development" https://seia.org/initiatives/standards-development/. Accessed September 17, 2024.
[33] Minnesota Legislature. *2023 Minnesota Statutes: 216B.1641 Community Solar Garden.* https://www.revisor.mn.gov/statutes/cite/216B.1641.
[34] National Association of State Energy Officials. n.d. *Community Solar Consolidated Billing Review of State Requirements, Policies, and Key Considerations*. Arlington, VA: National Association of State Energy Officials. https://www.naseo.org/data/sites/1/documents/publications/Community%20Solar%20Consolidated%20Billing%20Final[85].pdf.

Table 3. State Subscription Discount Synopsis

State or District	Subscription Discount Requirements or Discussions
CA	Provide a 20%–30% bill discount for income-qualified subscribers, varying by community solar programs.
CO	Has several active projects which provide no-cost subscriptions to LMI households (100% subscription discount). Beginning in 2026, a mandate will require at least a 25% bill credit discount for all income-qualified subscribers.
CT	Not specified. The authority conducted an analysis on the potential ratepayer cost-benefit of modifying the Statewide Shared Clean Energy Facility Program to meet the Internal Revenue Service requirement, which mandates a 20% bill credit discount to qualify as a low-income economic development project for the 2023-2024 Low-Income Communities Bonus Credit Program.
D.C.	No minimum required; however, the program anticipates that all participants will see a 50% savings on their electricity bills over 15 years, because the LMI customers pay nothing for subscriptions, thus ensuring a 100% subscription discount.
HI	Not specified. The program is expected to generate 10%–25% bill savings for subscribers.
IL	Multiple programs exist. For the Illinois Solar for All Program, any costs or fees will not exceed 50% of the bill credit.
MA	The Solar Massachusetts Renewable Target program must demonstrate net savings for low-income subscribers.
MD	State mandates prohibit certain subscription rates and charges from exceeding a specified amount. Maryland also provides grants to ensure up to 20% energy savings for low-income subscribers.
MN	Subscription costs do not exceed the value of the bill credit. For LMI subscribers, a minimum 10% bill credit discount is provided.
NJ	A minimum discount on their utility bill of no less than 15% is guaranteed, with the potential for a greater discount for LMI subscribers.
NM	Not specified. The commission has conducted an analysis of projects selected (but not yet operational), which project providing a supplementary community solar bill credit for low-income subscribers ranging from 27%–30% for at least 5 years.
OR	Provide bill savings for low-income subscribers. The subscription fee will always be at least 20% less than the bill credit rate.
VA	Ensure that subscribers do not pay more in subscription fees than they receive in bill credits.

California, Illinois, and Minnesota require a minimum discount on bill credits for income-qualified subscribers. New Jersey requires a minimum discount on subscribers' utility bill. Additionally, although Colorado has not yet implemented a consistent subscription discount requirement, a mandate for at least a 25% discount on bill credits for income-qualified subscribers will take effect in 2026. The District of Columbia, Oregon, Maryland, Massachusetts, and Virginia require programs to demonstrate net savings for income-qualified subscribers.

2.5 Solar for All

As discussed in Section 2.44, guaranteed bill savings have been mandated in fewer than 50% of states with enabling community solar legislation. In 2024, with the implementation of the Inflation Reduction Act, the EPA has been authorized to fund a $7 billion Solar for All

program.[35] This program aims to deploy 4 GW of distributed solar energy and requires programs to demonstrate how they will achieve electricity bill savings of 20% or more for low-income and disadvantaged community participants.[36]

In April 2024, the EPA announced the 60 selected awardees, among them state entities, municipalities, nonprofits, and Tribal entities. The awards are such that funding is available to all states and territories, whether directly or indirectly through a multistate nonprofit. NCSP+ aims to work closely with the Solar for All program and collaborate to deliver meaningful benefits to income-eligible customers through community solar projects.[37]

[35] U.S. Environmental Protection Agency. n.d. "Greenhouse Gas Reduction Fund: Frequent Questions about the Fund." https://www.epa.gov/greenhouse-gas-reduction-fund/frequent-questions-about-fund. Accessed September 15, 2024.
[36] U.S. Environmental Protection Agency. n.d. "Greenhouse Gas Reduction Fund: Solar for All Fast Facts." https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all-fast-facts. Accessed September 15, 2024.
[37] U.S. Environmental Protection Agency. n.d. "Greenhouse Gas Reduction Fund: Solar for All." https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all. Accessed September 15, 2024.

3 Conclusion

Community solar legislation plays a key role in the growth of the market. In recent years, the passage of new policies and updates, amendments, and revisions to existing policies has expanded access to community solar for customers of all types. With enabling legislation in 24 states and localities, including D.C., the United States has seen 7.87 GWac of community solar deployed, and another 8.0 GWac planned. Most of this planned capacity is expected to come online within the next two years.

To ensure that community solar benefits all customers, including income-qualified subscribers, states have adopted several different policies and approaches. Seventeen states have established carve-outs for income-qualified customers. Although the carve-out methodology and quantity vary by state, recent trends show an increase in both the number of states incorporating carve-outs and the size of the carve-out. In conjunction, states continue to expand their income qualification pathways, with many states using not only household income as a means test, but also geographic eligibility, categorical eligibility, and in some states, even self-attestation or opt-out approaches.

Policy mandates are also increasingly requiring household savings for community solar projects. Among the 13 states and localities, including D.C., that address bill savings in their programs, 10 require savings in some form. This trend has garnered momentum, with six states passing such requirements in the past 5 years. This trend, along with the household savings required by the new EPA Solar for All program, highlights the growing emphasis on ensuring meaningful benefits in the design of community solar policies and programs. These meaningful benefits are not limited to those explored in this report (equitable access and consumer protections and meaningful household savings); they also include resilience, storage, and grid benefits; community-led economic development; and solar workforce access.

Appendix A. Income Eligibility Rules

Table A-1. State- and Program-Specific Community Solar Income-Qualified Eligibility Rules

		Eligibility		
State	**Program Name**	**Household Income**	**Geo-Eligibility**	**Categorical Eligibility**
CA	Disadvantaged Communities Green Tariff Program	Up to 250% FPL		Participant in a local, state, or federal assistance program
	Community Solar Green Tariff Program	Up to 250% FPL		Participant in a local, state, or federal assistance program
CO	Black Hills Energy Community Solar Garden	(i) Up to 200% FPL (ii) Up to 80% AMI		Qualified for state assistance programs
	Solar*Rewards Community Program	(i) Up to 200% FPL (ii) Up to 80% AMI		
CT	Statewide Shared Clean Energy Facility Program	Low-income: up to 60% SMI Moderate-income: 60%–100% AMI		An affordable housing facility, as defined in Section 8-39a in the general statutes
D.C.	Solar for All	Up to 80% AMI		
DE	Delaware Community Solar Program	Low-income: up to 200% FPL Moderate-income: SMI or county median income (New Castle, Kent, Sussex)		
FL	SolarTogether Community Solar Program	Up to 200% FPL		Participation in a state, federal, or local assistance program
	Duke Energy Program			Participation in a state, federal, or local assistance program
HI	Community-Based Renewable Energy Program	Up to 80% AMI		
IL	Illinois Solar for All Program	Up to 80% AMI		
MA	Solar Massachusetts Renewable Target		Resident in a low-income-eligible area, defined as a neighborhood, identified through ACS data, that has a household income of up to 65% SMI	Customer is on a low-income discounted rate of a distribution company
MD	Community Solar Pilot Program (established before July 1, 2023)	Self-attestation of low-to-moderate income status, subscriber organization to verify		

		Eligibility		
State	**Program Name**	**Household Income**	**Geo-Eligibility**	**Categorical Eligibility**
	Community Solar Energy Generating Systems Program	Low-income: up to 200% FPL Moderate-income: 80% SMI	Resident in a census tract that is an overburdened or underserved community, defined according to the most recent U.S. Census Bureau Survey as any census tract in which (i) at least 25% of the residents qualify as low-income, (ii) at least 50% of the residents identify as nonwhite, or (iii) at least 15% of the residents have limited English proficiency.	Participation in a state, federal, or local assistance program with an income eligibility criteria of 200% or below the FPL
ME	Net Energy Billing	Up to 80% AMI		
MN	LMI-Accessible Community Solar Garden Program (2024)	(i) Up to 60% SMI (ii) Up to 150% AMI		(1) Participant in a federal, state, or local assistance program (2) Subscriber organization performs an income check using the 2024 AMI lookup table
NH	Electric Assistance Program Low-Moderate Income Community Solar Program	Up to 60% SMI		
	Low-Moderate Income Solar Grant Program	Low-income: up to 300% FPL Moderate-income: 200%–300% FPL		
NJ	New Jersey Community Solar Energy Pilot Program	Up to 80% AMI		
	New Jersey Community Solar Energy Program	Up to 80% AMI		
NM	New Mexico Community Solar Program	Up to 80% AMI		Prequalification if you participate in specified local, state, or federal assistance programs or live in a low-income/affordable housing facility
NV	Nevada Community Solar Target	Up to 80% AMI		

		Eligibility		
State	**Program Name**	**Household Income**	**Geo-Eligibility**	**Categorical Eligibility**
NY	New York Solar for All	Up to 60% SMI		
	NY-Sun	Up to the higher of 80% AMI/80% SMI	Residence in a disadvantaged community or an EmPower New York prescreened area	Participant in a local, state, or federal assistance program
OR	Oregon Community Solar Program	Up to 80% SMI Income charts published annually on state program webpage		
SC	Duke Energy Shared Solar for Income-Qualified Customers	Up to 200% FPL		Prequalification if you participate in specified local, state, or federal assistance programs
VA	Shared Solar Facility Program	Up to 80% AMI		
WA	Community Solar Expansion Program	(i) Up to 80% AMI (ii) Up to 200% FPL		