



Developing an Impactful Solar for All Proposal

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CONTENTS

- 1. Introduction..... 3
- 2. The Opportunity 3
- 3. Community Solar and Residential Solar Considerations 5
- 4. Building a Strong Program Strategy Narrative 7
 - 4.1 Impact Assessment (20 pts): 7
 - 4.2 Meaningful Benefits Plan (30 pts): 7
 - 4.3 Distributed Solar Market Strategy (30 pts): 9
 - 4.4 Financial Assistance Strategy (30 pts): 11
 - 4.5 Project Deployment Technical Assistance Strategy (20 pts): 14
 - 4.6 Equitable Access and Meaningful Involvement Plan (30 pts): 15
 - 4.7 Program Planning Timeline and Workplan Narrative (15 pts): 16

1. Introduction

The Inflation Reduction Act (IRA) provides funding for the EPA's Greenhouse Gas Reduction Fund (GGRF), a \$27 billion program to drive low-cost, accessible financing into building a clean energy economy. This funding is split into three separate competitions, that, if designed thoughtfully, will complement each other:

- \$7 billion for Solar for All
- \$6 billion for Clean Communities Investment Accelerator
- \$14 billion for National Clean Investment Fund

This guide provides a high-level summary of the Solar for All program, summarizes program strategy considerations, and offers technical and pragmatic insights for key EPA evaluation criteria to inform strong, impactful Solar for All applications.

2. The Opportunity

Program Objectives and Grant Details: The Solar for All competition is designed to expand existing or support new low-income solar programs nationwide. Solar for All programs can include residential rooftop solar, residential-serving community solar, associated storage, and enabling upgrades including energy efficiency. EPA will award up to 60 grants across three distinct award categories ranging from \$25M (reaching up to 10,000 households) to \$400M (reaching more than 30,000 households).

Figure 1: See next page.

Figure 1: Three award categories in Solar for All

		Award Option #1 – State and Territory Programs	Award Option #2 – American Indian and Alaska Native Programs	Award Option #3 – Multi-state Programs
Eligible applicants including coalitions with a lead applicant that is an eligible applicant	<i>States</i>	Eligible		
	<i>Territories</i>	Eligible		
	<i>Tribal governments</i>	Eligible	Eligible	Eligible
	<i>Municipalities (including councils of governments)</i>	Eligible		Eligible
	<i>Eligible nonprofit recipients</i>	Eligible	Eligible	Eligible
Number of awards		Up to 56	Up to 5	Up to 10
Geographic scope of work		Develop Solar for All programs that serve a specific state/territory or a portion of a state/territory (e.g., a coalition of municipalities within a state/territory)	Develop Solar for All programs that serve American Indian and Alaska Native Communities	Develop Solar for All programs that serve similar communities in multiple states

Table: Table reproduced from EPA guidance. • **Source:** EPA

Application and Program Timeline: Solar for All programs are expected to last for five years. EPA allows the first year of the program to be used as a planning period, which is beneficial since applicants have only until October 12th to submit an application, as shown in Figure 2.

Figure 2: Solar for All Timeline



Early Collaboration is Necessary

Municipalities: Municipalities should reach out to their state to see if they plan to apply to award option 1. If not, they should strongly consider working with a coalition of cities within their state, as EPA has made it clear it would like to make an award in each state. If the state is applying and the municipality doesn't feel the program will properly cover them, the municipality should identify other municipalities with similar regulatory barriers to design a joint application under award option 3.

Tribal governments: Since award option 2 only allows five awards, proposals for this award option are likely to be more competitive if tribes partner with other tribes with similar program design needs. Tribes can also consider applying to award options 1 or 3 as lead applicants or partners. For a stronger application to these award options, tribes should partner with other potential lead applicants that can ensure broad geographic reach. Keep in mind that the applications to award options 1 and 3 will be awarded more points if they are able to demonstrate that they will reach and benefit tribes.

3. Community Solar and Residential Solar Considerations

When possible, it may be most beneficial to support both community solar and residential rooftop solar within a Solar for All program in order to serve a larger, more diverse set of households. Figure 3 outlines which approach best supports different potential program goals, and highlights a number of important best practices to enhance each approach's impact.

Figure 3: See next page.

Figure 3: Community Solar and Rooftop Solar Comparison

Community solar and rooftop solar comparison. Colored cells indicate the solar type that is generally more supportive of a particular goal, with yellow cells indicating potential for greater impact with certain caveats or in the presence of certain conditions.

Program Goals	Community Solar	Residential Solar
<p>Lower upfront cost: Having a lower upfront cost reduces the size of the incentive needed to make solar cost-effective. Therefore, lower costs should result in more solar capacity.</p>	<p>Community Solar typically costs less per watt by capturing greater economies of scale.</p>	<p>Best Practice: Lower upfront cost by doing a Solarize campaign. Further, pairing solar with energy efficiency can result in quicker payback periods with more energy savings.</p>
<p>Serve renters: Over 50% of low-income households are renters.</p>	<p>Community Solar can provide savings to any utility customer via bill credits.</p>	<p>Best Practice: Design the program to allow affordable housing owners to provide benefit to tenants.</p>
<p>Serve households with old roofs: Around 30% of roofs will need to be replaced or repaired before solar panels can be installed.</p>		<p>Best Practice: Pay for roof upgrades by pairing them with insulation to make solar energy go further.</p>
<p>Serve households without roof space: Urban areas often have limited unshaded roof space for worthwhile solar projects.</p>		
<p>Support resilience: Having more resilient buildings that can maintain comfortable temperatures longer or provide backup power helps protect residents against future disasters.</p>	<p>Best Practice: Design community solar, paired with storage and energy efficiency, to be used as a resilience hub.</p>	<p>Best Practice: Pair solar with storage with islanding capabilities and energy efficiency. This boosts resilience but rarely improves economics, so should be used only when needed.</p>
<p>Build community wealth: Owning a solar project can build individual wealth, local workforce, and entrepreneurship.</p>	<p>Best Practice: Design community solar programs to allow for partial ownership of array. This is rare and may mitigate other benefits of community solar like flexible time commitment.</p>	<p>Best Practice: Design financial incentives to support household ownership on an expedited timeline. Evaluate third-party leases and PPAs carefully.</p>
<p>Create local jobs: Some programs can create good-paying jobs within low-income or disadvantaged communities.</p>	<p>Community solar produces fewer jobs per megawatt than residential solar. Larger projects are more likely to pay prevailing wages and offer good benefits.</p>	<p>Rooftop solar is more labor intensive, which creates more jobs per megawatt deployed (see IREC National Solar Jobs Census 2022 “Solar Jobs by Market Segment”). But smaller projects (<1MW) are less likely to pay prevailing wages or offer good benefits.</p>
<p>Make solar more visible: Pointing to solar in your community can inspire other households or communities to follow suit.</p>	<p>Best Practice: Place community solar within disadvantaged communities, not just within the utility’s territory. This may be difficult with space constraints and may raise costs due to higher urban land values.</p>	<p>Rooftop solar is more distributed and more visible to residents across a community.</p>
<p>Align program with local regulations: While states allow for rooftop solar, only half have community solar-enabling legislation — and even fewer have active community solar markets. Tribes are usually subject to state regulation, although they have the authority to create tribal-specific legislation as well.</p>		<p>Best Practice: While rooftop solar may be allowed, unfavorable net metering policies may make it difficult to achieve favorable economics in certain locations. Understand this policy in your state, and consider engaging utilities and regulators as needed.</p>
<p>Mitigate complications from land jurisdiction barriers: On tribal lands, complex land status and zoning regulations may slow the development process.</p>	<p>Best Practice: Tribes should go through a zoning process early on to identify areas where solar development meets tribal goals and does not interfere with culturally significant sites.</p>	

Source: RMI

4. Building a Strong Program Strategy Narrative

The The Solar for All application will be scored on a 245-point scale, according to the [Notice of Funding Opportunity \(NOFO\)](#) released in July. This memo will build on the NOFO and provide recommendations for the “Program Strategy Narrative” portion of the application, worth 175 points, organized by the EPA’s evaluation criteria.

4.1 Impact Assessment (20 pts):

What to include: *Describe current market for residential-serving solar in your geography including deployment rates for low-income and disadvantaged communities. Include reasonable targets for capacity of solar projects, capacity of storage projects, households served, annual CO₂ emissions avoided, household savings realized, and solar jobs created.*

Recommendations:

Articulate how the proposed program will address the existing obstacles to low-income solar:

- Your application should convey a comprehensive understanding of the market barriers hampering low-income solar deployment within your jurisdiction.
- Detail your theory of change — elaborating on how the proposed initiatives would address these market barriers, or work around them, and deliver impact at scale.
- For insightful references on prevalent barriers and potential countermeasures, please consult the *Distributed Solar Market Strategy*, *Financial Assistance Strategy*, and *Equitable Access* sections below.

Ground your impact assessment in historic realities:

- To ensure your impact assessment is realistic and robust, you should use historic data (from your local community or other comparable regions) to justify your projections. This will increase the credibility of your analysis, showing that your expectations are based on your current situation and comparable scenarios and not just optimistic guesses. Be ambitious but realistic in your proposed impact.
- You can refer to the following resources:
 - Economic modeling for residential rooftop solar, including state and county specific upfront cost, incentives, and utility rates: RMI’s [RESET tool](#).
 - Historical data of solar PV systems installed in 30 states and national trends including system size and design, ownership model, and number of installations: LBNL’s [Tracking the Sun report](#).
 - Status of community solar legislation and market: [NREL’s State Policies and Programs for Community Solar Spreadsheet](#) and [NREL’s Sharing the Sun Community Solar Project Data](#).
 - Upfront costs of energy-efficient appliances and weatherization: NREL’s [National Residential Efficiency Measures Database](#)

4.2 Meaningful Benefits Plan (30 pts):

What to include: *Describe how your program will deliver meaningful benefits for low-income and disadvantaged households including household savings, equitable access to solar, resilience benefits, community ownership, and workforce development and entrepreneurship.*

Recommendations: Beyond simply deploying solar panels and lowering greenhouse gas (GHG) emissions, Solar for All programs must be able to provide lasting benefits at the community and household level. Through careful program design, applicants can help create high-quality and long-lasting jobs, build a trained workforce, build wealth at the community level, and increase resilience during power outages for those that need it most.

Household Savings: To maximize household savings, see *Financial Assistance Strategy*, including *Minimizing System Upfront Costs*, and the information in the NOFO Appendix C — Household Savings Guidance. In addition:

- **Prioritize serving households with high energy burden**: Rather than seeking to simply achieve average household savings of 20% (of the average electricity expenditures of the average household in the utility territory), Solar for All programs should seek to maximize reductions in [energy burden](#) (electricity cost as a percentage of income, considered 6% of income or higher). A Solar for All program can be built to provide greater savings for those with higher energy bills relative to their income, rather than simply providing equivalent savings for all households served.
- **Savings for first-time home electrification**: For homes that are receiving electric power for the first time through this program (e.g., homes in very rural areas), you may be able to demonstrate financial savings (e.g., because a diesel generator is no longer needed). In other cases, home electricity costs may actually increase for homes that have previously done without, although members of those households will likely experience an improved quality of life. In these cases, including enabling upgrades such as roof repair or energy efficiency services could increase the overall household savings to meet this program criteria.

Equitable Access to Solar: See the *Equitable Access and Meaningful Involvement* section.

Resilience Benefits: Several strategies can be leveraged to provide resilience benefits where it is most needed through these programs:

- **Provide battery storage where resilience is most needed**: Batteries must be specifically designed to provide power during blackouts. Solar PV without batteries cannot provide power during blackouts due to grid safety requirements. Because storage often adds cost without a quick payback period, storage should be done only in places where resilience is a high priority, such as in these scenarios:
 - Homes that are not connected to the grid and lack power or are solely reliant on fossil fuel generators that are a health hazard and release GHGs.
 - Residents that rely on electricity to run life-saving medical equipment.
 - Homes that are subject to frequent power shut offs due to wildfires, high wind events, or other reasons.
- **Include energy efficiency and electrify**: Homes that are more energy efficient [decrease backup energy needs](#), therefore also decreasing the upfront capital costs of solar plus storage. Moreover, in homes without storage, proper insulation and air sealing provides more [hours of comfort and safety](#), protecting residents from unsafe temperatures for longer. Electrification is also a key part of this, since electric equipment paired with solar and storage can still be used in a blackout.
- **Consider leveraging community solar to create [resilience hubs](#)**: Community solar could be paired with storage and efficiency in a community-serving facility to offer a low-income community solar subscription model during normal operations, and resilience to the community in times of disaster. By leveraging the collective solar generation and battery storage capacity within the community, this model enhances the resilience of the entire community, particularly during extended power outages or natural disasters.

Community Ownership: Consider program designs that will support accelerated community ownership of the assets where possible. Possible strategies include:

- **No upfront cost ownership models**: Work with utilities, green banks, or local community development finance institutions (CDFIs) to offer financing that is similar to a power purchase agreement (PPA) or solar loan but allows for system ownership. This will allow for low-income households to pay back solar costs as they're realizing utility bill savings, ideally subsidized at a level where they have net savings monthly and don't need to pay an upfront cost. For more information on these topics, see the *Financial Assistance Strategy* section.

Workforce Development and Entrepreneurship: Recruiting a diverse workforce from low-income communities, developing a high-quality local workforce, and providing high-quality jobs over time, are all key to the success of a Solar for All program. To meet these goals, applicants can leverage the following strategies:

- **Prioritize equity and diversity in workforce development efforts:** In addition to partnering with the entities described in the NOFO Appendix E — Multi-Sectoral Partnerships to lower barriers to entry for underrepresented communities, consider hiring teachers and staff that are representative of the communities you are looking to recruit from.
- **Include local hiring requirements:** Awardees should add local hire requirements into their solar developer RFP, meaning a fraction of the workforce is hired from the community to ensure jobs benefit the communities in which they're built.
- **Provide job training paired with wrap-around services:** Job training and apprenticeship programs must include wrap-around supportive services, such as case management and on-the-job support and mentorship. For example, see Coalfield Development's [33-6-3 workforce development model](#).
- **Leverage clean energy tax credits to support program in providing high quality jobs:** In addition to the good job recommendations in the NOFO Appendix E, we recommend leveraging clean energy tax credits (see the *Financial Assistance Strategy* section) and requiring project developers to commit to the relevant [prevailing wage and apprenticeship requirements](#), which increase the commercial investment tax credit from 6% to 30% for projects greater than 1 MW.

4.3 Distributed Solar Market Strategy (30 pts):

What to include: Describe the market barriers to residential-serving solar in your geography and how you plan to address those barriers. Address all regulatory barriers identified below, even if it's to say it's not a barrier in your geography.

Recommendations:

When designing a program, applicants should evaluate market barriers to residential-serving solar and identify various tactics to mitigate these barriers. This section first identifies favorable characteristics of key policies and then links to other relevant resources.

Net Metering: The rate at which distributed solar systems are compensated for excess solar production; this rate significantly impacts the economics of distributed solar.

- **Favorable policies:**
 - Full retail-rate net metering as kWh credits on the customer's bills.
 - Requirements that all utilities in the state need to adhere to net metering rules.
 - No demand or fixed charges (since solar typically won't offset this).
 - Continuous monthly rollover of kWh credits (so if in one month you overproduce your load you still get full value of solar).
 - Virtual or aggregate net metering explicitly allowed by law.
 - Capacity limit on project size that's at least 100% of the building load (not based on any one meter), so the full load can be offset. This is especially important in sub-metered multifamily buildings.
- **Resource to look up regulations by geography:** Solar Reviews' "The [State of Net Metering in 2021](#)."

Third-Party Ownership: Allows customers to access distributed solar even without upfront capital.

- **Favorable policies:**
 - Third-party solar ownership is allowed.
 - Third-party ownership can be done through a PPA, where a resident pays the system owner (e.g., a solar developer) a set amount per kWh produced.
 - Third-party ownership can be done through a solar lease, where a resident pays the system owner (e.g., a solar developer) a fixed amount on a monthly basis.

- **Resource to look up regulations by geography:** [Database of State Incentives for Renewables & Efficiency \(DSIRE\)](#)'s [Third-Party Solar Power Purchase Agreement Policies](#) (updated August 2021)

Interconnection: Simple rules for interconnecting distributed solar help reduce project costs and timelines.

- **Favorable policies:**
 - Application fees: reasonable limits on interconnection application fees and minimums for smaller systems.
 - Review process:
 - A “first- ready, first-served” cluster study approach versus a “first-come, first-served” serial approach (e.g., MISO and PJM).
 - Multi-tiered process for differently sized or certified systems or an “expedited” process for projects with low network upgrade costs (e.g., PJM).
 - Information access:
 - Easy access to grid infrastructure information.
 - Clear and predictable timelines.
 - Transparent online queue of applicants.
- **Resource to look up regulations by geography:** [The Interstate Renewable Energy Council \(IREC\) Interconnection Grades](#). These grades are only based on policies and practices explicitly included or referenced in states' interconnection rules.

Renewable Portfolio Standards: State requirements for the percentage of electricity derived from renewable energy can support a distributed solar market.

- **Favorable policies:**
 - Solar and/or distributed generation carve-out targets in relevant states.
 - Establishment procurement targets for offshore wind in relevant states.
 - Requirements of public access to and reporting of compliance data.
- **Resource to look up regulations by geography:** Berkeley Lab's [U.S. State Renewables Portfolio & Clean Electricity Standards: 2023 Status Update](#).

Community Solar-enabling legislation:

- **Favorable policies:**
 - Virtual net metering.
 - Higher cap on the capacity of individual projects.
 - No restrictions on the distance between projects and subscribers.
 - Have SREC markets in which owners of community solar installations own the rights to retire SRECs.
 - Have low- and moderate-income (LMI) incentive/carve-out.
 - Have multifamily housing incentive/carve-out.
- **Resource to look up regulations by geography:** [DOE Community Solar Policy Types](#) or NREL's [Community Solar Policy Screening Workbook for Multifamily Affordable Housing Building Portfolios](#).

Engage legislators, regulators, and/or utilities: If the regulatory environment is not favorable for your Solar for All program, we suggest integrating a plan to engage with legislators, regulators, and utilities to attempt to create opportunities.

- **Identify the responsible decision maker for regulatory change:** Net metering, community solar-enabling legislation, renewable portfolio standard, and third-party financing are generally decided at the state legislative level. However, if the state legislature is unwilling to update the policy, working with your utility can be a workaround for community solar and net metering rates. Interconnection is often also decided at the utility level.

- **Find partners that identify their best role for engagement:** Collaborate with municipalities, tribal governments, and states to share knowledge, develop messages, and amplify voices. Engage community-based organizations (CBOs) to ensure the regulatory updates advance energy equity and affordability. Coordinate with industry, such as solar developers, to help make the business and economic development case for updating regulations.
- **Identify opportunity windows for engagement:** Since the majority of these policies are decided at the state legislative level, it is necessary to know the [state legislative session](#) calendar in your state and reach out well before the regular session begins. For utility engagement, you can engage at any time, but there are times where engagement may be more impactful. For instance, when they're [updating their integrated resource plans \(IRP\)](#) is often when they consider distributed solar and community solar programs. Further, since most utilities need to submit their plans for to public utility commission for approval, it could be an opportunity to push them to do more using that lever, even if they wouldn't on their own.
- **Key resource:** [Engagement guide for utility, state regulator, state energy office, state legislators, and wholesale energy market](#)

4.4 Financial Assistance Strategy (30 pts):

What to include: Describe how Solar for All fund will be used to provide eligible financial assistance, including a financial assistance model that defines the type, size, and deployment strategy of financial assistance. Include how it finances storage and other enabling upgrades and how it complements, not duplicates, other incentives.

Recommendations:

The combination of high upfront costs and insufficient low-cost financing has made rooftop solar inaccessible for many lower-income households and disadvantaged communities. When designing a program, applicants should consider various tactics to mitigate these barriers to identify the most impactful use cases for the Solar for All grant.

Minimizing System Upfront Costs: There are several key steps that program administrators can leverage to reduce the cost of installations for their community members:

- **Leverage Bulk Procurement:** Centrally managed rooftop solar programs, such as [Solarize Campaigns](#), can leverage their scale and centrally coordinated RFP process to tap into greater economies of scale to reduce installation prices.
- **Enact Supportive Policies:** Local governments can pass solar-friendly policies, such as automated permitting, that can streamline project implementation and reduce “soft” costs. See [SolSmart](#) for more information on best practices.
- **Explore Complementary Incentives:** States, utilities, and municipalities at times offer direct subsidies for rooftop solar.
- **Consider a Sliding Scale:** Program administrators may wish to adjust the amount of any additional subsidy provided by Solar for All funds depending on household income and other variables. For many low-income households, RMI recommends aiming to provide systems at \$0 upfront cost.

Reducing Financing Costs: There are a number of potential strategies that can be leveraged to reduce the cost of financing for these installations:

- **Partner with Mission-Aligned Financial Institutions:** Various types of institutions such as CDFIs, credit unions, minority depository institutions, green banks, or others may be able to offer or via programs set up to address the needs of lower-income households. The recipients of the other two GGRF awards (the “National Clean Investment Fund” and the “Clean Communities Investment Accelerator”) are a natural starting place to find like-minded financial partners. While the recipients of these programs have not yet been selected, Solar for All applicants should indicate an intention to minimize duplication

and maximize complementarity with the ultimate recipients and consider how they may leverage the ~\$20 billion dollars of related financing these programs could provide. An example of an innovative partnership approach is outlined in the *Leveraging Direct Pay to Maximize Wealth Creation* section.

- **Leverage Standard Loan Contracts:** Standard contracts can help improve liquidity by allowing for bundling and sale of loans. Organizations such as [Scale Link](#) enable loan originators to recycle capital more quickly and profitably — enabling more projects in communities and unlocking lower interest rates.
- **Enable Longer Terms:** Identifying loans with longer terms can reduce interest rates, although potentially at the expense of long-term return for participants.
- **Address Low Credit Scores:** Many lower-income households are unable to secure low-cost loans in part due to a sub-optimal credit score. Consider working with financing partners, or directly leveraging Solar for All funds, to offer products like loan-loss reserves or loan guarantees that can make lenders more willing to offer lower-cost loans to these households. Program administrators can also consider promoting alternatives to traditional FICO scores, such as mortgage or bill payment history or [EnergyScore](#). Alternatively, program structures such as [tariff on-bill financing](#) offer alternative structures that do not rely on individual credit scores but do require utility cooperation. See this [NREL paper](#) for more information on policy options to support solar across key housing types.

Leveraging Other Federal Incentives: Solar for All applicants have an important opportunity to leverage other federal programs to further scale their impact.

Figure 4: See next page.

Figure 4: IRA tax incentives and rebates relevant to Solar for All

Program	Description	Direct Pay / Transferability	Notes
Residential Clean Energy Credit (25D)	Consumer credit for the purchase of residential clean energy equipment	Not refundable or eligible for direct pay or transferability. Unused credit value carries over to next tax year.	<ul style="list-style-type: none"> A one-time payment based on 30% of the cost of the project. Can be used for solar, solar water heaters, fuel cells, wind turbines, geothermal heat pumps, battery storage. <p>Relevance for Solar for All: Could be used for residential solar and storage, but may be difficult in LMI households due to limited tax liability.</p>
Clean Electricity Investment Tax Credit – ITC (48 or 48E after 2025)	Non-consumer credit for clean energy generation including storage	Non-taxable entities (e.g., cities, nonprofits) can access direct pay. All other entities can access transferability.	<ul style="list-style-type: none"> The ITC is a one-time payment based on the cost to put the project in service. This is not a consumer tax credit like 25C. The base ITC is 6% but is boosted to 30% if prevailing wage and apprenticeship requirements are met. +10% adder if using domestic content. +10% adder if in an energy community. +10% adder for projects in low-income or tribal communities OR +20% adder for projects financially benefiting low-income or tribal communities. This adder is capped at 1.8 GW per year and requires applying through a competitive process. Projects may claim either the ITC or the PTC, but not both. The ITC is more beneficial for smaller solar projects, so should be the focus of Solar for All. <p>Relevance for Solar for All: Community solar projects can use this tax credit. Through third-party ownership, it may also be used for residential solar installations.</p>
Home Electrification Rebate Program	Homeowner and multifamily building owner rebates for electric appliances	Point of sale rebate on appliances	<ul style="list-style-type: none"> Rebates available to LMI households and owners of multifamily units with LMI households. Programs will vary by state and will not come online until 2024 in most cases. Point of sale rebate up to \$8,000 per heat pump, \$840 per electric stove, \$4,000 per breaker box, \$2,500 for electric wiring, \$1,600 for weatherization, \$1,750 per water heater. <p>Relevance for Solar for All: Could be used to ensure “enabling upgrades” remain below 20% of program cost.</p>
Home Efficiency Rebate Program	Homeowner and multifamily building owner rebates for whole home energy efficiency retrofits	Rebate with timing of rebate dependent on State Energy Office Design	<ul style="list-style-type: none"> Rebates available to homeowners, multifamily building owners, and aggregators. Programs will vary by state and will not come online until 2024 in most cases. \$2,000/unit for building-wide savings between 20% and 35% (\$4,000/unit for low income). \$4,000/unit for building wide savings above 35% (\$8,000/unit for low income). <p>Relevance for Solar for All: Could be used to ensure “enabling upgrades” remain below 20% of program cost.</p>
Energy Efficient Home Improvement Credit (25C)	Consumer credit for components that improve the energy efficiency of an existing home	Not refundable or eligible for direct pay or transferability. Unused credit value does NOT carry over to next tax year	<ul style="list-style-type: none"> 30% of cost, with limits for each type of improvement (e.g., \$2,000 for air-source heat pumps). Total annual credit capped at \$1,200, with a separate annual \$2,000 limit for heat pumps. <p>Relevance for Solar for All: Could be used to ensure “enabling upgrades” remain below 20% of program cost, but may be difficult in LMI households due to limited tax liability.</p>

Source: RMI

Leveraging Direct Pay to Maximize Wealth Creation

As shown in Figure 4, being able to access the residential ITC (25D) may not be possible for most low-income households. The combination of the enhanced commercial ITC (Section 48) and the new Direct Pay mechanic has created the possibility for CDFIs and other nonprofit financial institutions to act as third-party owners of solar projects in LMI communities. This approach could provide multiple benefits:

- By leveraging direct pay, the CDFI could capitalize on the full value of the ITC, something many LMI homeowners are not able to do.
- CDFIs could leverage their credit rating to support the projects with lower-cost debt financing.
- CDFIs can then seek to transfer ownership over to homeowners on an accelerated timeline, thereby providing a means to build community wealth.

Including Energy Efficiency and Electrification Where Appropriate: Energy efficiency and beneficial electrification is an important component of residential decarbonization and should be integrated into Solar for All programs where possible.

- **Start with Efficiency:** Energy efficiency is not only one of the cheapest ways to reduce home energy bills but also the natural first step. Reducing the need for energy in a home first allows contractors to appropriately size other appliances, such as rooftop solar, therefore lowering the cost of solar.
- **Electrify for Impact:** Electrifying buildings can allow for more of the building load to be offset by solar. It also can support with better indoor air quality, makes heating more resilient (when paired with solar and storage), and lowers household emissions in all states regardless of the grid mix.
- **Be Conscious of the Caps:** Solar for All allows for energy efficiency to be part of the “enabling upgrades,” yet the percent of funds for these upgrades is capped at 20% of the overall financial assistance provided. This same 20% may also be needed for other upgrades (e.g., roof replacements, health and safety upgrades in the home).
- **Integrate with Other Programs:** Given the importance of efficiency and the Solar for All program’s funding constraints, program administrators should explore means to integrate other offerings (such as the federal incentives outlined in Figure 4) into their outreach and the financial offerings, even if much of the funding for efficiency projects comes from other sources.

Including Energy Storage Where Appropriate: Energy storage in the form of batteries are eligible to be included in the cost of the system when applying for the ITC or [Residential Clean Energy Credit](#). Energy storage typically does not enhance the direct financial benefits for customers under current market conditions unless the local utility charges a time of use (TOU) rate, in which case storage can at times be cost effective. Energy storage can provide other benefits, such as energy supply during grid outages, but only if the building is also designed to “island” from the grid during such outages — which adds additional cost to the project.

Considering Long-Term Impacts of Program Financial Assistance: While providing low-cost loans can support initial adoption, program administrators should be aware that requiring low-income households to take on additional debt can have negative impacts on their credit scores and ability to pursue other loans.

4.5 Project Deployment Technical Assistance Strategy (20 pts):

What to include: Describe how you will support communities and other solar market stakeholders (e.g., solar developers, contractors, affordable housing developers, owners) with technical assistance to develop project pipeline and deploy solar. This includes workforce development, interconnection, siting, land use, permitting, building codes, and inspection.

Recommendations: Local governments can play an important role in providing workforce training opportunities and supporting local solar by enacting supportive policies that not only streamline project installations but also help reduce the cost of installed systems for households.

Integrate Workforce Development Programs: Local and regional governments can partner with universities or nonprofits to offer solar training programs, with Washington DC's [Solar Works DC](#) serving as an example of an ongoing program. In addition, specific solar projects or programs can provide local communities with a tangible focal point for solar industry training programs. For example, the [City of Madison, WI](#), leveraged its rooftop solar installation projects as an opportunity to train residents, while the City of Houston used its [Sunnyside Solar Farm](#) project as a mechanism to raise funds to train 175 residents for STEM careers in the solar industry. Program administrators could also explore partnering with private companies by integrating training efforts into RFP requirements for the program and exploring the use of other federal programs (such as the [Energy Infrastructure Reinvestment program](#)).

Mitigate Potential Interconnection Challenges: Interconnection refers to the final, utility-managed approval process that solar and battery projects must complete before commencing operation. Interconnection periods for rooftop solar projects are typically on the order of [one to three weeks](#), yet lack of staff and inefficient processes can cause significant, frustrating delays for homeowners and installers. Some local utilities are required to track and publicly report data on interconnection approval times, which should give Solar for All applicants a sense of what they may be able to expect while planning projects. Applicants should plan to engage with their local electric utilities ahead of the program launch to explore means to streamline interconnection for rooftop solar systems. [Additional resources on engaging with utilities are available here](#).

Streamlining Other Project Stages: Local governments can also pass supportive policies to streamline rooftop solar installations and, by doing so, reduce the costs of these projects for contractors and households. [SolSmart](#) provides a list of potential actions and examples of best practices regarding supportive actions local governments can take related to permitting, planning and zoning, community engagement, and market development.

4.6 Equitable Access and Meaningful Involvement Plan (30 pts):

What to include: *Describe how your customer acquisition strategy will maximize solar deployment across the geography you will serve, ensuring equitable access to and participation in the program. Specifically mention how you plan to engage American Indian and Native Alaska communities, if you plan to serve these communities with your program.*

Recommendations: Low-income and disadvantaged households lack access to solar not only because of high upfront cost and lack of access to financial instruments, but also because of other barriers including lack of information, language and behavioral barriers, split incentives between owners and tenants (as many low-income residents are renters), or simply because the programs are not designed to meet their needs. To address the financial barriers, please see *Financial Assistance Strategy* in this document. To address the other barriers, several program design strategies can help ensure solar reaches the most disadvantaged residents:

Maximizing the breadth and diversity of communities served: The first step to maximizing a solar program's reach is to partner with local organizations:

- **Partner with community organizations:** Develop trusted partnerships with local community organizations that can act as ambassadors to the community, advise on outreach strategies, support in engaging communities in two-way conversations, and thus lead to the development of programs that are tailored to the needs of local communities. Look for organizations and individuals that are well-respected in the local community, with greater influence and reach. Stronger applications will have

identified community organizations, labor partners, and other potential program partners already, and include statements of support in Appendix L of the application.

- **Provide funding or honoraria:** Provide organizations and individuals with honoraria or funds to support their full participation (e.g., support organizing community meetings).

Meaningfully engage with all Solar for All stakeholders: In partnership with local organizations or community representatives, leverage the following strategies to more efficiently engage in a two-way dialogue about what the community needs and what your program can offer:

- **Bi-directional engagement:** A critical element of supporting LMI adoption of any clean technology is consistent, [bi-directional, authentic engagement](#) in which the community is not only consulted and asked for feedback, but also asked for proactive input. For a comprehensive set of meaningful community engagement strategies, see [Building Blocks for a Regenerative and Just 100% Policy](#)
- **Make meetings accessible to community members:** Host meetings at a time that works for people with full-time jobs, consider offering duplicate meetings to ensure a wide range of people can attend, and provide childcare and translation services if needed. Where possible, [compensate participants](#) for contributing their input.

Robust strategy for customer acquisition: Some of the following strategies will help to reach the most disadvantaged members of the community across a breadth of stakeholders:

- **Rural and suburban communities:** Advertise in local media sources that those communities trust, such as local newspapers or online community forums.
- **Communities where English is not the first language:** Address linguistic barriers with multilingual materials. When holding meetings, ensure that translation is available.
- **Across the board:** Use energy terminology that is understandable and framing that emphasizes the applicable, non-energy benefits of solar (such as bill savings, resilience).
- **Structure program to ensure access by the most disadvantaged communities:** In addition to the recommendations above (*Financial Assistance Strategy* and *Community Solar and Residential Solar Considerations* sections), design program to have low barriers to entry, including reducing the amount of paperwork that people find intimidating and include specific instructions on where to find paperwork that is needed.

4.7 Program Planning Timeline and Workplan Narrative (15 pts):

What to include: *Provide a timeline and describe how you will plan and implement the Solar for All program, including steps and milestones to implement all strategies described above.*

Recommendations: EPA allows up to a year of the five-year program to be used for planning. Identify whether you need that year and, if needed, how you will spend it to refine the Solar for All program. Getting concrete about what is set and what you still need answers to, as well as technical assistance you have planned to get those answers, will help ground your application in reality, even as there are still many unknowns. If necessary, identify go/no-go moments and necessary pivots (e.g., if legislators and utility both say they won't work with you on community solar). Further, review everything that you committed to above and start stakeholder and policy window opportunity mapping to identify who and when you need to inform, engage, and convince, and then include coordination with relevant stakeholders as milestones in the planning timeline.