NATIONAL HOUSING TRUST

ADVANCING RENEWABLE ENERGY IN RHODE ISLAND AFFORDABLE HOUSING

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Contents

EXECUTIVE SUMMARY

Rhode Island Housing (RIHousing) seeks to promote access to onsite and remote renewable energy resources to reduce energy costs for affordable housing residents and building owners and advance net zero-emissions affordable housing. To support this effort, RIHousing engaged National Housing Trust (NHT) to (1) identify the barriers to maximizing the use of renewable energy in affordable housing in Rhode Island, (2) provide an overview of best practices from around the country to address such barriers, and (3) recommend policy and/or legislative changes to improve access to renewable energy.

To identify the barriers to maximizing the use of renewable energy in affordable housing developments, NHT engaged Rhode Island stakeholders with various experiences in developing, deploying, and guiding renewable energy implementation in affordable housing. These stakeholders included non-profit and for-profit affordable housing providers, key state government agency staff, Rhode Island Energy (RIE) representatives, and solar developers. In all, NHT spoke with 35 Rhode Island stakeholders in January-February 2024.

To identify best practices that can inform policy changes in Rhode Island, NHT collected data on successful policies and practices in other states. NHT reviewed policy and program documentation and interviewed program administrators and policy experts in renewable energy deployment in affordable housing in other states. NHT researched best practices in state net metering policies, technical assistance programs designed for affordable housing providers, financial incentives, and requirements to ensure that residents benefit from renewable energy systems.

Findings

Based on discussions with Rhode Island stakeholders and best practices in other states, there are several opportunities to improve access to renewable energy in affordable housing in Rhode Island. Below are key findings that are further discussed throughout this report.

- Several affordable housing providers view the **state's ban on master-metering multifamily properties of 10 or more units as a barrier** to deploying onsite renewable energy and accessing net metering credits from remote net metering systems at scale to maximize the amount of electric load offset by renewable energy. These barriers have arisen in other states with similar bans on master-metering multifamily properties. Several states are currently reviewing their policy in the interest of improving access to renewable energy in affordable housing.

- Most stakeholders shared that a **lack of technical assistance and access to information has created further barriers** to deploying renewable energy at affordable housing sites. Specifically, developers identified the following technical assistance and education needs:
    - Easily accessible information about Rhode Island's renewable energy incentives, including help understanding net metering options.
    - Access to information about Inflation Reduction Act (IRA) resources and support in understanding how resources, especially clean energy tax credits, can be incorporated into project financing.
    - Assistance in designing and deploying solar facilities, including identifying reputable contractors.

- **Affordable housing providers cited difficulty financing onsite renewable energy**. While third-party owned/power purchasing agreements are available to eliminate upfront costs, housing providers would like the option to directly own renewable energy systems to retain as much of the financial benefits as possible. Additional financing sources are necessary to offset upfront system costs. Several states provide funding programs specific to affordable housing or include enhanced incentives for renewable energy systems that benefit low-income households and affordable housing properties.

- In addition to funding for upfront system costs, affordable housing providers that directly own renewable energy systems and third-party solar developers that own and operate renewable energy facilities on behalf of **affordable housing providers require a reliable revenue stream to pay down system costs**. Rhode Island's financial incentive programs should be optimized to ensure that revenue is sufficient to pay down system costs while enabling residents to share the economic benefits of renewable energy.

- Affordable housing owners expressed **frustration with the lack of consolidated billing**. Specifically, stakeholders pointed to the difficulty of tracking their true energy costs when billed separately for their utility usage and solar subscription costs. Consolidated billing would reduce administrative costs and help housing providers to manage property operating budgets better. It would also increase transparency into the benefits of community solar, which could foster confidence in the value of community solar.

- **Recent legislative changes to the net metering credit program may disadvantage affordable housing providers** in accessing renewable energy benefits. The legislation passed in 2023 expanded the pool of customers eligible to receive net metering credits from remote net metering systems to include commercial and industrial customers and cut the value of net metering credits allocated through remote net metering by 20%. These changes will incentivize net metering system owners to favor electricity customers who can deliver significant electricity demand to reduce transaction costs. Allowing master metering in multifamily buildings so building owners can aggregate electricity demand and providing enhanced net metering credits to net metering system owners who provide bill savings to affordable housing could help overcome this challenge.

- There are **barriers to sharing the economic benefits of renewable energy directly with residents** due to restrictions on who is eligible to receive remote net metering credits. Residential electricity customers can receive bill savings directly from community remote net metering systems, i.e., community solar, but cannot receive credits remotely through other net metering systems. The community remote net metering program has reached full capacity, limiting the number of subscriptions available.

INTRODUCTION

The state of Rhode Island faces dual challenges: a shortage of affordable housing and increasing climate threats. Rather than being viewed in tension, solutions exist to address both challenges simultaneously. Increasing access to renewable energy helps to preserve affordable housing by reducing operating costs for owners. It also lowers the energy burden of low-income residents, ensuring that they have sufficient resources to pay for essential needs like health care and food. Increasing the supply of locally based distributed generation like rooftop and community solar reduces carbon emissions and increases the resiliency of the state's energy system to climate threats.

Rhode Island policymakers have adopted ambitious policies to address climate change. The state's commitment to a 100% Renewable Energy Standard by 2033 is one of the most aggressive goals in the country.[1] The state has also set a goal of achieving net-zero emissions by 2050.[2] These goals must be pursued in an equitable manner that delivers direct benefits and mitigates harm to those who are disproportionately impacted by climate change.[3]

For example, achieving net-zero emissions will require eliminating onsite greenhouse gas emissions by electrifying buildings that burn fossil fuels for heating and cooking. The transition to all-electric will increase energy costs for building owners and residents, exacerbated by Rhode Island's high electricity prices. In 2023, Rhode Island had the sixth-highest average monthly retail price for electricity in the country.[4] Increasing access to energy efficiency and renewable energy for low-income households will mitigate the impact of electrification on household energy costs.

Reducing energy costs is particularly important for Rhode Island's low-income renters, who are already cost-burdened due to high housing costs and limited access to affordable housing. Rhode Island has a shortage of almost 25,000 affordable homes for extremely low-income renters, who make up 32% of the state's renter population.[5] Sixty percent of these households are significantly cost-burdened, meaning they spend more than half of their income on rent and utility costs.[6]

RIHousing is addressing the housing shortage by increasing housing production for low- and moderate-income Rhode Islanders, expanding partnerships to increase the creation and preservation of affordable homes for Rhode Islanders, and investing in the expansion of partner technical expertise and capacity to develop, preserve, and manage affordable housing.[7] RIHousing is also committed to promoting net-zero energy affordable housing. Through the Zero Energy for the Ocean State (ZEOS) program, RIHousing is collaborating with the Rhode Island Office of Energy Resources (OER) and the state's utility company, Rhode Island Energy (RIE), to fund replicable models for sustainable development to reduce the state's carbon footprint while cutting energy costs for residents and property owners and managers.[8]

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[1] Utility Dive, Rhode Island governor signs 'most aggressive renewable energy standard' in US, targets 100% offsets by 2033 https://www.utilitydive.com/news/rhode-island-governor-signs-most-aggressive-renewable-energy-standard-in/625621/

[2] https://climatechange.ri.gov/act-climate

[3] https://www.epa.gov/system/files/documents/2021-09/climate-vulnerability_september-2021_508.pd

[4] U.S. Energy Information Administration's Electricity Data Browser

[5] https://nlihc.org/housing-needs-by-state/rhode-island

[6] Ibid

[7] RIHousing Strategic Plan, https://indd.adobe.com/view/cde5d3d7-0326-4e4e-ab9a-0b41467ad638

[8] https://www.ncsha.org/wp-content/uploads/Rhode-Island-Rental-Housing-Multifamily-Management-2022.pdf

RIHousing also promotes access to renewable energy in affordable housing as part of the Low Income Housing Tax Credit (Housing Credit) program. Rhode Island is one of 23 states incentivizing or requiring affordable housing developers to pursue renewable energy through the Housing Credit's priority selection criteria as laid out in RIHousing's Qualified Allocation Plan (QAP).[9] RIHousing encourages developers to incorporate renewable energy into their projects by providing points to Housing Credit applicants based on how much energy is offset by photovoltaic (PV) solar panels[10]:

- 1 point if the renewable energy system offsets at least 50% of the project's annual common area and site electric load.
- 2 points if the renewable energy system offsets at least 100% of the project's annual common area and site electric load.
- 3 points if the proposed renewable energy system allows the property to achieve net-zero.

RIHousing's Housing Credit policies are some of the main drivers motivating affordable housing developers to pursue renewable energy. Affordable housing developers and solar developers alike shared that the competitive nature of the Housing Credit program requires maximizing points to secure an award. However, affordable housing developers also spoke of other motivations for pursuing solar. Many developers pursue solar to reduce operating costs and improve the financial stability of the property.

Housing providers also pursue solar because it aligns with their mission. They spoke about the benefits to tenants from reducing their energy cost burden as well as their commitment to reduce their properties' carbon emissions. Housing providers stated they are dedicated to removing fossil fuels and electrifying their portfolio, consistent with the state's climate policies and goals.

Current Renewable Energy Incentive Programs

Rhode Island offers several policy and program mechanisms to encourage distributed renewable energy generation like rooftop and community solar. The following section summarizes these programs and their applicability to affordable housing.

Net Metering

Net metering allows electric utility customers with eligible net metering systems to export generated electricity to the grid to offset their electricity consumption costs, allowing customers to financially balance out the amount of energy they import with the amount they export over a billing period. To be eligible for net metering in Rhode Island, a net metering system must generate electricity from a qualified renewable energy resource[11] and be designed and sized to generate no more than the amount

[9] National Housing Trust, Strengthening Low Income Housing Tax Credit Allocations, https://nationalhousingtrust.org/strengthening-low-income-housing-tax-credit-allocations

[10] RIHousing, 2024 Qualified Allocation Plan, pg. 41-42, https://www.novoco.com/public-media/documents/rhode-island-executed-2024-qap-092023.pdf

[11] Qualified renewable energy resources in Rhode Island include (1) Direct solar radiation; (2) The wind; (3) Movement or the latent heat of the ocean; (4) The heat of the earth; (5) Small hydro facilities; (6) Biomass facilities using eligible biomass fuels and maintaining compliance with current air permits; eligible biomass fuels may be co-fired with fossil fuels, provided that only the renewable energy fraction of production from multi-fuel facilities shall be considered eligible; (7) Fuel cells using the renewable resources; and (8) Waste-to-energy combustion of any sort or manner, including, without limitation, high-heat medical waste processing facilities, shall in no instance be considered eligible. See R.I. Gen. Laws §39-26-5. Renewable energy resources.

of electricity consumed annually by the customer. The multifamily building owner or a third-party entity may own the eligible net metering system.

Owners of eligible net metering systems receive two types of net metering credits: renewable net metering credits and excess renewable net metering credits. Renewable net metering credits are applied to up to 100% of the electricity usage of the customer's account over the course of a billing period. The renewable net metering credit is calculated on a per kilowatt-hour basis at the utility company's retail electricity rate for the system owner's rate class, e.g., rate classes include residential, low-income, small commercial, etc.

Excess renewable net metering credits are applied to the portion of net metering system generation that exceeds 100% of energy consumption over the course of a billing period, up to 125% of energy consumption. The excess renewable net metering credit is calculated on a per kilowatt-hour basis at the utility company's last resort service kilowatt-hour charge for the rate class.

Table 1 below provides a simplified example of calculating renewable and excess renewable net metering credits.

Table 1. Example of Net Metering Calculation
Average annual electricity consumption: *10,000 kWhs, or approximately 830 kWhs per billing period*
Actual energy generation of the net metering system for the applicable billing period: *900 kWhs*

	Applicable credit rate	Number of kWhs	Total credit amount
Renewable net metering credit	27 cents per kWh	830	$224.10
Excess renewable net metering credit	17 cents per kWh	70	$11.90
Total credit for the billing period			$236.00

Remote Net Metering

Rhode Island allows renewable net metering credits to be transferred from the net metering system owner's account to eligible customer accounts. Net metering system owners can transfer net metering credits to customer electricity accounts via a community remote net metering (CRNM) system or a non-CRNM off-site net metering system. Table 2 below provides an overview of Rhode Island's current net metering requirements and eligibility.

Table 2. Remote Net Metering and Community Remote Net Metering

	Remote Net Metering	Community Remote Net Metering (CRNM)
Overview	Owners of net metering systems transfer renewable net metering credits to eligible electric customers not located at the site of the net metering system. System owners negotiate a utility bill savings rate with recipients.	Electric customers subscribe to community solar projects for a share of system output and receive bill savings of 10%.
System requirements	The net metering system is owned by or operated on behalf of a public entity, educational institution, hospital, non-profit, multi-municipal	Net metering credits must be allocated to at least one account associated with LMI housing or at least three accounts

	collaborative, or is owned by a third-party entity that operates an eligible net metering resource on behalf of a commercial or industrial customer.	associated with other eligible credit recipients. No more than 50% of the credits produced by the net metering system can be allocated to a single credit recipient. At least 50% of the credits are allocated to the remaining eligible credit recipients in an amount not to exceed that which is produced annually by 25 KW AC capacity.
Eligible credit recipient accounts	Accounts of a public entity, educational institution, hospital, non-profit, multi-municipal collaborative, or by a third-party entity that operates an eligible net metering resource on behalf of a commercial or industrial customer. Residential customers are not eligible.	Accounts of residential, LMI housing, educational institutions, and non-residential customers. LMI housing is a development that receives government housing assistance, primarily serves households with incomes of 80% AMI or less, and has an initial affordability term of at least 30 years.
Maximum aggregate capacity	275 MW AC by 2030[12]	30 MW (community solar projects reached this cap in 2019).

Net Metering Limitations

There are several limitations to using net metering to provide access to renewable energy benefits for affordable housing providers and residents. They include the limited availability of CRNM net metering credits, the recent expansion of customers eligible to receive net metering credits through CRNM and remote net metering, a reduction in the value of net metering credits generated by ground-mounted renewable energy facilities, and the fact that residential customers are ineligible to receive net metering credits from a remote net metering system.

The limited availability of CRNM net metering credits is due to solar developers hitting the maximum aggregate capacity allowed under the law. Legislation enacted in 2016 limited the maximum aggregate capacity of CRNM systems to 30 MW. That cap was reached in 2019.[13] As a result, no new CRNM systems can be constructed unless additional capacity is made available. According to Rhode Island's Community Solar Marketplace, only three of the 14 existing community solar systems are open to new subscribers.[14]

Legislation enacted in 2023 authorized additional capacity for CRNM systems if the Office of Energy Resources (OER) redesigns the program. The redesigned program will have to be approved by the PUC and must be cost-effective. If approved by the PUC, the program will provide up to 20 MW per year for two years, or 40 MW total over two years, for CRNM systems.

[12] The maximum aggregate capacity applies specifically to ground-mounted net metering systems.
[13] Public agencies, including public housing authorities, and multi-municipal collaboratives are exempt from the 30 MW cap.
[14] https://risolarmarketplace.com/

The 2023 legislation also expanded the types of electric customers eligible to receive net metering credits from CRNM and remote net metering systems. Before the legislation, only residential, low-to-moderate-income housing developers and educational institutions could receive CRNM credits, and public entities, educational institutions, hospitals, non-profits, or multi-municipal collaboratives could receive credits from remote net metering systems. The 2023 legislation made commercial and industrial customers eligible for net metering credits from CRNM and remote net metering systems.

One advantage of the expanded eligibility is that for-profit affordable housing providers can now benefit from remote net metering systems. Only non-profit affordable housing providers were previously eligible. However, the expanded eligibility also has the drawback of increasing competition for net metering credits, which could put affordable housing providers at a disadvantage.

Developers of net metering systems are incentivized to enroll customers with large electricity demand to reduce transaction costs. The fewer customers that net metering system developers must aggregate to subscribe to the net metering system, the less time they spend on customer acquisition and other transaction costs. Non-residential commercial and industrial customers are more likely than multifamily building owners to be able to aggregate and offer significant electricity demand to net metering system owners. The current ban on master metering multifamily housing exacerbates this challenge since it limits multifamily building owners from aggregating building energy demand under a single meter.

The 2023 legislation also cut the value of net metering credits from ground-mounted net metering systems by 20%. This could further incentivize net metering system developers to prioritize customers with large electricity demand loads to reduce overall project costs and ensure that projects can pencil out at a lower credit value.

Finally, residential customers are ineligible to receive remote net metering credits from non-CRNM systems. This restriction limits the ability of renters with individually metered utility accounts to receive direct economic benefits of solar access.

The table below summarizes how affordable housing providers and residents can participate in net metering:

Table 3. Potential Pathways to Access Net metering in Affordable Housing

Scenario	Approach(es)	Requirements and Challenges
An affordable housing owner would like to install onsite solar to receive net metering credits to offset owner-paid electricity consumption	Net metering of a behind-the-meter solar net metering system on the property's house meter account	Requirements: The net metering system is designed and sized to generate no more than the amount of electricity consumed annually based on the historical consumption of the house meter account.
Individually metered residents of an affordable multifamily property would like to access renewable energy benefits	Customers subscribe to a community remote net metering (CRNM) system	Requirements: An electricity account must be in good standing. Challenges: Available subscriptions to CRNM systems are limited because the capacity maximum has been hit. No new CRNM systems are being constructed.

An affordable housing owner does not want to own onsite solar directly but would like to offset owner-paid electricity consumption	The property owner can participate in a CRNM system	Requirements: Meet the definition of an eligible low-income or moderate-income credit recipient. Challenges: Available subscriptions to community remote net metering systems are limited because the capacity maximum has been hit. No new CRNM systems are being constructed.
	The property owner can receive net metering credits through a remote net metering system	Requirements: Meet the definition of a non-profit, OR meet the definition of a commercial customer *AND* demonstrate that the net metering system is owned and operated by a third-party entity. Challenges: The value of the net metering credits was cut by 20% by legislation enacted in 2023.
An affordable housing owner of an individually metered property would like to offset the energy consumption of the entire property, including owner and resident-paid utilities	Install net metering systems for each resident meter	Requirements: The net metering system is designed and sized to generate no more than the amount of electricity consumed annually based on the historical consumption of the individual meter account. Challenges: Installing individual net metering systems for each unit is cost prohibitive.
	Sign up residents to receive net metering credits from CRNM systems	Requirements: Residents must have an electricity account in good standing. Challenges: There is a burden on the affordable housing owner to convince residents to sign up. Available subscriptions to community net metering systems are limited.
	Master meter the property and install an onsite net metering system behind the property meter	Challenges: Multifamily building owners are prohibited from master-metering properties with more than 10 dwelling units unless the property is primarily occupied by elderly or disabled residents.
	Master meter the property and receive an allocation of net metering credits from a third-party owned and operated net metering system	Challenges: Prohibition of master metering. The value of the net metering credits was cut by 20% by legislation enacted in 2023.

Renewable Energy Growth Program

The Renewable Energy Growth Program (REG) is a production-based incentive program enabling customers to sell their output to Rhode Island Energy (RIE) under long-term tariffs at fixed prices. REG includes subprograms to incentivize residential and commercial-scale rooftop and ground-mounted distributed generation systems of different sizes, including community distributed generation systems, i.e., community solar. System owners are compensated at a fixed incentive level for either 15 or 20-year contract terms. In contrast to net metering credits that fluctuate over time as electricity rates change, long-term fixed pricing provides revenue certainty as long as the system performs as planned. This certainty can be underwritten to leverage financing. Legislation enacted in 2023 extended the REG program through 2033 and increased the annual aggregate capacity to 300 MW.

Multifamily building owners and residents can benefit from REG through onsite and community solar. Building owners can install eligible REG systems on property sites and receive compensation for the system's output to supplement property income. The REG program includes a shared solar component through which building owners can allocate compensation to up to 50 different accounts.[15] Community Remote Distributed Generation (CRDG) REG projects enable customers who cannot or choose not to install renewable technologies at their service location to participate in the REG program. CRDG operators can allocate bill credits to affordable housing residents. A multifamily building owner could install a CRDG at their property and allocate bill credits to residents. A CRDG must be larger than 250 kW, which is typically a larger system than most affordable multifamily buildings can support.[16]

REG stands apart from similar performance-based incentive programs in other states in that it does not provide an incentive adder for projects that benefit low-income or affordable housing households (see the section on best practices for examples of programs in other states). The Distributed Generation Board (DG Board) recommends the maximum ceiling prices that facility owners may bid for. The statute specifies that the Board may consider several factors in setting the ceiling prices, including environmental benefits, system benefits, cost-effectiveness, and the climate resilience and conservation benefits of the project's location. There is no reference to the consideration of equity benefits, such as benefits for low-income households.

In a 2020 filing with the Public Utility Commission, National Grid reported that only 3% of small-scale REG projects serve low-income residential customers (defined as customers receiving the A-60 low-income utility rate).[17] In addition, NHT's review of data on REG Open Enrollment Results from 2015-2023 found just eight distributed generation systems of 278 total projects (or 3%) that were installed as part of an affordable multifamily property.

Other northeast jurisdictions with similar programs provide incentive adders to encourage projects that benefit affordable housing properties and residents. For example:

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[15] However, the 2023 REG Solicitation and Enrollment guidelines state that "the DG [distributed generation] Project and Bill Credit Recipients must be in the same customer class (i.e., Residential or Non-Residential)." This seems to exclude DG systems owners with commercial accounts, such as a multifamily building owner, from allocating bill credits to residents of the property where the DG system is installed. https://gridforce.my.site.com/s/article/Rhode-Island-Renewable-Energy-Growth-Program

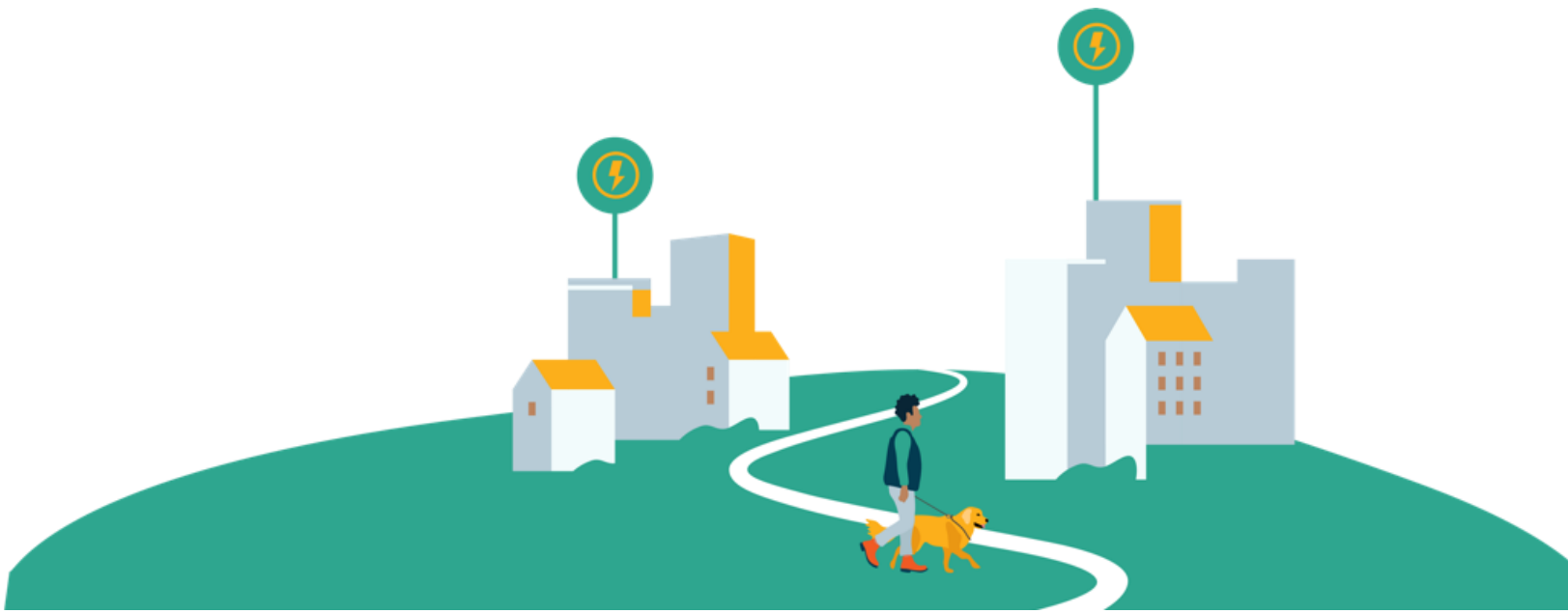
[16] 13 of 19 REG projects on multifamily properties were less than 250 kW, according to NHT's review of REG Open Enrollment Reports.

[17] Customers qualify for the low-income utility rate if they meet any of the following requirements: receive Food Stamps/Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), Medicaid, Rhode Island Works Program, Public Assistance, or qualify for the Heating Assistance/Home Energy Assistance Program (HEAP).

- The Solar Massachusetts Renewable Target (SMART) program includes a Low-Income Property adder for systems that provide all their generation output to low or moderate-income housing. Any meter on the property, including common areas, can benefit from the output.
- The Connecticut Residential Renewable Energy Solutions program provides affordable multifamily building owners a per kWh adder equal to a 17% increase over the base per kWh incentive price.

Renewable Energy Fund

Rhode Island Commerce administers the Renewable Energy Fund (REF), which provides grant funding for renewable energy projects. Grant awards typically cover up to 20% of project costs. REF provides $3-6 million annually in grant funding to renewable energy projects focused on small-scale solar, commercial-scale, and community renewables. Commerce accepts solicitations for the fund three times a year on a first-come, first-served basis. Housing providers are not required to be far along in the development process to qualify for REF, and Commerce will also provide funding for feasibility studies. Applicants must complete and have their project connected within a year of finalizing their contract with RI Commerce. Since Commerce does not collect detailed data on awardees, it is not clear how many affordable housing providers have been able to install onsite solar with REF funding.



BARRIERS TO THE UTILIZATION OF RENEWABLE ENERGY IN AFFORDABLE HOUSING

NHT engaged Rhode Island stakeholders with various experiences developing, deploying, and guiding renewable energy implementation in affordable housing. These stakeholders included non-profit and for-profit affordable housing providers, key state government agency staff, Rhode Island Energy (RIE) representatives, and solar developers. In all, NHT spoke with 35 Rhode Island stakeholders in January-February 2024.

Stakeholders identified the following barriers to maximizing renewable energy in affordable housing:

1. **Prohibition of master metering**. A minority of stakeholders identified the prohibition on master meters for electricity service in multifamily buildings as a primary barrier to deploying onsite solar and accessing renewable energy benefits through remote net metering/community solar. Stakeholders cited the following impacts of the master meter prohibition:

    - An inability to aggregate electric load across the whole property in individually metered properties to maximize the size of an onsite system and help secure favorable discount rates from solar developers.
    - Administrative burdens/costs are associated with signing up residents for community solar subscriptions.
    - Supply chain shortages drive up construction costs related to individual metering.

2. **Need for technical assistance**. All stakeholders, including housing providers, state agencies, and Rhode Island Energy, consistently shared that a lack of technical assistance and access to information has created additional barriers to deploying solar and other renewable energy at affordable housing sites. Specifically, developers identified the following technical assistance and education needs:

    - Easily accessible information about Rhode Island's renewable energy incentives, including help understanding net metering options, is needed.
    - Access to information about Inflation Reduction Act resources and support in understanding how resources, especially clean energy tax credits, can be incorporated into project financing.
    - Assistance in designing and deploying solar systems, including identifying reputable contractors, is needed.

3. **Lack of consolidated billing**. Affordable housing owners participating in community remote net metering consistently expressed frustration with the lack of consolidated billing. Specifically, stakeholders pointed to the difficulty of tracking their true energy costs when billed separately for their utility usage and solar subscription costs. Consolidated billing would reduce administrative costs and help housing providers to manage property operating budgets better. It would also increase transparency into the benefits of community solar, which could foster confidence in the value of community solar and spur its growth.

4. **Limited access to incentives to support solar deployment**. Most affordable housing developers alluded to or directly mentioned the difficulty of financing onsite renewable energy. Developers identified cost-containment requirements in the LIHTC program, limited state resources, and lack of familiarity with federal funding through the IRA as barriers. Existing state incentive

programs could be better optimized for use in affordable housing. Modifications to the Renewable Energy Fund could improve access to financial incentives for affordable housing providers.

These barriers are discussed in more detail below.

Prohibition on Master Metering

Rhode Island law prohibits master meters for electricity service in residential multifamily buildings with more than 10 dwelling units unless constructed for the exclusive use of persons who are elderly and/or disabled and financed through public sources.[18] Several stakeholders identified the prohibition on master metering as complicating their access to renewable energy. While having a master meter is not a pre-condition for accessing renewable energy in multifamily housing, it can reduce or eliminate barriers that drive up project costs.

Maximizing the size of the renewable energy system improves project economics by reducing system costs per watt and increasing project attractiveness to third-party financiers. This is especially important now that commercial and industrial customers can participate in CRNM and receive remote net metering credits. Multifamily building owners must now compete with large commercial buildings that do not face the same barriers multifamily building owners do in aggregating a significant building energy load.

Affordable housing stakeholders shared that this prohibition makes participating in Rhode Island's renewable energy programs more difficult. Housing owners discussed the administrative burden of convincing residents to sign up for CRNM projects. Many of the non-profit developers we spoke with either already pay their tenant's utility bills or are transitioning to an owner-paid design. These developers cited that there is a significant administrative burden when validating solar credits for each individually metered electric account.

Stakeholder perspectives on master metering

Stakeholders see both advantages and disadvantages to master metering. Any benefits in facilitating access to renewable energy through master metering may not motivate all developers to pursue renewable energy due to the perceived drawbacks of master metering compared to individually metering multifamily buildings.

Rhode Island's metering policy is not unique. Several states instituted similar bans around the same time as Rhode Island in the 1970s to mitigate the impact of the energy crisis on energy affordability. A primary goal of these bans was to conserve energy by making tenants financially responsible for the energy they consume. Several affordable housing developers identified energy conservation as the main reason why they prefer to individually meter their buildings today. One developer cited data that residents use 15-20% less energy when they are responsible for paying their utility bills.

One developer supporting master metering expressed that they were less concerned about the impact on energy conservation due to current building construction standards and technology. High-performance construction is encouraged by RIHousing and is supported through Rhode Island Energy's energy efficiency incentive programs. Energy efficiency in buildings increases resident comfort and limits the potential for energy waste from resident actions. Newer smart building management technology

[18] http://webserver.rilin.state.ri.us/Statutes/TITLE39/39-3/39-3-7.1.htm

gives property managers control to limit wasteful tenant energy use, summed up by an affordable housing developer as follows:

"There's technology out there that you can get, you can put controls on your thermostats that the tenants aren't able to manipulate so that you only allow the thermostat to up to say 74 in the winter. You can set it at what is a reasonable level. In addition to that, you know the new [energy] codes are so rigid that our buildings are super tight… it doesn't really concern me that much."

Developers who already pay their tenants' utility bills or are transitioning to owner-paid bills spoke more favorably about master metering their properties. Stakeholders cited benefits to tenants when owners pay tenant utility bills, including eliminating the risk of disconnection for nonpayment. However, one stakeholder identified a potential harm to tenants if there is a lack of transparency into the costs being passed on to tenants, such as the risk that landlords may bill residents for more than their actual consumption.

The threat to residents in a master-metered property is compounded when the building owner seeks to collect tenant payment through sub-metering. Unless sub-metering regulations are in place, tenants are at greater risk of financial harm, opaque billing, and lack of a complaint mechanism. The Rhode Island Public Utility Commission has, to date, not exercised its authority to promulgate any regulations relating to master metering or sub-metering. Experience in Pennsylvania and elsewhere has shown that 3rd parties that perform the sub-metering function even bring eviction cases based on the failure to pay the utility bills.

Developers also spoke of cost savings associated with master metering. If developers could master meter their property, they would only have to pay for the infrastructure of one meter versus one for each unit. Other developers stated that their project timelines were impacted by delivery delays for individual meter switch gears, which could have been resolved if they had been allowed to master the meter.

Stakeholders identified several benefits of master metering in accessing renewable energy. These benefits relate both to deploying onsite solar and receiving net metering credits from remote net metering systems. However, stakeholders also pointed out the limitations of master metering in facilitating access to renewable energy in certain scenarios.

Onsite Solar. Building owners seeking to offset as much of the electric load as possible through onsite solar would benefit from a master meter. However, some developers pointed to the limitations of onsite solar in maximizing the amount of electric load that is offset. Due to factors like property location, roof size and shading, number of stories, and the costs of installing and maintaining solar panels, developers are often only able to install solar to offset the energy demand on the house meter. A non-profit developer shared the following about one of their properties:

"There isn't a huge roof space, so I think any solar we put on that building, we could manage the production on our house meter and see the full benefit of that system… in most cases, we are finding that the renewable production can be offset with our house loads."

Developers estimate that solar systems can typically offset 20-50% of a multifamily building's energy usage, depending on the abovementioned factors.

Remote net metering. Housing developers also cited the benefits of master metering when accessing net metering credits remotely through CRNM or other net metering systems. In a master-metered property, the owner only needs to enroll one meter. In contrast, offsetting resident electricity use in a property with individual meters where tenants have their own utility accounts would require each resident to sign up to participate in CRNM or require the building owner to take over individual meter electricity accounts to receive credits from a remote net metering system.[19]

Aggregating electric load through a single meter may also help building owners negotiate a better savings rate from third-party system owners. Solar developers seek large projects to maximize efficiency and reduce transaction costs, which allows them to offer more energy savings. Aggregating electric load to improve buying power is more important now that commercial and industrial customers can receive net metering credits. Multifamily is now competing with commercial customers like office buildings that can offer solar developers large energy loads at a single meter.

Need for Technical Assistance

All stakeholders, including housing providers, state agencies, and Rhode Island Energy, consistently shared that a lack of technical assistance and access to information has created additional barriers to deploying solar and other renewable energy at affordable housing sites. Specifically, developers identified the following technical assistance and education needs:

- Easily accessible information about Rhode Island's renewable energy incentives, including help understanding net metering options;
- Access to information about IRA resources and support in understanding how resources, especially clean energy tax credits, can be incorporated into project financing and
- Assistance in designing and deploying solar systems, including identifying reputable contractors.

For-profit and non-profit developers noted that they cannot easily find information or are unaware of the state's existing renewable energy programs and incentives. Housing providers also shared that they rely on consultants to help navigate renewable energy programs, legislation, and operations, increasing project costs. Because information is not accessible or well-promoted, these developers often must pay a consultant to identify what type of solar would work best for their property, what financing and incentive opportunities are available, and, once installed and operating, determine how to allocate onsite solar credits to meters. One non-profit developer said:

"Without our consultant, we probably never would have figured out [net metering]. It's incredibly complicated… and can't imagine the smaller organizations that don't have the resources will be able to do it."

State agencies and Rhode Island Energy echoed the sentiment that increased engagement with affordable housing developers and providers is needed to ensure they are aware of and can access state resources.

More information about IRA opportunities is also needed. Multiple stakeholders expressed frustration that there isn't a central location and access to experts to find information about the various IRA opportunities. Multiple state agency representatives acknowledged a lack of awareness about the IRA

[19] This is because only non-residential customers can receive net metering credits remotely from net metering systems.

among housing providers. There was particular interest in how non-profit developers can take advantage of the renewable energy tax credit, specifically how developers can take advantage of the option to transfer tax credits or receive direct pay. Developers acknowledged that the delay in Federal guidance is part of the challenge.

Affordable housing developers are also interested in support for planning for and implementing renewable energy systems. Developers acknowledged that planning for solar early in the project design process is important for maximizing the benefits of solar. They shared that it would be helpful if there were "some kind of permanent technical support person they could develop a relationship with" who could address the following needs:

- Pre-development project design (i.e. reviewing pro formas, advice on building design, identifying state and federal funding opportunities and finalizing project financing, etc.)
- Identifying reputable contractors and installers
- Offer peer learning opportunities
- Encourage cross-agency collaboration to streamline access to information

Many of these developers cited a lack of staff availability and bandwidth as additional challenges to participation. Designing state programs with comprehensive technical assistance services and ensuring state agencies have staff to support developers will further address these concerns.

Limited Access to Incentives

Most affordable housing developers highlighted the difficulty of financing onsite renewable energy. Developers spoke of limited state resources, a lack of incentives to deploy solar, and unfamiliarity with federal funding opportunities as contributing to the challenge of financing onsite solar projects.

While Rhode Island does have several renewable energy programs that support solar project financing, these programs have limited funding and are not optimized for affordable housing. The Renewable Energy Fund (REF) does not provide enhanced incentives or carve-outs to ensure funding reaches affordable housing projects, nor is the application timing or process aligned with the state's Housing Credit award cycle. Unlike similar programs in other states, Rhode Island's Renewable Energy Growth (REG) program does not include an adder for systems that benefit low-income or affordable housing, nor does the law require the Distributed Generation Board to consider equity benefits, such as the benefits low-income households from participating in the program, when setting ceiling prices.

Affordable housing developers also reported less gap financing subsidies in Rhode Island compared to other states. One developer shared that energy efficiency subsidies available in Rhode Island are less than in other states:

"The rebate from Rhode Island Energy is about $40,000. When we're building to ENERGY STAR standards in Connecticut, the rebate back to the developer is $200,000 plus. So, it's much more significant and that difference in funding can absolutely make up for the difference in the cost of solar."

Renewable Energy Fund

Rhode Island Commerce administers the Renewable Energy Fund (REF), which provides grant funding for renewable energy projects. Typical grant awards can cover up to 20% of project costs. There are several potential limitations to accessing the REF for affordable housing.

- Several developers were not aware that the program existed.
- RI Commerce opens applications three times a year for one day only. Affordable housing developers may find it difficult to prepare for such a limited application window and confidently incorporate REF funding as a source in their capital stacks. The timing of solicitations is not intentionally aligned with the LIHTC award cycle.
- RI Commerce awards funding on a first-come, first-served basis. Applications are evaluated based on minimum eligibility requirements that do not include merit-based or equity-related criteria.

Modifying how the REF is administered could improve access for affordable housing developers. First, RI Commerce could move to an application scoring process incorporating equity-based criteria and/or create a funding carve-out for affordable housing. Second, RI Commerce could provide a bonus incentive for affordable housing to reflect that affordable housing developers may require additional financial support to close solar funding gaps. Third, the timing of the funding application rounds could be longer and better aligned or integrated with RIHousing application timelines. A more integrated and aligned process would help ensure that the availability of funding impacts project design decisions.
In addition to a lack of state funding to support solar development, developers also do not feel prepared to take advantage of new and existing federal funding. Affordable housing developers indicated that several opportunities in the IRA would increase access to renewable energy but that they need more support to understand and take advantage of these funding opportunities. For example, many developers are interested in direct ownership of onsite solar instead of pursuing a PPA because of the enhanced and flexible tax credits available through Treasury, however it is unclear how developers can incorporate these tax credits into project financing.

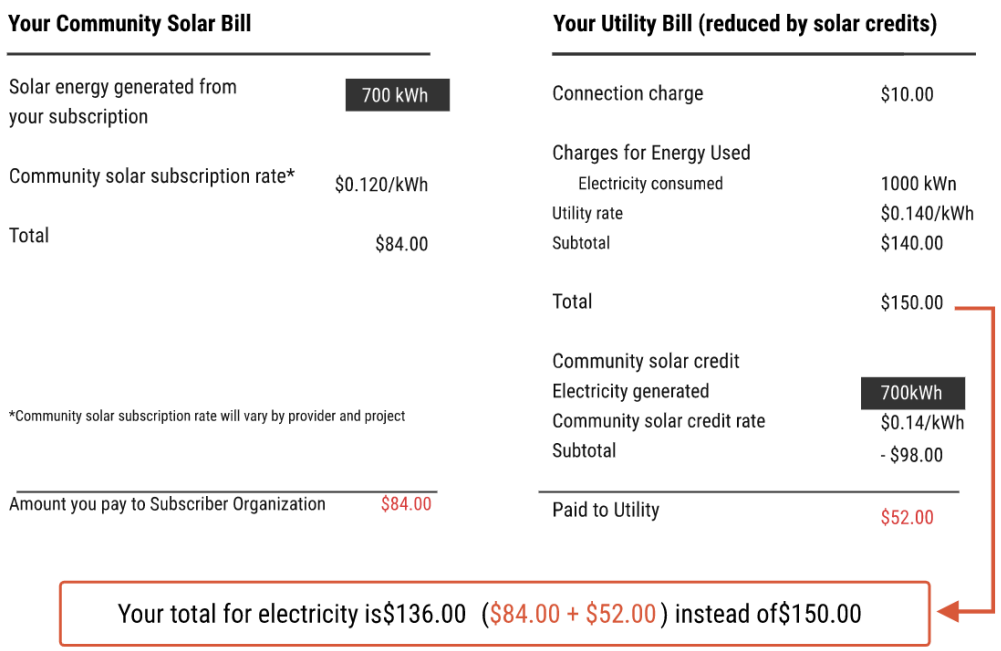
Lack of Consolidated Billing

Affordable housing owners consistently expressed frustration with the lack of consolidated billing. Specifically, stakeholders pointed to the difficulty of tracking their true energy costs when billed separately for their utility usage and solar subscription costs -- bills that can sometimes arrive weeks apart. Most building owners rely on consultants to manage the administrative process of reconciling the dual bills, which adds costs and erodes the value of the community solar benefits. This problem is magnified when building owners pay for tenant energy bills in addition to owner utility accounts.

In Rhode Island, third-party solar developers typically do not have access to their subscribers' utility data and billing. While RIE is required to credit customers for their share of the energy offset by participating in community solar, RIE is not required to include customers' community solar subscription costs on their monthly utility bills. This means customers receive two bills each month through a dual billing process structure—one bill from RIE, which includes energy charges and community solar credits, and a second bill from the community solar developer, which includes the customer's subscription cost. An example of dual billing can be found in Figure 1.[20]

[20] https://www.solarunitedneighbors.org/go-solar/community-solar/how-community-solar-works/

Figure 1: Example of Dual Billing



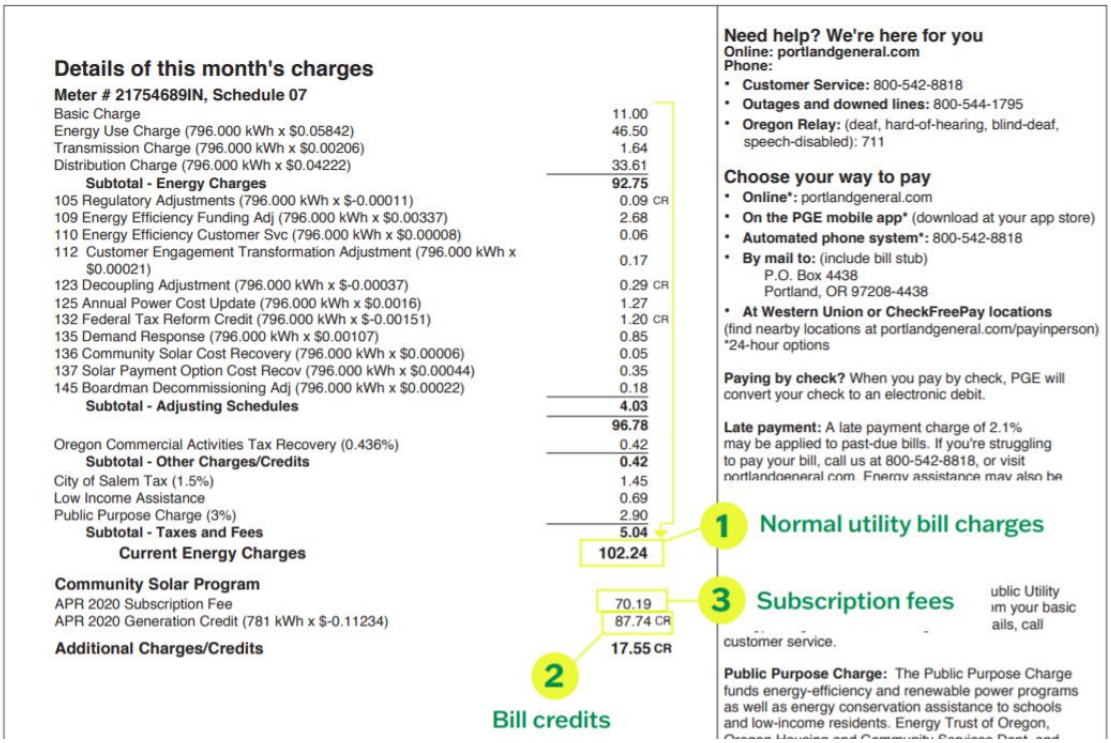
In addition to reducing administrative costs, stakeholders shared that consolidated billing makes it easier for all customers to clearly see their credits and charges for the month. For low-income residents who are already energy cost-burdened, it is especially important to have a clear understanding of their monthly expenses. Furthermore, consolidated billing will make it easier for low-income electric customers to apply LIHEAP benefits to the cost of their community solar subscription costs. Recent federal guidance has clarified that LIHEAP funds can cover subscription fees.[21] Consolidated billing would also aid property managers in accurately tracking and managing operating expenses.

An example of consolidated billing can be found in Figures 2 and 3 below.

[21] https://www.energy.gov/eere/solar/articles/new-federal-guidance-says-liheap-funds-can-cover-community-solar-subscription

Figure 2: Example of Consolidated Billing - Utility Bill Back Page

Sample PGE Utility Bill – back



Details of this month's charges

Meter # 21754689IN, Schedule 07

Basic Charge	11.00
Energy Use Charge (796.000 kWh x $0.05842)	46.50
Transmission Charge (796.000 kWh x $0.00206)	1.64
Distribution Charge (796.000 kWh x $0.04222)	33.61
Subtotal - Energy Charges	**92.75**
105 Regulatory Adjustments (796.000 kWh x $-0.00011)	0.09 CR
109 Energy Efficiency Funding Adj (796.000 kWh x $0.00337)	2.68
110 Energy Efficiency Customer Svc (796.000 kWh x $0.00008)	0.06
112 Customer Engagement Transformation Adjustment (796.000 kWh x $0.00021)	0.17
123 Decoupling Adjustment (796.000 kWh x $-0.00037)	0.29 CR
125 Annual Power Cost Update (796.000 kWh x $0.0016)	1.27
132 Federal Tax Reform Credit (796.000 kWh x $-0.00151)	1.20 CR
135 Demand Response (796.000 kWh x $0.00107)	0.85
136 Community Solar Cost Recovery (796.000 kWh x $0.00006)	0.05
137 Solar Payment Option Cost Recov (796.000 kWh x $0.00044)	0.35
145 Boardman Decommissioning Adj (796.000 kWh x $0.00022)	0.18
Subtotal - Adjusting Schedules	**4.03**
	96.78
Oregon Commercial Activities Tax Recovery (0.436%)	0.42
Subtotal - Other Charges/Credits	**0.42**
City of Salem Tax (1.5%)	1.45
Low Income Assistance	0.69
Public Purpose Charge (3%)	2.90
Subtotal - Taxes and Fees	**5.04**
Current Energy Charges	**102.24**

Community Solar Program

APR 2020 Subscription Fee	70.19
APR 2020 Generation Credit (781 kWh x $-0.11234)	87.74 CR
Additional Charges/Credits	**17.55 CR**

1 Normal utility bill charges

3 Subscription fees

2 Bill credits

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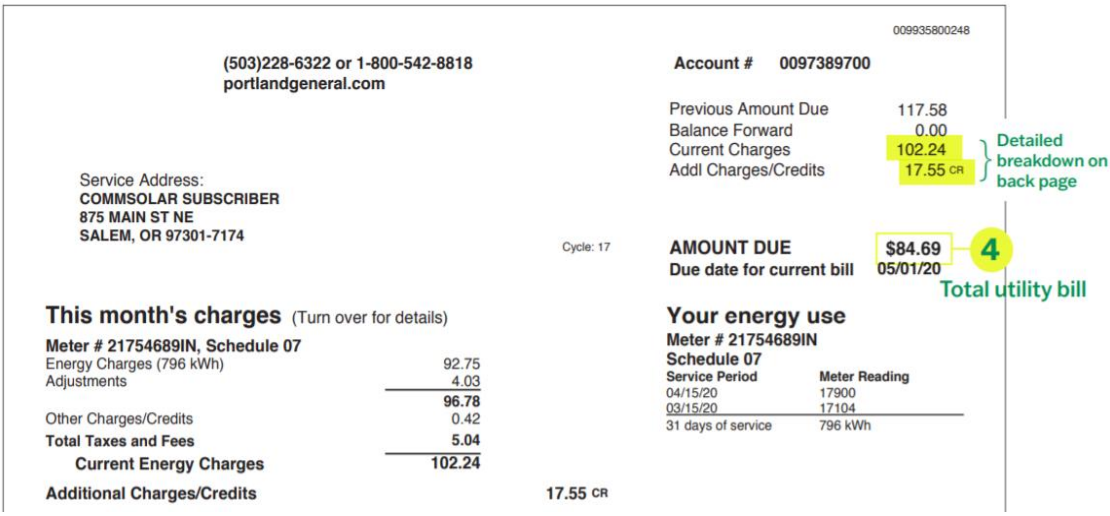
m your basic
ails, call
customer service.

Public Purpose Charge: The Public Purpose Charge funds energy-efficiency and renewable power programs as well as energy conservation assistance to schools and low-income residents. Energy Trust of Oregon,

Figure 3: Example of Consolidated Billing - Utility Bill Front Page

Sample PGE Utility Bill – front



009935800248

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Account # 0097389700

Previous Amount Due	117.58
Balance Forward	0.00
Current Charges	102.24
Addl Charges/Credits	17.55 CR

Detailed breakdown on back page

Service Address:
COMMSOLAR SUBSCRIBER
875 MAIN ST NE
SALEM, OR 97301-7174

Cycle: 17

AMOUNT DUE $84.69 — 4
Due date for current bill 05/01/20

Total utility bill

This month's charges (Turn over for details)

Meter # 21754689IN, Schedule 07

Energy Charges (796 kWh)	92.75
Adjustments	4.03
	96.78
Other Charges/Credits	0.42
Total Taxes and Fees	**5.04**
Current Energy Charges	**102.24**
Additional Charges/Credits	**17.55 CR**

Your energy use

Meter # 21754689IN
Schedule 07

Service Period	Meter Reading
04/15/20	17900
03/15/20	17104
31 days of service	796 kWh

BEST PRACTICES TO ADVANCE RENEWABLE ENERGY IN AFFORDABLE HOUSING

Based on barriers and challenges identified by Rhode Island stakeholders, the following are successful practices in other states and jurisdictions to overcome these barriers to deploying renewable energy in affordable housing.

1. **Align incentives to address funding/financing challenges and incentivize affordable housing providers to deploy and access solar.** Policies and programs must align incentives to advance the goal of renewable utilization in affordable housing and provide benefits to residents. This includes addressing the split incentive between owners and renters in multifamily housing and ensuring that financing options meet the needs of affordable housing providers. Rhode Island stakeholders frequently cited the lack of financial incentives as a main barrier to deployment.

   To align incentives, successful policies and programs provide enhanced financial incentives to offset the costs of renewable energy development in affordable housing while ensuring that building owners can pass on economic benefits to residents. Affordable housing providers need access to enhanced financial resources to incentivize providers to pursue renewable energy and offset the higher costs of renewable energy access in affordable housing. Policies and programs also provide clear guidance on requirements for how owners should share benefits with tenants and calibrate such requirements to ensure that building owners receive enough benefits to incentivize them to take on the work and risk of installing solar.

2. **Support scaling of renewable energy projects to improve cost-effectiveness and compete in the market.** Maximizing the size of the renewable energy system improves project economics by reducing system costs per watt. Aggregating energy demand increases project attractiveness to third-party financiers. Maximizing system scale in Rhode Island is especially important now that commercial and industrial customers are eligible for remote net metering. Multifamily building owners must now compete with large commercial buildings that do not face the same barriers multifamily building owners do in aggregating a significant building energy load. Opportunities to get to scale in multifamily housing include master metering properties and aggregating building load across multiple properties.

3. **Reduce non-financial barriers to renewable energy deployment by providing technical assistance and streamlining program requirements.** Non-financial barriers to solar deployment in affordable housing include a lack of awareness and capacity to pursue solar and inefficient program requirements that delay projects and add costs. Several Rhode Island affordable housing providers indicated they don't know where to begin to understand how to design, develop, and finance solar. They cited a lack of staff availability and bandwidth and limited knowledge about solar incentive programs as barriers to participation.

These best practices are discussed in more detail below.

Align Incentives

Financial incentives are necessary to offset the upfront costs of deploying renewable energy systems and to provide ongoing revenue to support debt service. Providing enhanced financial incentives is also

required to incentivize providers to pursue renewable energy while ensuring that building owners can pass on economic benefits to residents. While there are financial incentives available in Rhode Island, such as net metering credits, REF funding for upfront system costs, and REG compensation for energy generation, other states have significantly expanded and enhanced their incentives, making their programs more attractive and accessible for affordable housing providers.

Enhanced Net Metering Credits

Minnesota has set net metering credit rates to reflect the value of delivering solar benefits to low-income households by setting higher net metering credit rates for projects serving low- and moderate-income customers. If low- to moderate-income customers and "public interest" customers, including non-profits, are being served by the renewable energy facility, the facility owner will be credited for 100% of the retail rate. The state also compensates master-metered affordable housing at 80% of the higher *residential rate* instead of the *commercial rate*. Other states, like Connecticut, have expanded the definition of residential customers to include affordable multifamily housing to ensure they can benefit from higher incentives.

Changes to Rhode Island's net metering program enacted in 2023 will make it more difficult for affordable housing providers to compete with other customers to receive net metering credits through remote net metering. The legislation expanded the pool of customers eligible to participate in remote net metering to include non-residential customers and cut the compensation rate for net metering credits by 20%.

Developers of net metering systems are incentivized to enroll customers with large electricity demand to reduce transaction costs. Non-residential commercial and industrial customers are more likely to be able to provide significant electricity demand to net metering system owners. Providing enhanced net metering credits would incentivize net metering system owners to enroll qualifying low-income housing customers.

Up-front incentives

State programs like California's Solar on Multifamily Affordable Housing (SOMAH) program and the NY-Sun Incentive Program provide dedicated funding and enhanced incentives to benefit low-income households and provide incentives directly to solar contractors so that building owners do not have to come up with 100% of the costs out-of-pocket. SOMAH provides incentives based on system capacity installed at existing affordable multifamily housing, which typically covers 50-75% of the system costs. SOMAH incentive values vary depending on whether the output benefits dwelling units or common areas. Building owners can receive up to $3.50 per watt for the portion of the solar capacity that benefits tenants and up to $1.19 per watt for the portion that benefits the common areas.

The NY-Sun Incentive Program also provides upfront incentives based on system capacity with enhanced incentives for projects that serve affordable housing and low-income households. The program offers base incentive levels for commercial and residential projects with a range between $.17 and $.20 per watt based on where the projects are located, and additional adders for projects that serve low-income households. Solar projects located on multifamily affordable housing sites and use remote crediting to serve residents can receive $1.60 per watt. The multifamily affordable housing incentive is available to projects sited at affordable housing properties that offset property usage (behind-the-meter) or resident usage through a community-distributed generation system. Community Distributed Generation projects on eligible properties will receive an additional $0.15/W if the project is owned by a public housing authority or non-profit.

In Rhode Island, the Renewable Energy Fund provides grants to offset upfront system costs. Stakeholders reported positive experiences using the program. The program administrator estimated that the funding typically offsets up to 20% of project costs. Currently, there is not a carveout of funding for affordable housing or application evaluation criteria that favors proposals that benefit low- to moderate-income residents.

Production-based Compensation Programs

Rhode Island's REG program does not provide an incentive adder for projects that benefit low-income or affordable households, nor does it consider equity benefits when setting prices for purchasing generation output that benefits low-income households. Programs in other states offer adders to the fixed ceiling price to incentivize renewable energy development that supports policy goals, including providing benefits to affordable housing owners and residents.

Solar Massachusetts Renewable Target (SMART)

The Solar Massachusetts Renewable Target (SMART) program provides fixed base compensation rates to qualified renewable energy systems. Legislation that created the program requires the program administrator to "…differentiate incentive levels to support diverse installation types and sizes that provide unique benefits, including, but not limited to, community-shared solar facilities, low-income solar facilities, and municipal or other governmental entity-owned solar facilities."

In addition to the base rates, SMART offers price adders for generation systems that benefit low-income households, including:

- A Low-Income Community Shared Solar adder for systems with at least 50% of its energy output allocated to low-income customers through electricity or bill credits.
- A Low-Income Property adder for systems that provide all its generation output through electricity or bill credits to low or moderate-income housing. Any meter on the property, including common areas, can benefit from the output.

In addition to higher incentive levels, the program regulations require at least 5% of program capacity to be set aside for solar systems that qualify for the low-income adders.[22]

Connecticut Residential Renewable Energy Solutions

The Connecticut Residential Renewable Energy Solutions program offers residential solar installations the opportunity to sell energy and renewable energy certificates (RECs) at a fixed 20-year price. Affordable multifamily building owners can receive a per kWh adder equal to a 17% increase over the base rate. To qualify, building owners must demonstrate that at least 60% of residents have incomes at 60% of the area median income or less or that properties are designated as affordable housing by HUD, the Connecticut Department of Housing, or the Connecticut Housing Finance Authority.

Similar to these programs, the Rhode Island Renewable Energy Growth (REG) Program enables customers to sell their generation output under long-term tariffs at fixed prices. Legislation enacted in 2023 extended the REG program through 2033 and increased the annual aggregate capacity to 300 MW. The program includes Shared Solar and Community Remote Distributed Generation components that can support access to renewable energy for households with individually metered electricity service. In addition to Shared Solar and CRDG options, multifamily building owners can participate in REG for facilities that serve master meters. The long-term pricing commitment is for 15- or 20-year terms.

[22] https://www.mass.gov/doc/low-income-guideline-final-clean-092221/download

Unlike the Massachusetts and Connecticut programs, REG does not provide an incentive adder for projects that benefit low-income or affordable housing households. The Distributed Generation Board recommends the maximum ceiling prices that facility owners may bid for. The statute specifies that the Board may consider several factors in setting the ceiling prices, including environmental benefits, system benefits, cost-effectiveness, and the climate resilience and conservation benefits of the project's location.[23] There is no reference to the consideration of equity benefits, such as benefits for low-income households.

Share benefits with tenants

Providing enhanced incentives supports ensuring that tenants benefit from renewable energy. Many state and federal incentive programs targeted at affordable housing require housing providers to share energy savings with residents, whether directly through reduced utility bills or indirectly through other means. Sharing cost savings with residents will reduce revenue for the renewable energy facility owner and could impact the financial viability of projects. Enhanced incentives, as provided by the programs described above, make it economically feasible to pass on the benefits of the systems to residents. It is important to strike the right balance of benefits to ensure the financial viability of projects.

California's Solar on Multifamily Affordable Housing (SOMAH) program demonstrates an effective way to maximize the share of benefits that accrue to residents. California provides rebates to offset the costs of installing onsite solar. At least 51% of the system's electric output must directly offset tenant load through remote net metering bill credits.[24] SOMAH incentivizes building owners to exceed the minimum requirement by providing higher incentives for the portion of the system that offsets the tenant load compared to the portion of the system that offsets the common area electric load. Up to $3.50/watt is available for system capacity that is dedicated to tenants, compared to $1.19/watt for system capacity to be used to benefit common areas. The program will pay for the full cost of the portion of the PV system that offsets tenant load so long as the total incentive payment does not cover the full costs of the system.

In determining the appropriate share of benefits for tenants in the Connecticut Residential Renewable Energy Solutions program, the Connecticut Green Bank pushed back against a proposal that 50% of the tariff value be allocated to tenants based on the impact on project economics. Based on modeling assumptions about project costs, the Green Bank demonstrated that allocating 50% of the tariff value would result in an insignificant amount of net benefits to tenants as the building owner would need to provide some level of benefits to the third-party system owner to recover their upfront investment to install the system. As a result, the proposal to share 50% of the value to tenants would provide little incentive for building owners to take on the work and risk associated with the PV system.
The table below provides an overview of different requirements for sharing renewable energy benefits with tenants.

[23] Location of projects was added by legislation enacted in 2023.
[24] SOMAH Program Handbook, Seventh Edition.

Table 4. Example Program Requirements for Sharing Renewable Energy Benefits with Tenants

Program	Resident Benefit Requirements
Connecticut Residential Renewable Energy Solutions Program[25]	Individually metered: at least 20% of the total financial benefit of the tariff value must be directed to tenants through bill credits split equally between all tenants of multifamily affordable housing sites Master metered: at least 25% of the tariff value must be spent on building upgrades. Qualifying upgrades include energy efficiency measures, energy storage, broadband internet access, and remediation measures that are necessary to support energy efficiency upgrades
MA SMART	Low Income Property Adder: All of the solar output must be delivered as electricity or bill credits to tenant or common meters at a qualifying low-income property. The property must remain affordable for the duration of the incentive contract term, typically 20 years. Low-Income Community Shared Solar Adder: At least 50% of energy output must be allocated to low-income customers through electricity or bill credits
CA SOMAH	At least 51% of system output must be delivered to residents as bill credits. Master-metered properties are not eligible to participate because there is no mechanism for sharing on-bill credits with residents.
NY-Sun Incentive Program	Multifamily Affordable Housing Incentive (onsite, behind-the-meter): Output must offset usage of the affordable housing property Multifamily Affordable Housing Incentive Community Distributed Generation projects: Dedicate no less than 40% of capacity to LMI accounts; or if owned by a public housing authority or non-profit, dedicate no less than 20% of the capacity will be dedicated to LMI accounts; or if owned by a public housing authority or non-profit, dedicate no less than 20% of capacity to an eligible building in the same portfolio.

Several additional challenges may need to be addressed to share benefits with tenants:

- Owners of master-metered properties have limited means to provide direct energy cost savings to residents.
- In federally subsidized housing, bill credits must be structured according to federal guidance to ensure residents receive net cost savings.

Renewable energy policies and programs can be structured to overcome these challenges.

Define benefits broadly. Resident benefit requirements could be structured to include non-financial benefits. This flexibility is especially important for master-metered properties where residents do not receive a utility bill. HUD has released guidance that provides examples of non-financial benefits that

[25] https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/6bf949e674ea002d85258a5a00536ec7/$FILE/230802-110123.pdf

can be provided to residents of master-metered subsidized and public housing.[26] These benefits can include job training, workforce development, facility upgrades, free or reduced-cost internet, and resident services programming. The EPA and Treasury Department have incorporated HUD's guidance into the requirements for the IRA Solar for All and Low-Income Communities Bonus Credit programs.

Align with HUD guidance to ensure that residents receive net cost savings. In individually metered or sub-metered properties, tenants receive a utility allowance (UA) as part of their rental payment. Until recently, it was unclear if net metering credits from community solar should impact the tenant's utility allowance calculation or be factored into the tenant's income. Either outcome would reduce the value of the financial benefit.

Since a tenant's total rent payment is capped at 30% of their income, a change in their UA will result in an equivalent change in their rent for shelter so that the overall total rent payment does not change. In that situation, the tenant receives no net benefits from the solar bill credits. Additionally, if the solar bill credits are included in a family's annual income, it could impact tenant rent calculation and/or eligibility for HUD assistance.

HUD guidance addresses whether and how such financial benefits should be factored into utility allowance baseline analyses and income calculations.

- ***Utility allowances.*** If the community solar bill credits are not tied to actual consumption and/or do not lower the tenant's actual utility rates, then the UA does not need to be recalculated. Credits that fluctuate in value every month based on the amount of energy consumed by the household or result in a lower utility rate do require a change to the UA.

- ***Tenant income.*** A community solar bill credit that appears on the utility bill as an amount credited from the cost of the bill is considered a discount and does not count as income. However, a recurring monthly utility payment made on behalf of the family by a third party is not considered a discount but is considered annual income to the family. HUD's guidance also identifies other forms of financial benefits, such as gift cards or cash payments, that may need to be treated as income.

Support scaling of renewable energy projects

Maximizing the size of the renewable energy system improves project economics by reducing system costs per watt. Aggregating energy demand increases project attractiveness to third-party financiers. Opportunities to get to scale in multifamily housing include master metering properties and aggregating building load across multiple properties.

Allow master metering

The impetus of master meter bans, such as the one in Rhode Island, is to encourage residents to conserve energy by making them responsible for their utility bills. With the advent of more stringent building codes and energy efficiency and demand control technologies, this is less of a concern. For example, new smart building management technology gives property owners more control to address

[26] HUD guidance on eligible financial and non-financial benefits for residents of HUD-assisted multifamily housing can be found at https://www.hud.gov/sites/dfiles/OCHCO/documents/2023-09hsgn.pdf. HUD guidance for public housing can be found at https://www.hud.gov/sites/dfiles/PIH/documents/PH%20Memo%20Community%20Solar%20Credits%20in%20Master%20Meter-Final%20Bldgs%202030801.pdf.

energy waste. In addition, many of the developers we spoke with already pay their tenants' electricity bills. Allowing master metering at affordable housing would make onsite solar deployment more accessible.

While only a few developers noted the prohibition on master metering as a *primary barrier* to solar deployment, other states have passed legislation that provides flexibility to their own master meter ban. These exceptions include:

- Hawaii: "master metering service for apartments, condominium, and multi-unit buildings containing residential units may be utilized when the individual occupant does not control a substantial portion of the energy such as for water heating or air-conditioning or if such service *will tend to encourage conservation or the efficient use of energy*"

- Maryland: "The Commission may authorize the use of a master meter in a residential multiple occupancy building for heating, ventilation, and air conditioning services without requiring individual metering or submetering for heating, ventilation, and air conditioning services if: the utility bill for heating, ventilation, and air conditioning services for each individually leased or owned occupancy unit is included in the rent for that unit; *the Commission is satisfied that the use of the master meter for heating, ventilation, and air conditioning services will result in a net savings of energy over the energy savings* that would result from individual metering or submetering for heating, ventilation, and air conditioning services.

- North Carolina "it shall be unlawful for any new residential building, as hereinafter defined, to be served by a master meter for electric service or natural gas service. Provided, however, that any owner or builder of a multi-unit residential building who desires to provide central heat or air conditioning or central hot water from a central furnace, air conditioner or hot water heater which incorporates solar assistance *or other designs which accomplish greater energy conservation* than separate heat, hot water, or air conditioning for each dwelling unit, may apply to the North Carolina Utilities Commission for approval of said central heat, air conditioning or hot water system, which may include a central meter for electricity or gas used in said central system."

- Oklahoma: "The basic statewide standard for service to multiple residences, apartment complexes, or similar residential units shall be individual metering… Exceptions to the standard for service to multiple residences set forth in (a) of this Section may be granted by the Commission with respect to new and future multiple residence units… if it determines that providing service in the manner requested will encourage: *(1) Conservation of energy.* (2) The efficient use of facilities and resources by the utility providing such service. (3) Equitable rates to the consumers of such service."

While these exceptions do not directly mention the use of solar as a basis for granting an exception to the master meter ban, they provide flexibility in cases where master metering will facilitate energy savings to residents, as solar does. In contrast to these bans, Rhode Island law provides no exceptions to the master metered ban other than for multifamily dwellings constructed for the exclusive use of persons who are elderly and/or disabled through public financing.

In other states, efforts are underway to amend master metering bans specifically to encourage access to renewable energy. In Arizona, the public utility commission approved a request by the state's public utility to allow for master metering of limited-income, multifamily housing that uses solar behind the meter. The request was made because limited-income housing owners expressed an interest in

offsetting as much of the total building consumption as possible. The Public Utility Commission determined that, despite additional barriers to solar deployment in affordable housing, allowing for master metering would result in a marginal increase in solar projects for limited-income, multifamily housing.[27]

In Wisconsin, an increase in the number of multifamily building owners requesting a waiver of the state's ban on master metering has prompted the state's Public Service Commission to initiate a process to review the state's policy. Developers cite the added cost of installing individual meters to provide each unit access to solar as a major impediment to deploying solar.[28]

This year, the California legislature is considering a bill to add an exception to its state ban on master metering for multifamily dwellings that include a microgrid and use electricity generated from renewable energy resources.[29]

Aggregating building load across multiple properties

Aggregating energy loads across multiple properties increases buying power and helps building owners secure more favorable terms from third-party solar developers. In Rhode Island, a handful of non-profits entered into a remote net metering credit agreement with a renewable energy developer. The developer used the contract with the property owners as collateral to secure financing for the project. Aggregating the energy load allowed the property owners to receive a 30% discount on their electric bills compared to a 10% discount that third-party developers typically provide.

Similarly, a group of nine public housing authorities in Rhode Island joined together under a single solar contract with a third-party community solar developer to negotiate a 42% discount on energy costs. The deal will enable the housing authorities to save an estimated $30 million over 20 years.[30]

Reduce Non-Financial Barriers

In addition to the best practices outlined to address Rhode Island's limited incentives and restrictions that impact solar impact, there are several other state solutions that can be incorporated to address or reduce non-financial barriers. These practices include:

- Streamline the process for seeking approval/consent from existing property lenders/investors to facilitate financing.
- Provide technical assistance to help property owners understand the solar development process and financing options, procure services, and access various financial incentives.
- Provide consolidated billing/unified billing.

Streamline Approval/Consent Process

Multiple parties may be required to approve third-party financed solar projects. It can take affordable housing providers months to secure this approval, delaying project deployment and increasing project

[27] Arizona Corporation Commission Decision No. 77989, Docket No. E-01345A-20-0016
[28] The Cap Times, "Solar can save renters big money, but Wisconsin law gets in the way," Dec. 23, 2023. https://captimes.com/news/government/solar-can-save-renters-big-money-but-wisconsin-law-gets-in-the-way/article_eb743268-9912-11ee-9fa1-f7dd2b5c5a81.html
[29] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB1148
[30] https://energynews.us/2021/11/05/virtual-net metering-alliance-unlocks-savings-for-rhode-island-public-housing/

costs. This is especially true when existing lenders/investors are unfamiliar with solar technology and/or solar financing structures. Furthermore, there is a lack of consensus in the industry about when and whether such approval is necessary.

Some efforts have successfully streamlined this process to facilitate a quicker approval process. In Massachusetts, Boston LISC, as part of its Solar Technical Assistance Retrofit (STAR) Program, convened a process to get lenders/investors comfortable with approving solar installations to alleviate the burden on developers of educating them. The process included streamlining many of the legal and contractual requirements involved with onsite solar deployment at affordable housing sites. There is now a standardized process to get consent from all entities, including soft lenders involved in the project, which has sped up the approval timeline from six months to two months.

In addition, MassHousing has adopted a rooftop solar policy to create a streamlined, transparent, and predictable approval process for solar leases.[31] In addition to reducing the wait time for approval, these policies reduce the risk to the affordable housing developer which can further motivate them to pursue solar.

Streamlining the approval process in Rhode Island could include:[32]

- Establishing clear criteria for when approval is required,
- Develop standard forms for collecting information that is most relevant to lenders/investors for approving projects; and
- Provide resources to investors to help them review and approve projects in a timely manner

Provide Technical Assistance

For-profit and non-profit developers consistently shared that a lack of technical assistance and access to information has created additional barriers to deploying solar and other renewable energy at affordable housing sites. State agencies and Rhode Island Energy echoed the sentiment that increased engagement, programs, and resources for affordable housing developers and providers are necessary to increase access to solar. The following state programs provide a range of technical assistance resources such as feasibility assessments, identifying project financing and ownership options, soliciting and evaluation proposals from solar developers, and providing information on various solar incentive programs, including IRA incentives. These resources align with the barriers and challenges developers identified during stakeholder discussions.

- **Massachusetts Solar Technical Assistance Retrofit (STAR) Program:** The Massachusetts STAR Program provides project management and technical and financial assistance to affordable housing developers in the state to identify properties with onsite solar potential. STAR is a partnership of the Local Initiatives Support Corporation (LISC), the Massachusetts Association of Community Development Corporations (MACDC), and Resonant Energy, a community-based solar provider. Since launching in 2021, STAR has helped 25 developers install 7.9 MW of solar PV across 199 buildings. The program is funded through philanthropy and the Massachusetts Clean Energy Center.

- **California Solar on Multifamily Affordable Housing (SOMAH) Program:** California's SOMAH program provides funding to offset the upfront cost of onsite solar in affordable housing. The

[31] Massachusetts Community Climate Bank, *Decarbonizing Affordable Housing in Massachusetts*
[32] The New York State Energy Office, NYSERDA, has recommended these steps be taken in New York.

program includes comprehensive technical assistance focused on solar PV, energy efficiency, and coordination with other energy-related programs. SOMAH is funded through proceeds from the Greenhouse Gas Reduction Fund, the state's cap-and-trade program.

- **NYSERDA Affordable Solar and Storage Predevelopment and Technical Assistance Program:** NYSERDA's Affordable Solar and Storage Predevelopment and Technical Assistance Program provides predevelopment assistance to affordable housing providers and other organizations who are seeking to implement solar and/or storage installations that benefit LMI households. The program provides up to $200,000 in predevelopment and technical assistance. The program is funded through utility customer payments into the state's Clean Energy Fund and RGGI funding.

- **New York City Housing Preservation and Development (NYC-HPD) Solar Where Feasible Program and Solar One:** HPD's Solar Where Feasible program was developed in response to New York City's commitment to installing 1 GW of solar by 2030 and provides free technical assistance to affordable housing developers. Since 2020, Solar Where Feasible has supported over 12 MW of solar deployment, helping owners save $1.9 million on their electric bills annually and reducing CO2 emissions by 4,000 tons each year. The program uses a Solar Feasibility Analysis tool, developed by HPD and non-profit Solar One, to complete a preliminary assessment of solar financial viability for affordable housing properties.

- **Connecticut Green Bank's Solar Marketplace Assistance Program:** The Connecticut Green Bank recently expanded its Solar Marketplace Assistance program to affordable multifamily properties. The program supports participants to solicit bids and arrange financing.

As described in detail below, these programs provide a range of technical assistance resources throughout the solar project development process. The programs:

- Assess project feasibility early in the project design process.
- Assist property owners in understanding their project financing and ownership options.
- Support affordable housing providers in soliciting and evaluating proposals from solar installation companies.
- Provide information resources about solar incentive programs, including newly available Inflation Reduction Act incentives, and help building owners apply for and secure incentives.

Multiple Rhode Island stakeholders identified the need for technical assistance early in the project design process. Several of the programs mentioned above provide early support to impact system design to maximize effectiveness, including helping developers evaluate solar feasibility based on building characteristics and expected costs.
NYSERDA Affordable Solar and Storage Predevelopment and Technical Assistance Program provides a range of predevelopment assistance, including:

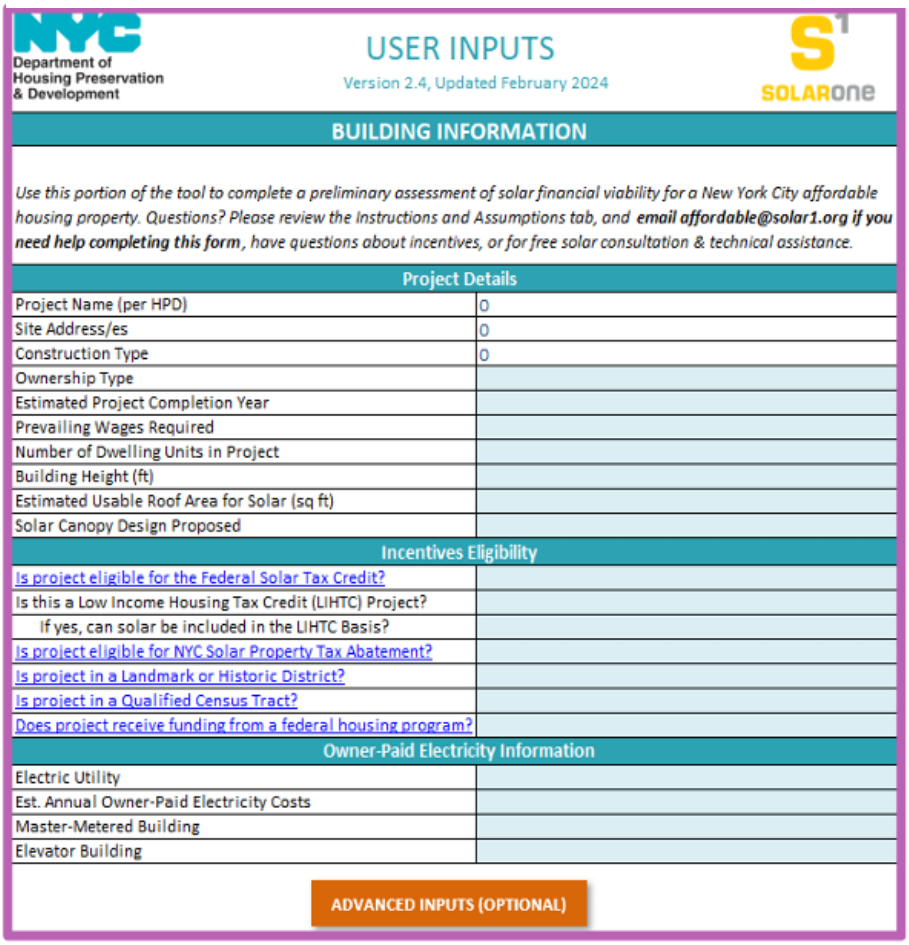
- Early-stage project planning;
- Site identification and preliminary site assessment;
- Securing financing or credit enhancements;
- Procurement and contracting;
- LMI customer outreach and enrollment in community solar;
- Development of project models to allocate benefits and expected savings; and

- Resiliency enhancements.[33]

NYC-HPD provides several resources to support affordable housing developers in designing effective solar systems:

- In partnership with Solar One, a non-profit provider of sustainability technical assistance, NYC-HPD provides a Solar Feasibility Analysis tool to applicants for affordable housing financing. The Excel-based tool guides housing developers in completing a preliminary assessment of solar financial viability. Based on data inputted by the developer or owner such as building information, roof layout and condition, owner-paid electricity costs, and metering, the tool can summarize expected costs, incentives, electricity bill savings, and the payback period for the onsite solar system. Developers can modify data such as usable roof area or mounting type to optimize the system's design and determine the best, most cost-effective solar array for the project. Solar One reviews the applicant's submitted information to check for accuracy and discrepancies, including eligible incentives and costs. The tool allows the developer to see how system input and costs would change based on the type of installation, i.e., ballasted, mechanically attached, or canopy.

NYC-HPD Solar Feasibility Analysis



NYC Department of Housing Preservation & Development

USER INPUTS

Version 2.4, Updated February 2024

SOLARone

BUILDING INFORMATION

*Use this portion of the tool to complete a preliminary assessment of solar financial viability for a New York City affordable housing property. Questions? Please review the Instructions and Assumptions tab, and **email affordable@solar1.org if you need help completing this form**, have questions about incentives, or for free solar consultation & technical assistance.*

Project Details	
Project Name (per HPD)	0
Site Address/es	0
Construction Type	0
Ownership Type	
Estimated Project Completion Year	
Prevailing Wages Required	
Number of Dwelling Units in Project	
Building Height (ft)	
Estimated Usable Roof Area for Solar (sq ft)	
Solar Canopy Design Proposed	
Incentives Eligibility	
Is project eligible for the Federal Solar Tax Credit?	
Is this a Low Income Housing Tax Credit (LIHTC) Project?	
If yes, can solar be included in the LIHTC Basis?	
Is project eligible for NYC Solar Property Tax Abatement?	
Is project in a Landmark or Historic District?	
Is project in a Qualified Census Tract?	
Does project receive funding from a federal housing program?	
Owner-Paid Electricity Information	
Electric Utility	
Est. Annual Owner-Paid Electricity Costs	
Master-Metered Building	
Elevator Building	

ADVANCED INPUTS (OPTIONAL)

- NYC-HPD's *Solar Photovoltaic Systems: A Guide for Long-Term Ownership and Maintenance* is a resource for affordable housing developers and professionals to help them construct and maintain cost-effective and high-performance solar energy systems.[34] It includes information regarding solar PV equipment, costs, warranties, contractors, and best practices for solar on multifamily affordable housing.

[33] https://www.nyserda.ny.gov/All-Programs/NY-Sun/Communities-and-Local-Governments/Predevelopment-and-Technical-Assistance

[34] https://www.nyc.gov/assets/hpd/downloads/pdfs/services/solar-pv-system-owners-guide.pdf

The Massachusetts STAR participants receive staff time support grants and free technical analysis services to analyze the solar potential and financing options for their portfolio. Program staff noticed early on that developers were having difficulty collecting information about the building characteristics in their portfolio to complete solar feasibility analyses. The program now offers a $5,000 grant to participants to offset the cost of the staff time required to collect building information to perform solar feasibility studies.

The upfront technical assistance available through the SOMAH program focuses on helping building owners understand the property's solar potential and the associated costs and benefits of the project. This type of assistance includes feasibility analyses, determining PV array size based on historical energy usage data and planned energy efficiency upgrades, estimating incentive amounts to be generated, and providing financial models and cost/savings analyses. Likewise, the Connecticut Green Bank also provides technical assistance to support feasibility analyses for both onsite and offsite locations and helps in developing system designs.

Developers receiving standard technical assistance through SOMAH are eligible to receive financial, energy efficiency and clean energy, and project management and construction support. Energy efficiency and clean energy assistance can help participants identify energy efficiency opportunities and programs and achieve net zero energy targets. Developers may also receive guidance on soliciting contractor bids; completing Virtual Net Metering (VNM) allocations; reading and understanding utility bills with solar credits; general project management and construction support; and coordinating project interconnection.[35]

A critical early decision point in the solar development process is understanding the different ownership and financing options. All the technical assistance programs help building owners understand the benefits of different options and assess what is the best fit for their property. NYC-HPD, for example, provides one-page overviews of the third-party PPA and direct ownership models that outline the key differences in ownership, costs, and benefits between the two options.[36] The Massachusetts STAR program provides assistance to building owners in navigating different solar contracts (e.g., Power Purchase Agreement or Direct Ownership).

In addition to helping owners understand ownership options, the SOMAH program provides a range of financial assistance, including reviewing property financing options; leveraging federal, state, and local tax credits and incentives; assessing financial models based on feasibility analyses; and adhering to affordable housing finance program regulations.

Affordable housing providers identified the process of procuring solar services as a key barrier. Developers require help understanding what to look for in solar service providers and how to solicit and evaluate bids. NYC-HPD's Solar Where Feasible program, Solar One provides additional one-on-one technical assistance through its *Here Comes Solar* program, including assistance in procuring installation services. Solar One assists the architect in developing the solar bid package, reviews bids, and provides recommendations for vendor selection.[37] Solar One can also help owners or HPD assess and/or understand changes to the scope of work that arise during the construction process, provide guidance to procure incentives, and ensure property staff understands the solar system.

[35] https://calsomah.org/sites/default/files/docs/SOMAH-Program-Handbook-SeventhEdition.pdf
[36] https://www.nyc.gov/site/hpd/services-and-information/solar-where-feasible.page
[37] https://www.nyc.gov/site/hpd/services-and-information/solar-where-feasible.page

The SOMAH program also helps participants find solar PV contractors and obtain and compare project bids. SOMAH connects participants with valuable resources to help simplify the process of finding a SOMAH-eligible solar contractor and soliciting project bids. The program administrator will also assist program participants in reviewing and clarifying bid questions as they come up.

Rhode Island developers also reported the need for assistance in navigating the landscape of incentive programs. Technical assistance providers can help building owners assess different incentive options and assist in applying for and securing incentives. At a minimum, technical assistance providers will provide information about the various incentives and how they align with specific building needs. For example, NYC-HPD provides the matrix below of various solar rebates and incentives. The Massachusetts STAR program provides developer onboarding including a webinar series to help developers understand state incentives.

NYC-HPD Solar Rebates and Incentive Matrix:

		SOLAR REBATES AND INCENTIVES			
		NYSERDA NY-Sun Incentive	**Federal Tax Credit**	**State Residential Tax Credit**	**NYC Property Tax Abatement (PTA)**
		NY-Sun is a $/Watt reduction in the total cost of the system. The incentive is paid by NYSERDA directly to the solar installer at project completion.	*The Federal Solar Investment Tax Credit is 30%+ of the system cost and can be taken the year after the system is installed. Note that projects may also be eligible for the Low-Income Communities Bonus Credit Categories (application required, not guaranteed)*	*The NY State Residential Solar Tax Credit is 25% of the system cost and can be taken the year after the system is installed. May only be claimed on the first 50 kW.*	*The solar PTA is 30% of the system cost and can be taken the 4 years after the system is installed. The solar PTA is limited to projects with property tax liability and cannot exceed the amount of property taxes owed during the year after system installation. The solar PTA has a cap of $62,500/year.*
BUILDING TYPE	**OWNER-OCCUPIED CO-OP or CONDO**	All projects are eligible. Solar Installer is responsible for requesting from NYSERDA. Incentive amount is $1.60 to $2.00/Watt-DC for Affordable Housing	RESIDENT LEVEL: The tax credit is divided across all shareholders but can only be taken by shareholders with income tax liability. BUILDING LEVEL: Only if there is tax liability at the building level. Alternatively, co-ops and condos may be able to monetize the tax credit through Transferability by selling their tax credit at a discounted rate to a solar tax credit buyer. More details to come as Transferability is implemented.	RESIDENT LEVEL: The tax credit is divided across all owner-occupants but can only be taken by those w/ income tax liability. Cap is $5,000 per shareholder and can be rolled over for 5 years following the installation. Businesses cannot take the state tax credit.	RESIDENT LEVEL: If a condo can receive the PTA, the property taxes are divided amongst condo owners and will be taken on the condo owners' personal property taxes. BUILDING LEVEL: If a building is getting 100% of their property taxes abated through Article XI, they cannot use the solar PTA. If a co-op is receiving a portion (but not all) of their property taxes abated through Partial Article XI, they can take the solar PTA on their remaining property taxes. If a building receives ICAP, 421-a, 421-b, 421-g or pays PILOTs, the property is not eligible for the solar PTA.
	FOR-PROFIT RENTAL	All projects are eligible. Solar Installer is responsible for requesting from NYSERDA. Incentive amount is $1.60 to $2.00/Watt-DC for Affordable Housing Note: if taking the Federal Solar Investment Tax Credit, the NY-Sun incentive may count as federally taxable income	This commercial tax credit can be taken by the owner of the building	N/A (homeowners only)	If a building is getting 100% of their property taxes abated through Article XI, they cannot use the solar PTA. If a building is receiving a portion (but not all) of their property taxes abated through Partial Article XI, they can take the solar PTA on their remaining property taxes. If a building receives ICAP, 421-a, 421-b, 421-g or pays PILOTs, the property is not eligible for the solar PTA.
	501c3 NON-PROFIT RENTAL	All projects are eligible. Solar Installer is responsible for requesting from NYSERDA. Incentive amount is $1.60 to $2.00/Watt-DC for Affordable Housing	Eligible through the IRA's Direct Pay: Owner may file with the IRS and receive the tax credit amount as a direct payment of cash. The tax credit may also be taken by a LIHTC investor for additional benefits.	N/A (homeowners only)	N/A (no tax liability)

Dedicate funding from the Greenhouse Gas Reduction Fund's Solar for All award to provide technical assistance

As stated above, increased technical assistance is necessary to ensure affordable housing developers in Rhode Island can successfully deploy and benefit from solar, as well as meet the state's decarbonization goals. The abovementioned technical assistance programs have proven to be successful in their respective state, helping to increase access to solar across multifamily affordable housing communities.

To help design, expand, and launch technical assistance in Rhode Island, RIHousing could work with the Office of Energy Resources and the Office of Housing and Community Development to take advantage of funding through EPA's GGRF Solar for All program. In addition to providing subsidies and other financial

assistance to expand rooftop and community solar projects, Solar for All funding may be used to provide technical assistance to ensure that funding reaches hard-to-serve households.

EPA's NOFO for Solar for All identifies various forms of technical assistance that can be funded through the program, including workforce development, community outreach, and project deployment support. Project-deployment technical assistance encompasses many of the technical assistance services described above.

Several states that have applied to EPA's Solar for All have shared what technical assistance services will be included in their program if awarded funds, including supporting technical assistance specific to expanding solar access in multifamily housing. States have proposed offering the following technical assistance support in their Solar for All proposals:

- Identifying and leveraging additional funding opportunities;
- Support assessments and audits for low-income communities considering onsite solar and/or community solar;
- Developing working groups, peer learning cohorts, and solar development entities to support solar deployment;
- Develop and identify ownership models;
- Additional pre-development support; and
- Standardize processes and contracts for community and residential solar.

Provide Consolidated Billing

The lack of consolidated billing is another challenge developers identified when participating in community remote net metering. Not only is it an administrative burden to reconcile dual bills, but owners cannot track their true energy costs when billed separately for their utility usage and solar subscription.

There are multiple pathways to instituting consolidated billing requirements. Legislation enacted in Illinois, Maryland, and Virginia required utilities to offer consolidated billing.[38] Public Utility Commissions in New York and Oregon initiated proceedings to develop consolidated billing. Some community solar developers, such as Arcadia, voluntarily offer provider-consolidated billing.[39] Consolidated billing may also be incorporated into the design of solar program rules and guidance, which may come from a State Energy Office or program administrator.[40]

According to the National Association of State Energy Officials (NASEO), there are several key policy considerations that need to be accounted for when developing consolidated billing requirements.[41]

- There is a foundational requirement that utilities add functionality to their billing systems to include community solar subscription costs.

[38] National Association of State Energy Officials, *Community Solar Consolidated Billing: Review of State Requirements, Policies, and Key Considerations*
[39] Ibid
[40] Ibid
[41] Ibid

- Utility companies incur costs associated with establishing and administering consolidated billing. States may allow utilities to recover these costs by charging solar developers a fee or allowing utility companies to recover costs from ratepayers.
- While policies may compel utilities to provide the option of consolidated billing, it is typically up to the solar developer as to whether they want to participate in consolidated billing.
- States may choose to impose penalties on utilities for non-compliance.
- In some cases (e.g., New York and DC), utilities have failed to accurately account for solar credits and subscription costs on customer bills, creating confusion and undermining confidence in the benefits of community solar.

Rhode Island stakeholders identified several issues that need to be considered and worked through to implement consolidated billing, described below. Addressing these issues should be informed by a stakeholder working group, including the Commission, the Office of Energy Resources, Rhode Island Energy, affordable housing owner/operators interested in developing or participating in renewable energy projects, and developers and/or subscription managers of renewable energy projects.

- **IT upgrade costs**. RI Energy would need to invest funds in its IT systems to allow it to handle consolidated billing. In some states, this cost has been passed through to ratepayers; in other states, those who want access to consolidated bills pay the utility company a fee. Stakeholders, including RI Energy, renewable energy developers (or their subscription managers), and consumer advocates should be engaged to determine how much IT upgrades will cost and who should bear those costs.

- **Billing errors and customer complaints.** Non-regulated power producers[42] in Rhode Island are subject to terms and conditions to minimize billing errors and provide customers with a clear process for receiving customer complaints and resolving billing errors that occur.[43] Stakeholders will need to determine the appropriate customer service terms and conditions for consolidated billing.

- **Additional requirements**. It is also necessary to determine whether other requirements on non-regulated power producers should apply to consolidated billing providers, including registration requirements[44] and the Non-regulated Power Producer Consumer Bill of Rights.[45]

Since moving to consolidated billing involves large enough investments of money and touches on the rights and obligations of various parties (e.g., RI Energy, the Commission, power producers, etc.), the best way forward is to form a stakeholder working group with the goal of reaching as much consensus among the interested parties as may be possible.

[42] "Non-regulated power producers" are defined in R.I. Gen. Laws 39-1-2 (17) as "a company engaging in the business of producing, manufacturing, generating, buying, aggregating, marketing, or brokering electricity for sale at wholesale or for retail sale to the public; provided however, that companies that negotiate the purchase of electric generation services on behalf of customers and do not engage in the purchase and resale of electric generation services shall be excluded from this definition. A nonregulated power producer shall not be subject to regulation as a public utility except as specifically provided in the general laws."
[43] https://www.rienergy.com/media/pdfs/billing-payments/tariffs/ri/npp-tc-(12-23-21).pdf.
[44] https://webserver.rilegislature.gov/Statutes/TITLE39/39-1/39-1-27.1.htm
[45] https://webserver.rilegislature.gov/Statutes/TITLE39/39-26.7/INDEX.htm

Such a stakeholder process could also involve reviewing consolidated billing approaches being implemented in other states. The following states have recently adopted policies and regulations around consolidated billing.[46]

- Illinois requires consolidated billing for utilities with more than 200,000 customers. Renewable energy system owners must request to receive consolidated bills. Utilities must not charge fees to system owners that exceed 2% of the bill credit value.

- New York also requires consolidated billing and allows utilities to charge up to a 1% discount rate on the total value of the credits to cover administrative costs. The PUC created a stakeholder convening process to identify performance metrics and required utilities to establish implementation plans.

- Maryland passed legislation requiring the PUC to develop regulations implementing consolidated billing. The legislation directed the PUC to consider important consumer protection considerations, including requiring utilities to report crediting errors to the PUC on a regular basis and imposing timing requirements for applying bill credits to subscriber bills.

[46] National Association of State Energy Officials, Community Solar Consolidated Billing: Review of State Requirements, Policies, and Key Considerations

CONCLUSION

Opportunities exist to improve access to renewable energy in affordable housing in Rhode Island. These include:

- Enacting policies that align financial incentives to encourage affordable housing developers to deploy onsite solar and incentivize solar developers to enroll low-income housing providers while delivering direct benefits to residents.
- Improving the ability of affordable housing developers to aggregate electricity demand to improve the cost-effectiveness of onsite solar and deliver sufficient load to solar developers to compete competitively with larger customers.
- Reducing non-financial barriers to renewable energy access by providing technical assistance to affordable housing providers and lowering administrative costs through consolidated billing.

Recommendations

Rhode Island should adopt the following recommendations to realize these opportunities:

First, renewable energy incentive programs should include adders that promote affordable housing participation and ensure the benefits of renewable energy are shared with low-income residents.

In particular:

- Net metering system owners that allocate net metering credits remotely to affordable housing providers and low-income residents should be exempt from the 20% reduction in the net metering rate enacted in 2023.
- A low-income adder should be included in the Renewable Energy Growth (REG) program to provide additional compensation for renewable energy generation systems that serve affordable housing. Generation system owners who receive the adder should be required to provide an appropriate share of the value of the output to low-income residents. In addition, a minimum percentage of annual capacity should be reserved for systems that qualify for the adder.
- The state's Renewable Energy Fund (REF) should include set-asides and enhanced incentives for projects serving affordable housing.

Second, the master meter ban should be amended to exempt affordable housing providers who commit to deploying onsite solar or receive an allocation of net metering credits from CRNM or through remote net metering.

The amended ban should prohibit the use of submetering or, if submetering is allowed, require the PUC to develop rules for submetering that provide protections for consumers.

Third, RIHousing and state agencies should invest in resources and programming to provide in-depth technical assistance for affordable housing providers interested in deploying onsite renewable energy.

These programs can replicate other state's programs that have proven to be successful, such as the Massachusetts Solar Technical Assistance Retrofit (STAR) Program, California SOMAH program, NYSERDA Affordable Solar and Storage Predevelopment and Technical Assistance Program, and NYC-HPD's Solar Where Feasible program. Technical assistance should prioritize:

- Providing affordable housing developers access to experts on all state and federal solar programs, incentives, and funding opportunities, including the IRA.
- Pre-development technical assistance that includes early-stage project planning, feasibility assessments, securing financing, navigating ownership models, etc.
- Assistance soliciting and evaluating proposals from solar developers.

Should Rhode Island secure a grant from EPA's GGRF Solar for All program, funding should be used to develop the abovementioned technical assistance programs, tools, and resources for affordable housing providers.

Fourth, a stakeholder process should be initiated to develop a consensus on implementing consolidated billing, which would streamline reconciling utility bills and community solar subscriptions.

Moving to consolidated billing involves large enough investments of money and touches on the rights and obligations of various parties (e.g., RI Energy, the Public Utility Commission, power producers, etc.) that the best way forward is to form a stakeholder working group to reach as much consensus among the interested parties as may be possible.