

# Boston's Acquisition Opportunity Program: Recommendations for Efficiency & Electrification

Prepared by Resonant Energy and New Ecology in collaboration with the City of Boston's  
Mayor's Office of Housing and Massachusetts Housing Investment Corporation (MHIC)



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## Executive Summary of Recommendations to Boston AOP:

Through the Acquisition Opportunity Program (AOP program), the Mayor's Office of Housing makes loans to help responsible investor-owners buy occupied, multi-family rental properties. The program helps preserve naturally occurring affordable housing while supporting mission-aligned developers who often do not have the same access to capital as other private investors.

The Mayor's Office of Housing and Boston Housing Office and the Massachusetts Housing Investment Corporation have expressed a desire to support prospective buyers in applying decarbonization upgrades to their buildings. This aligns with the City's goal of achieving carbon neutrality by 2050. New Ecology and Resonant have developed a list of recommendations to bolster that aspiration.

Our teams have spent the last several months researching the structure of incentive programs and how these funding sources interact with existing AOP procedures. To create a robust and

sustainable support system for ownership, we recommend a deeper look into the details and feasibility of the following initiatives.

1. Create a framework for AOP and Mass Housing Investment Corporation (MHIC) staff to learn about, keep up to date on and educate buyers regarding:
  - o Regulatory requirements,
  - o Incentives and funding sources, and
  - o Property insurance implications of sustainability upgrades.
2. Establish a Sustainability Fund to cover existing funding gaps in energy efficiency projects and support water efficiency measures.
3. Add a pre or post closing solar feasibility assessment requirement for buildings of 15+ units.
4. Add a post-closing requirement that owners have a Mass Save energy assessment within a specified timeframe after closing and as a precursor to expenditure of any City implementation funds.

## Educate AOP, MHIC Staff, and Buyers

The landscape of incentives available to decarbonize affordable housing in Boston can be challenging to understand. New affordable housing owners assisted by the AOP program are likely to find themselves overwhelmed by the many eligibility requirements and incentives. Because of the wide typology of affordable housing that the AOP program finances, incentives, requirements, and renovation strategies vary significantly across the supported portfolio. AOP and MHIC could be a valuable first line of support and education for prospective owners to understand what incentives might exist to help them control their operating costs, reduce resident utility costs, address health and safety issues and meet local regulatory requirements. To prepare AOP and MHIC to support sustainability and set up buyers utilizing the program for long-term success, development of several training areas is proposed below. In all cases, it is important to ensure there are mechanisms for keeping this information current.

### Training Topic Areas

#### Regulatory Requirements

Awareness of decarbonization regulation is important, but often confusing, for affordable housing owners. The AOP team is in a unique position to connect owners with information about climate regulation. We suggest the creation of a resource guide for AOP staff to share with potential owners to understand what regulations apply to the building they intend to purchase. This will allow owners to plan proactively to comply. Integration of decarbonization measures into maintenance and renovation planning can make compliance with regulations easier and less expensive. This guide will also aid in training new AOP staff or interns.

## Incentives & Funding Sources

Significant state, local, and national incentives are available to support the decarbonization of affordable housing. The programs support different housing types, resident incomes, and decarbonization measures. Incentive amounts, eligibility, and focus continuously evolve. [Mass Save](#) is a nationally well-regarded energy efficiency and decarbonization program due to its structure and considerable budget at over \$1 billion per year. It is a logical resource for AOP buyers considering energy improvements to become familiar with first. The income-eligible program is the most subscribed set of offerings within Mass Save because of the significant financial incentives and technical support provided.

We propose the development of in-depth training and educational resources for AOP staff to understand the various Mass Save incentives available to affordable housing owners and how to access them. This should include an updated resource guide, which will assist AOP, MHIC, and buyers in tracking available resources and keeping abreast of changes to incentives.

## Property Insurance Implications of Sustainability Upgrades

As climate change progresses, property insurance coverage requirements are changing and rates are rising. Sustainable upgrades which take climate resiliency into account may help to control a property's insurance costs. Owners that understand this and capitalize on decarbonization incentives and plan for climate resiliency, will find themselves in a much stronger position to advocate for themselves with their insurance brokers.

## Add an Energy Assessment Requirement to AOP Program

There are numerous programs available to support affordable housing decarbonization that exist under the umbrellas of Mass Save and LEAN.

The first step to take advantage of any of these incentives is to request an energy audit from the appropriate program. These audits are offered for no-cost through several MassSave programs and provide valuable information to the ownership regarding what financial and technical assistance is available for their property. They also identify pre-requisite health, safety, and durability issues which must be addressed before efficiency work can proceed.

For small, occupied properties (1-4 units), eligibility for a free energy audit is connected to the utility account holders at the property (typically the tenants). We recommend that AOP provide guidance to the potential owners so that they can understand how their buildings can utilize the 1-4 unit residential audit and energy conservation measures that the market rate program supports. Residential buildings are eligible for no-cost home energy assessments every three

years under the Mass Save program, regardless of the income levels of the residents, and this assessment may be able to occur before the sale of the property if the seller cooperates.

Points of Entry and Available Mass Save Incentives for City of Boston Landlords of 1-4 Units

| MASS SAVE PROGRAM BENEFIT<br>(All incentives and rebates must meet cost-effectiveness screening criteria) | Income Eligible Tenants <sup>1</sup><br>(50% or more Units)                                                                                                                                                                                                                                   | Moderate Income Tenants <sup>2</sup><br>(Enhanced Turnkey Program) | Market Rate Tenants                                |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------|
| Home Energy Assessment                                                                                    | <a href="#">No cost through Mass Save LEAN</a>                                                                                                                                                                                                                                                | <a href="#">No cost through Mass Save</a>                          | <a href="#">No cost through Mass Save</a>          |
| Proof of Eligibility                                                                                      | 1. Deed restriction<br>2. Income Survey<br>3. LIHTC Property<br><a href="#">Link to more documentation info</a>                                                                                                                                                                               | <a href="#">Online verification tool</a>                           | Not required                                       |
| Air sealing Incentive                                                                                     | No cost                                                                                                                                                                                                                                                                                       | No cost                                                            | No cost                                            |
| Pre-weatherization Barrier Remediation (e.g. knob-and-tube, vermiculite) Incentive                        | No cost                                                                                                                                                                                                                                                                                       | <a href="#">Up to \$7,000 per unit</a>                             | -                                                  |
| Weatherization Incentive                                                                                  | 100%                                                                                                                                                                                                                                                                                          | 100%                                                               | 75-100% <sup>3</sup>                               |
| Heat pumps and other appliance rebates                                                                    | 100% covered replacement of all inefficient heating and other appliances (refrigerators, freezers, window AC, cloth washer)                                                                                                                                                                   | 100% covered heat pumps and necessary electrical panel upgrade     | Up to \$10,000 for efficient air-source heat pumps |
| 0% Mass Save Heat Loans                                                                                   | Heat loans may not to exceed \$25,000 per building owner and 5-year terms. Loans may be used for to cover expenses not covered by incentives/rebates for approved pre-weatherization barriers, weatherization, Energy Star certified replacement windows, heat pumps, heat pump water heaters |                                                                    |                                                    |

1. At least 50% of the households within units must meet income eligibility of 60% or below AMI

2. Available starting in 2026 at the following Boston zip codes: 02115, 02119, 02120, 02121, 02122, 02124, 02125, 02126, 02128, 02134, 02135, 02136

3. The 100% fully covered weatherization offer is only available to rented residential units in 1-4 unit buildings and is only available for a limited time through 2025

Unfortunately, for properties comprising 5 units or more, the building owners' ability to access the Mass Save income-eligible program incentives typically require income verification of the utility account holders who live in the properties and documented affordability restrictions. Since properties being acquired with assistance from AOP are not yet affordably restricted properties, Mass Save's enhanced incentives will not be accessible until the purchase is complete and new tenants' income eligibility are established. Thus, access to the Mass Save's enhanced offerings will have to wait until after closing.

### Points of Entry and Available Mass Save Incentives for City of Boston Property Owners of 5+ Units

| MASS SAVE PROGRAM BENEFIT<br>(All incentives and rebates must meet cost-effectiveness screening criteria)                        | Income Eligible Tenants <sup>1</sup><br>(50% or more Units)                                                                   | Designated Equity Communities <sup>2</sup><br>For buildings with > 50% rental units | All Other Multifamily Buildings           |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------|
| Home or Comprehensive Building Assessment                                                                                        | <a href="#">No cost through LEAN Multifamily</a>                                                                              | <a href="#">No cost through Mass Save</a>                                           | <a href="#">No cost through Mass Save</a> |
| Proof of Eligibility                                                                                                             | 1. Deed restriction<br>2. Income Survey<br>3. LIHTC Property<br><a href="#">Link to more documentation info</a>               | <a href="#">Online verification tool</a>                                            | Not required                              |
| End-to-End Project Management                                                                                                    | No cost                                                                                                                       | No cost                                                                             | -                                         |
| Air sealing Incentive                                                                                                            | No cost                                                                                                                       | No cost                                                                             | No cost                                   |
| Pre-weatherization Barrier Remediation (e.g. knob-and-tube, vermiculite) Incentive                                               | No cost                                                                                                                       | No cost                                                                             | -                                         |
| Weatherization Incentive                                                                                                         | 100%                                                                                                                          | 100%                                                                                | Up to 100%                                |
| Other Mechanical Systems                                                                                                         | 100% covered building sensors and controls; motors and drives; HR and ER ventilation system                                   | -                                                                                   | -                                         |
| Heat pumps and other Appliances                                                                                                  | 100% covered replacement of all inefficient heating, chillers and domestic hot water systems                                  | 100% covered heat pumps and necessary electrical panel upgrade                      | Varies                                    |
| Deep Energy Retrofit (DER) Pathway for Projects Pursuing 40% or greater site Energy Usage Intensity (EUI) Reduction <sup>3</sup> | Up to \$350 per MMBTU saved as shown by whole building energy model to tackle building envelope and other substantial updates | -                                                                                   | -                                         |

1. At least 50% of the households within units must meet income eligibility of 60% or below AMI

2. Available starting in 2026 at the following Boston zip codes: 02115, 02119, 02120, 02121, 02122, 02124, 02125, 02126, 02128, 02134, 02135, 02136

3. As of September 2025, all program funding for the DER multifamily projects in the Eversource territory (including Boston) has been fully allocated and no new projects will be added until the beginning of 2028. Interested parties should complete an expression of interest form to be added to the waitlist.

Adding a post-closing requirement that the property undergo an audit is a logical condition for all properties receiving assistance from AOP. While enforcement of such a clause may be tenuous, it would be of particular benefit to ownership to take advantage of the Mass Save assessment, enhanced incentives and other recommendations. These audits determine eligibility for free or low-cost energy conserving measures for affordable housing as well as access to additional subsidized loan products. In the new Mass Save Turnkey program, building owners in select Boston zip codes will even have funding to address “barriers to weatherization” such as replacing knob and tube wiring and removing vermiculite insulation.

### Example Energy Conservation Measures (ECMs) offered at low or no cost by LEAN and Mass Save programs:

- Air sealing
- Insulation: Roof/ Attic, wall, basement, and more
- Heating system replacement: central and unit-level systems
- Water heating system replacement: central and unit level
- Electrification of oil systems
- Conversion from electric resistance heating to heat pump heat

# Add a Solar Feasibility Assessment Requirement to AOP Program

We recommend that the AOP program require participating developers to conduct a solar feasibility assessment through a qualified solar provider. Unlike Mass Save and LEAN, this assessment does not require ownership of the building or affordability restrictions. Solar companies can assess buildings remotely with satellite imagery and model incentives based on future expected affordability restrictions, even if those restrictions are not currently in place. These assessments are a light-touch survey to understand potential feasibility and would need to be confirmed with in-person site visits when the developer is ready to install solar. Most solar companies provide these desktop assessments at no-cost to the client. Through this assessment, developers can explore no-cost Power Purchase Agreements (PPAs) and direct purchase options for their properties.

Recommendations based on project size:

- **Under 15 Units** - Solar is unlikely to be feasible because of the lack of common meter usage in conjunction with less available roof space. **Solar feasibility assessment should be optional and considered unlikely to be a fit.**
- **15-40 units** - If the developer is replacing the roof as part of the acquisition process, it may make sense to include direct purchase of solar as part of this process, especially since these buildings will be subject to BERDO requirements. No-cost solar financing options, like power purchase agreements (PPAs) are unlikely to work in the current incentive and interest rate environment for these medium sized multifamily buildings. Funding from a sustainability fund to help cover the costs of electrical upgrades, structural assessments and roof replacements will likely help more developers be able to pursue solar. **Solar feasibility assessment should be required.**
- **40+ units** - These larger buildings typically have more available roof space for solar, plenty of common area usage to offset from elevators, common area space conditioning, common laundry, etc., and are the most likely to be able to qualify for a no-cost PPA – which can also be used to support BERDO compliance. Feasibility assessments can include both direct purchase and no-cost options to help developers decide the best path forward for their project. **Solar feasibility assessment should be required and considered to be likely a good fit so long as the roof has been recently replaced.**
- **Roof Age / Type Suitability:**
  - **Common Cases:** Most roof surfaces in Boston are covered with either asphalt shingles for sloped roofs or EPDM (rubber) or TPO (plastic material) for flat roofs, all of which have a useful life of 20-30 years. **In nearly all of these cases, solar PV should not be installed unless the roof was replaced in the last 10 years.**
  - **Less Common, Longer Lasting Roofs:** Metal Roofs, including standing seam and corrugated, (~50 years) and Architectural Asphalt Shingle Roofs (35-40 years) are more expensive and last longer. **In these cases, solar can be installed if the roof was done in the last 15-20 years (depending on roof condition).**

- **To be Avoided:** Slate and gravel roofs, regardless of age

## Establish a “Sustainability Fund”

There are notable gaps in the sustainable funding available to affordable housing properties. Health and safety, durability, and electrical upgrades are rarely covered by the available funding sources. These create a real financial barrier for many affordable housing properties trying to access the available funding to implement decarbonization measures.

New Ecology conducted research in a project led by the Building Electrification Institute for the City of Boston to identify gaps in the funding needed to fully electrify the Boston residential sector. The report “[Boston Funding Gap Analysis for Residential Building Decarbonization](#)”, released in February 2024, outlined the notable funding gaps which exist for low- and moderate-income properties to decarbonize.

The report summarizes the funding gaps as follows:

- After incentives, the funding gap for LMI single family homes is estimated at \$37,000 – \$58,000 per unit.
- After incentives, the funding gap for LMI multifamily homes is estimated at \$21,000 – \$35,000 per unit.
- The largest gaps are for electrification and health and safety upgrades, and funding sources often do not cover electric readiness, such as panel upgrades, or soft costs, such as design and applications for funding.

It is recommended that AOP create a supportive sustainability fund to fill in some of these gaps, opening opportunities for properties to utilize incentives that would otherwise not be available to them, and achieve additional operational and residential utility cost savings. According to the Boston Foundation, “There is evidence to indicate that efficiency programs run by entities other than utilities are more effective at achieving decarbonization goals.” ([Powering Up Together p. 37](#)) There is an opportunity for the City of Boston to provide non-utility controlled financial support while opening the door to the many incentives offered through Mass Save. Some important gaps observed and the recommendations to overcome them are broken down below.

## Electrical Infrastructure Assessment

For all properties that will need to comply with BERDO, fund an electrical infrastructure (building side & utility side) assessment to be completed by an electrician or engineer as part of the loan process. An Electric Infrastructure Assessment would determine if electrification is possible, in part or in full. This assessment is not part of a standard Mass Save or LEAN energy audit. When LEAN suspects they may be able to support conversion from fossil fuel to electric heating or hot water, these are done on a case-by-case basis. Since LEAN has very strict savings to investment ratio (SIR) requirements, most properties do not receive this type of assessment.

## Electrical Upgrades Incentive

Electrical upgrades to support new electric water heating, space heating, cooking, and laundry are often a barrier to a property moving forward with electrification. Once the Electrical Infrastructure Assessment has been completed and options for electrification are understood, properties often encounter another financial barrier- the electrical upgrades needed to support the new equipment.

Electrical panel upgrades are often necessary before installing solar PV, particularly in older buildings. For building owners pursuing a no-cost Power Purchase Agreement, electrical upgrades are often a significant barrier for solar PV because these upgrades must be covered by the building owner.

A building may need new, larger gauge wiring to handle the larger electrical loads. This can be limited to specific areas, such as a new electric stove where a gas range once stood, or throughout the building if the wiring is antiquated. Often, new load centers (breaker boxes) are needed at the building or unit level to distribute the higher amounts of electricity safely.

## Roof Replacements

Older roofs are often a significant barrier to installing solar PV. It is recommended that solar is installed on roofs within the first 10 years of installation to help ensure that the solar equipment does not need to be removed for a roof replacement. Roof replacements are quite costly for developers; they are often not covered by grant programs and cannot be included in the tax credit eligible basis for solar energy, despite the fact that roof replacements are often necessary. Supportive funding for roof replacements and repair from a sustainability fund will help developers prioritize on-site solar energy. Roof replacement work should *always* investigate the need/feasibility of increasing the insulation value - a key energy conservation measure that is subsidized by Mass Save.

## Structural Assessments

Before installing solar PV, it is important to assess the building's structural integrity to ensure that it is safe to add additional weight to the roof. For sites that have building plans available, the cost of a structural assessment should be minimal. If there are no building plans available, a small cut in may be necessary to assess the load capacity of the roof. Older buildings can sometimes require structural reinforcement, which can be significant and beyond the scope of what is envisioned for the sustainability fund.

## Gas Stove/Range & Gas Dryer Conversion Incentive

When properties undertake electrification, gas stoves and gas dryers are often a lingering source of natural gas use. Few programs incentivize their replacement. When electrification is partially completed and only these few appliances remain, the utility customer will continue to pay a monthly charge for gas service indefinitely. This monthly charge is almost always higher than the cost of the gas (or electricity) that the appliances would use to perform their function.

This is a particularly large benefit when gas costs are paid directly by tenants and can go a long way towards reducing tenant utility costs.

It is widely acknowledged by public health experts that combustion byproducts from gas ranges are a significant contributor to compromised indoor air quality. There are significant health and safety benefits to removing gas stoves from housing. Despite the mountain of evidence that shows the benefits of gas stoves from housing, this is still often a hard sell to ownership and tenants. Experience suggests that an education campaign will likely be needed to promote utilization of incentives related to electrification of residential cooking.

## Toilet Upgrade Incentive

Water and sewer costs are a significant portion of affordable housing utility costs. Water usage reduction measures are of significant value not only for their environmental impacts, but for their cost reduction potential for building ownership. Low flow toilets are not covered by energy efficiency and electrification incentive programs in Boston. As ownership typically pays water and sewer cost for a whole affordable housing property, water conservation measures are particularly valuable to owners. These savings can also help offset increased utility expenses often seen when electrifying.

Support the conversion to low flow toilets. Educate potential/ new owners on the value of water saving recommendations.

## Window Replacement Incentive

Most sustainability incentive programs do not support window upgrades. Windows are expensive, and efficiency programs have discouraged the use of rebates to pay for them, focusing on measures with quicker return on investment and a strong building science case for replacement.

In affordable housing, windows are a more problematic issue than in market rate housing. The high costs of efficient windows and the significant cost of replacement windows means that affordable housing typically keeps their windows far beyond their expected useful life. By the time they are replaced, they often function poorly and have a higher energy impact because of their lack of operability and air leakage from failed seals within and around the windows. Failing windows also allow water infiltration into walls and living spaces, causing serious durability issues.

Supportive funding for window replacements could help affordable housing owners bridge this replacement gap. Incentivizing to a specific standard, like Energy Star, can make finding climate appropriate window replacements straightforward.

## Overcoming Weatherization Barriers Incentive

Asbestos and mold remediation, as well as knob and tube wiring replacement, are frequent obstacles to weatherization and electrification. There is some funding provided through the

LEAN program, which supports the removal of barriers to weatherization if they pass a cost-effectiveness test. The funding sources for overcoming weatherization barriers are always pushed to their limits and the need exceeds the funding available.

### Example Weatherization Barriers

- Friable asbestos (vermiculite, pipe wrap, floor tile, etc.)
- Suspected mold growth
- Uncontrolled moisture (roof leak, plumbing leak, wall leak, etc.)
- Electrical hazards (knob and tube wiring, damaged wiring, etc.)
- Pest infestation/ clutter
- Inadequate ventilation

Additionally, some weatherization barriers impact the savings-to-investment ratio that is used to determine eligibility for the installation of energy conservation measures through the LEAN 5+ Multifamily program. Supportive funding to address barriers that may arise for weatherization and electrification could fill the gaps between what Mass Save programs can cover and allow some properties to receive support that would otherwise not be eligible for the installation of conservation measures.

## Other Funding Opportunities for Solar and Efficiency

### BERDO Equitable Emissions Investment Fund

The Equitable Emissions Investment Fund supports projects aimed at reducing building emissions. Funds must prioritize Environmental Justice populations and communities disproportionately impacted by air pollution. Applications are accepted annually, with award decisions made by the BERDO Review Board. Initially seeded with \$3.5 million from the City, the Fund will continue to receive funding through BERDO fines and Alternative Compliance Payments. EEIF can be used to fund both solar and efficiency upgrades.

In 2025, the Fund opened on March 31 and closed on May 30. In 2025, the fund plans to award \$750,000 across at least 4 grants.

### Solar For All

Unfortunately, in August 2025, the EPA canceled all awards made to states and nonprofit organizations under the Solar for All program, totaling \$7 billion. The state of Massachusetts had been awarded \$156 million, a significant portion of which was earmarked for affordable housing.

As of the date of publication, Solar for All is not a viable option for AOP participants to get technical support or low-cost loans to support solar installation. Solar for All funding may

become available again as Attorneys General take legal action against the EPA.

## Looking Into the Future

One major stumbling block to AOP buyer's utilization of existing affordable housing decarbonization incentive programs is the standard program requirement that properties must be restricted by an existing affordability covenant and/or prove tenant income levels and their attachment to an existing utility account. This stops AOP buyers from being able to have a free assessment before they purchase the property.

Major inspections are completed before purchase. Planning and budgeting for upgrades are often included in the loans obtained. Waiting until after purchase to have an energy audit completed on the property is a missed opportunity.

It is recommended that a change to this policy is incorporated into the next Mass Save Three-Year Plan. This gap in support for affordable housing properties should be brought to the attention of Mass Save and a pilot proposed to allow for pre-purchase assessments for AOP properties. We recommend facilitation of conversations with Mass Save on the creation of a pilot to determine the best way to rectify this missed opportunity.