



# Mass Save® Low-Income Multi-Family Retrofits

## Program Guide

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## ***Summary***

The Mass Save® Low-Income Multi-Family Retrofit Program (LIMF) is a no-cost direct install energy efficiency program sponsored by the Massachusetts Energy Efficiency Program Administrators (PAs) – electric and gas investor-owned utilities and Cape Light Compact -- to eligible owners of affordable multi-family housing. LIMF is administered collaboratively by the PAs and the Low-Income Energy Affordability Network (LEAN). The program serves to benefit residents and owners of affordable multi-family housing by providing no-cost energy efficiency improvements through a comprehensive approach to common areas and resident units. The program is open to all types of ownership entities, including non-profits, for-profits and public housing authorities; eligible sites are those with buildings having five or more units where at least 50% of the units are occupied by households at or below 60% of Area Median Income. Clients must additionally be customers of an investor-owned utility for either electricity or natural gas.

Using a whole building approach, LIMF provides Clients with electrical energy efficiency measures and building shell and heating system upgrades, as appropriate. Energy efficiency measures must be cost-effective according to program standards and include a mix of prescriptive upgrades, meaning they are installed in almost all cases, and customized installations that are designed and evaluated on a project-by-project basis. Potential upgrades include space heating systems, heat pumps, variable frequency drives, hot water systems, air sealing and insulation of building envelopes, interior and exterior lighting retrofits, refrigerators/freezers, window air conditioners, energy saving power strips, low-flow showerheads, faucet aerators, as well as programmable thermostats.

Daily implementation of LIMF is managed by Lead Agencies that are coordinated through LEAN. Lead Agencies are community-based agencies, primarily Community Action Programs (CAPs), that offer low-income energy assistance throughout Massachusetts. LEAN manages the intake and review of applications, refers approved applications to the Lead Agencies, and provides technical assistance to the Lead Agencies. The Lead Agencies manage the audits, installations, inspections and payments.

To be approved, Clients complete an online information form at [leanmultifamily.org](http://leanmultifamily.org), submit documentation of tenant income eligibility, and provide gas and electric accounts/usage.. Once approved, Clients receive one or both of the following services, depending on eligibility:

- (1) Clients that are customers of an electric PA receive an Electric/Appliance Audit, which is a standard service of all the electric PAs. The Electric/Appliance Audit is done in two phases. The first consists of a visit from the Lead Agency or its Vendor to a) provide immediate prescriptive measures, including CFL and LED light bulbs, energy saving power strips, faucet aerators, and low-flow showerheads; and b) inventory inefficient equipment that may be eligible for replacement. Phase Two is a follow-up visit to install any cost-effective equipment identified during the first phase, which may include interior and exterior lighting fixtures, programmable thermostats, occupancy sensors, refrigerators/freezers, and window AC units.

- (2) Approved Clients with gas heat from a gas PA or electric heat from an electric PA receive a walk-through evaluation by an Energy Auditor of all of the building's common areas including utility rooms and a sampling of tenant units to capture the building's overall condition and performance. This service is called a Building Assessment (or Comprehensive Building Assessment). The purpose is to identify all opportunities for efficiency measures, such as insulation, air sealing, weatherstripping, and attic ventilation; the need for space or water heating system upgrades; and any other potential upgrades the Energy Auditor observes. If the Energy Auditor identifies the opportunity to replace any part of the HVAC system or any other upgrade that requires customization, a new system will be scoped during a follow-up visit by the Energy Auditor and a technical specialist.

Recommended energy efficiency measures in the Building Assessment are evaluated for cost-effectiveness, and approved measures are put out to bid or assigned to a pre-approved Contractor by the Lead Agency. Once a Contractor is selected and the scope of work finalized, the Client and the PA or Lead Agency will sign agreements to proceed. All installations are inspected for quality control, and any issues that arise are resolved by the Lead Agency. Payment is made by the Lead Agency to the Contractor, or in limited cases, to the Client.

### ***Steps in the Program***

LIMF has a rolling application and approval process with the following five steps:

1. Application Submittal through [leanmultifamily.org](http://leanmultifamily.org)
2. Submittal of Affordability Documentation for LEAN Review
3. Energy Usage Review by LEAN
4. Referral to Lead Agency

Once approved, Projects served by an **electric PA** proceed to the following:

5. Assignment to Energy Auditor/Vendor
6. Review for Prior Service
7. Electric/Appliance Audit, Phase 1: Installation of Prescriptive Measures (if pass #6)
8. Electric/Appliance Audit, Phase 2: Installation of Approved Custom Electric Measures

Above Projects **with electric heat** and approved Projects **with gas heat from a gas PA** proceed to the following:

9. Assignment to an Energy Auditor
10. Building Assessment & (possible) Follow-Up with Technical Specialist
11. Evaluation of Cost-Effectiveness of Recommended Measures
12. Contractor Selection (if pass #11)
13. Authorization to Proceed (if pass #12)
14. Installation & Inspection

#### 15. Payment by Lead Agency to Contractor

Some variations do occur between Lead Agencies in steps 6-15, and owners or managers of multiple sites served by different utilities may notice slight differences across Projects.

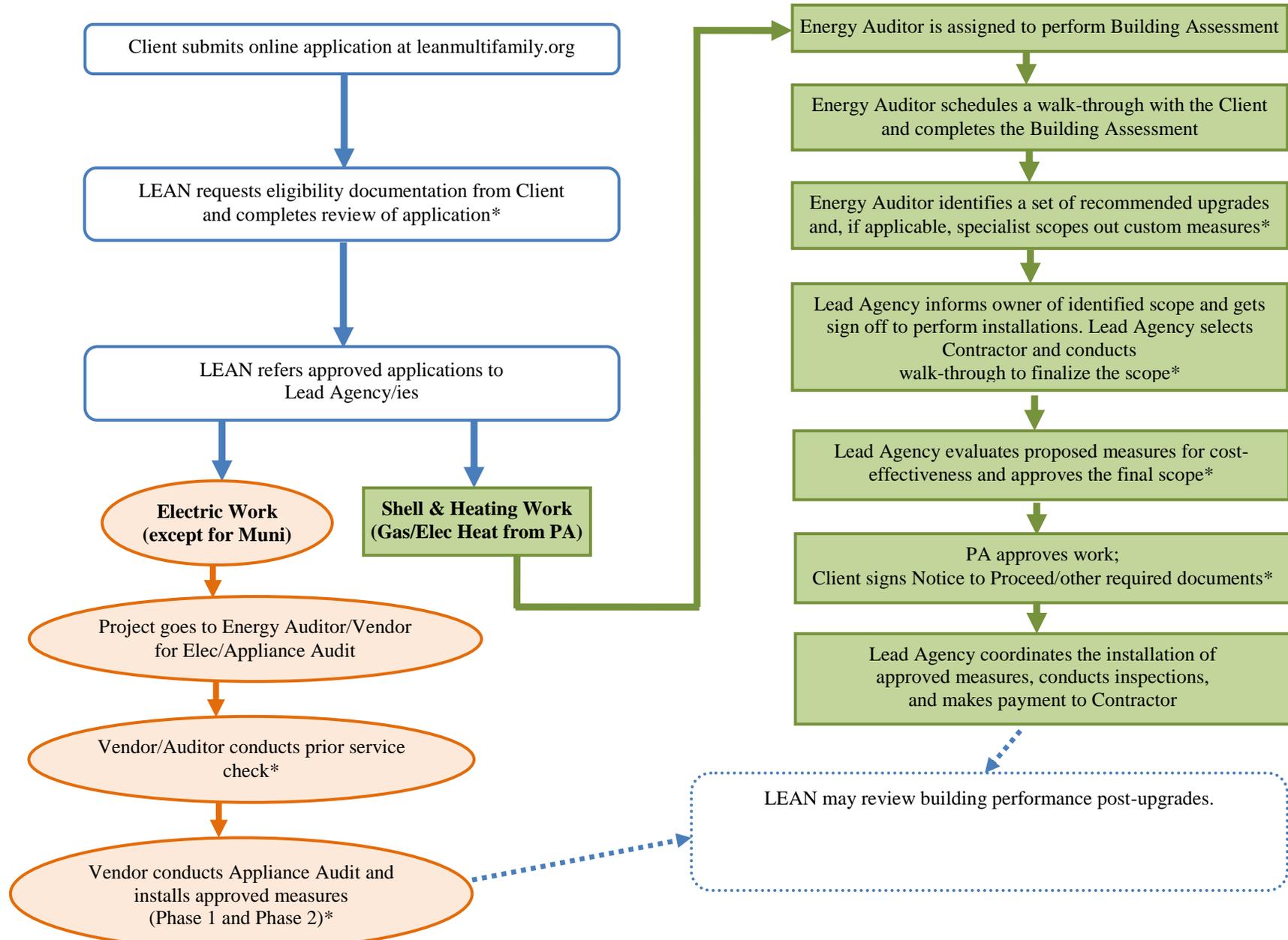
### **Flowchart of Program Steps**

The flowchart on the next page illustrates the process for each type of Project:

- (1) Electric Work: Projects served by an electric PA regardless of heating fuel
- (2) Shell & Heating Work: Projects with gas heat served by a gas PA or electric heat served by an electric PA

Any potential Client unsure about what a building qualifies for can refer to the table on page 6: *Eligibility for LIMF Services by Heating Fuel & Utility Provider*.

## Program Steps: Electric and Gas Work



\*A Project may not pass this step. If that happens, the Client will be notified and referred to other Mass Save® programs, as appropriate.

## ***Program Details***

### **Program Administration**

The LIMF Program is funded and overseen by the PAs as established in the Green Communities Act of 2008. As a low-income energy efficiency program, the LIMF Program is managed and operated collaboratively by the Low-Income Energy Affordability Network and the PAs. This arrangement means that daily operations of the program are handled by LEAN and its member Lead Agencies while program standards, policies, and evaluations are developed jointly by LEAN and the PAs. One exception is Cape Light Compact, which shares responsibility for implementation of the program with its Lead Agency. Figure A shows the matrix of PAs, LEAN and their Lead Agencies.

LEAN maintains the central application portal, reviews and approves applications, refers approved applications to the appropriate Lead Agency, provides technical assistance to the Lead Agencies, coordinates program reporting and evaluation, and chairs the LIMF Advisory Committee. The Lead Agencies provide Clients with building audits and installation of measures. The PAs themselves are involved with approving the scopes for Projects and authorizing work to proceed.

Initial design of the program was developed by the LIMF Advisory Committee, which consists of the PAs, partner agencies, LEAN representatives, multi-family building owners, the Department of Housing & Community Development (DHCD), New Ecology, Inc., LISC, and other affordable housing stakeholders. The Committee continues to act as a forum for policy development, advocacy and overall program evaluation. The Advisory Committee meets a few times per year and is not involved in the day-to-day operation of the program.

#### **Figure A: LIMF Implementation Team**

See Appendix B for contact information.

	<b>Lead Agency</b>
<b>LEAN</b>	Action for Boston Community Development (ABCD)
<b>Program Administrator</b>	
Berkshire Gas	Community Action!
Blackstone Gas	<i>No LIMF Program at this time</i>
Cape Light Compact (CLC)	Housing Assistance Corp. (HAC)
Columbia Gas	ABCD
Liberty Utilities	Citizens for Citizens (CFC)
National Grid Electric & Gas	Action, Inc.
Eversource Electric & Gas	ABCD
Unitil	Montachusett Opportunity Council (MOC)

## Program Standards

The LIMF Program follows cost-effectiveness standards contained in the *Massachusetts Technical Resource Manual (TRM)*, which are shared across all Mass Save® programs. The *Technical Resource Manual* contains data and algorithms that form the basis for how measure savings are calculated. Energy Auditors are BPI certified and have product training from companies serving as manufacturers' representatives. Standards for energy efficiency measures, including products and techniques, come from accepted practices of the Department of Energy, the single-family Weatherization Assistance Program, studies and tests by the PAs and the Energy Efficiency Advisory Council, and recommendations from the Low-Income Best Practices Working Group. The Low-Income Best Practices Working Group is similar in composition to the LIMF Advisory Committee and meets periodically to share information on new or improved energy efficiency techniques, measures, and products.

## Project Eligibility

Projects must meet the following eligibility criteria:

- At least 50% of the development households have income at or below 60% of the Area Median Income; AND
- Site contains one or more multi-family buildings with 5 or more units in each; AND
- Site is served by one of the electric Program Administrators or has natural gas as its primary heating fuel (building heat) and is served by one of the gas Program Administrators.

Within the LIMF Program, gas and electric efficiency services are delivered separately, and a given Project may qualify for one but not the other, depending on what type of heat the building has and whether it is served by investor-owned utilities. The table below shows the specific services available based on these factors.

<b>Eligibility for LIMF Services Based on Heating Fuel &amp; Utility Provider</b>			
<b>Heating Fuel &amp; Provider Type</b>	<b>Electricity Provider Type</b>	<b>Appliance Audit &amp; Electrical Upgrades</b>	<b>Building Assessment &amp; Shell/Heating System Measures</b>
Gas heat from gas PA	PA	Y	Y
	Municipal	N	Y
Gas heat from municipal gas department	Municipal	N	N
Electric heat from electric PA	PA	Y	Y
Electric heat from municipal electric plant	Municipal	N	N
Oil or propane heat	PA	Y	N <sup>†</sup>
	Municipal	N	N

<sup>†</sup>Exception is Cape Light Compact, which provides building shell services to oil/propane buildings.

## Application Process

### Step 1 – Application Form

The first step in the application process is to submit the online information form at [leanmultifamily.org](http://leanmultifamily.org). Clients create a user account and then may submit any number of Projects through that account. Any building owner, manager or project sponsor may submit an application. At the end of the online form, Clients are directed to Step 2.

#### Notes:

1. **State-Aided Public Housing Authorities:** Applications may be submitted to LEAN or coordinated by DHCD and submitted in batches, at the PHA's discretion. In the latter case, DHCD provides LEAN with the application information on behalf of the PHAs.
2. **Customers of Cape Light Compact:** At this time, applications may be submitted to LEAN or directly to CLC.

### Step 2 – Energy Usage

The second step is provide all energy usage (gas & electric) to the LEAN LIMF Program.

### Step 3 – Affordability Documentation

The final step in the application process is to submit documentation of affordability. This submittal is done via email at LEAN's request after LEAN has done an initial review of the application. Examples of documentation include and are not limited to: deed restriction, tenant household income list, regulatory agreement, financing agreement, or other type of restrictive covenant.

#### Notes:

1. **State-Aided Public Housing Authorities:** DHCD provides the necessary documentation unless the application is submitted by the PHA directly to LEAN.
2. **Federally-Aided Public Housing Authorities** must submit documentation.
3. **Customers of Cape Light Compact:** LEAN will review documentation for Clients applying through the website; CLC will review affordability documentation for Clients applying directly to them.
4. **For-Profit Owners:** In order to ensure that the benefits offered through LIMF accrue to low-income residents over the long-term, LIMF requires that for-profit owners sign a 5-year or 10-year (depending on property size) affordability agreement with LEAN, regardless of documentation of current affordability.

### Review & Approval

LIMF is a rolling, non-competitive program. If a Project meets the eligibility requirements and energy usage requirement, it will be approved and referred to the appropriate Lead Agency. Projects are reviewed for completeness of information, eligibility, and energy usage (if gas-heated). Projects are generally served in the order received with some exceptions: if it is in an emergency situation (e.g.,

boiler failure), can be done within the PA's remaining budget in a given year, or has other circumstances that warrant being served at a particular time.

## **Energy Efficiency Work for Approved Projects**

Once approved, Projects are referred to the appropriate Lead Agency for energy audits and potential installation of energy efficiency measures. Depending on the utility service to the building, a Project will receive: 1) an Electric/Appliance Audit for standard electrical upgrades and/or 2) a Comprehensive Building Assessment for a mix of cost-effective building shell, heating, and/or ventilation upgrades. The audits are usually provided separately but may be rolled into one. The Lead Agency/Agencies (or their Vendor) will contact the Client to arrange the audits.

### **Electric/Appliance Audits**

Electric/Appliance Audits are a standard service provided by the electric PAs through the Lead Agencies or pre-selected Vendors. All Clients served by an investor-owned electric utility are referred to their electric PA for an Electric/Appliance Audit, and the audit is usually scheduled quickly. The purpose of Electric/Appliance Audits is to identify opportunities to upgrade specific equipment deemed inefficient, including refrigerators/freezers, window AC units, lighting, and water saving devices. The electric PAs have found that replacing inefficient refrigerators and lighting equipment is a highly cost-effective way to help ratepayers save on their electric bills.

After referral for an Electric/Appliance Audit, the Project then goes to the Lead Agency/Vendor, who reviews it to determine if the Project has already received this type of audit. This step is necessary since Electric/Appliance Audits have been available to Clients for several years separately from LIMF. Typically, if the site has been served within the last three to five years, it will not be served again unless there is a specific reason to do so, such as installation of LED exterior lighting. The Lead Agency or Vendor will notify Clients what they qualify for. For Projects that pass the screening, the Vendor contacts the Client to schedule the audit. Installation of efficient light bulbs, water-saving devices, and energy-saving power strips usually occurs the same day as the audit (Phase 1). Installation of new fixtures, refrigerators/freezers, and window AC units that pass the cost-effectiveness test typically occurs shortly afterward by the same Vendor or another designated Vendor, once the equipment is procured (Phase 2).

### **Comprehensive Building Assessments**

Comprehensive Building Assessments are conducted at approved Projects with natural gas heat, electric heat, oil heat and propane heat from a PA. Building Assessments evaluate the building enclosure, heating systems, domestic hot water equipment, ventilation systems, and cooling. In cases where a Client has already conducted a similar assessment, commissioning study, or engineering study, the Lead Agency will request a copy of those materials and may choose to forego the LIMF Assessment.

Building Assessments are conducted by staff auditors with BPI certification and specialized manufacturer training. Energy Auditors identify the opportunity and need for standard building shell measures, such

as air sealing and insulation, and screen for site-specific measures, such as a boiler replacement or heat pump retrofit. Screening includes the age, condition, and type of equipment. If heating system or ventilation system measures are warranted, the Auditor will bring in a technical specialist to scope a new system.

### **Client Participation**

Energy Auditors will make every effort to conduct the Assessment in the company of the Client or Client's representative. This will allow the Auditor to determine the expertise of the staff and orient them to the specific efficiency characteristics of their building. It will also allow a discussion of the most prominent opportunities for savings and the factors that will govern the evaluation of measures. If at all possible, the Auditor will brief the Client at the end of the Assessment on the outcome. If a return visit with a technical expert is necessary, the Client will again be included in the walk-through and will be briefed on the outcome.

### **Energy Efficiency Measures**

The program allows for a range of energy efficiency measures to be considered for installation. A few measures fall into the category of "prescriptive measures," meaning they have been determined to be cost-effective in the vast majority of building situations and are pre-approved for installation. The remaining possible measures are identified based on a building's unique conditions and are evaluated for cost-effectiveness on a case-by-case basis. The following is a list of measures allowed for consideration.

#### Allowable Electric Measures

Insulation: attic, basement, wall, duct

Attic ventilation

Air sealing

Programmable thermostats

DHW measures: tank & pipe insulation, low-flow showerheads, faucet aerators, temp set at 125°

Heat pump water heater

Ducted air source heat pumps

Ductless mini-split air source heat pumps

Window AC replacement

Refrigerators & freezers

LED light bulbs

Interior & exterior light fixture replacement, including controls, photocells, occupancy sensors

Torchieres

Energy-saving power strips

#### Allowable Gas Measures

Insulation: attics, walls, basements, ducts

Attic ventilation

Air sealing

Programmable thermostats

DHW measures: tank & pipe insulation, low-flow showerheads, faucet aerators, temp set at 125°

- DHW system replacement
- Duct sealing
- Heating system replacement
- Pipe insulation
- Outdoor reset control
- Heat recovery ventilators

### **Contractor Selection for Building Shell & Heating System Measures**

Lead Agencies manage the selection of Contractors, except in Projects where the Client has already procured a Contractor for planned work. According to each PA's requirements, Lead Agencies will either issue an invitation to bid and take the lowest bidder or will negotiate a scope and cost with a pre-qualified Contractor. LEAN provides technical assistance to Lead Agencies in identifying, selecting, and overseeing Contractors, as needed. The selected Contractor will conduct a walk-through of the Project prior to the scope of work being finalized. The Lead Agency will enter into a contract with the Contractor for each Project.

### **Authorizations to Proceed**

Prior to work commencing, the PA will review the proposed work scope and issue approval if it passes the cost-effectiveness screen. This step may or may not be required in all Projects, depending on the PA's protocol. Once the PA has issued approval, the Client and either the PA or the Lead Agency, per the PA's requirements, will sign a standard Notice to Proceed or contract. Different PAs have different documents that must be signed, and in some cases more than one document may be required.

### **Inspections**

The Lead Agency will conduct in-process and/or post-installation inspections of the energy efficiency measures, in addition to any inspections required by the local permitting authority. Any issues that are identified will be resolved by the Lead Agency in concert with the Contractor, if needed. Maintenance staff or another Client representative should attend the final inspection. The Program Administrator may also choose to perform a quality inspection verification visit in-process and/or post-installation by a third-party quality control contractor procured by the PA.

## ***Appendix A: Definitions***

Electric/Appliance Audit: The standard installation of prescriptive upgrades to refrigerators/freezers, window AC units, LED light bulbs, lighting and other water and power-saving devices done by the electric Program Administrators (see below). These audits have different names through different PAs, e.g., AMP Audits, ESP Audits, NCAP Audits.

Area Median Income (AMI): Defined by HUD for each region of the state at various household sizes. AMI is commonly used to establish affordability restrictions.

(Energy) Auditor: Person or company selected by the program to conduct Building Assessments or Electric/Appliance Audits for the purpose of evaluating the opportunity for energy efficiency upgrades. See also Vendor.

Benefit Cost Ratio (BCR): The term used to describe the ratio between savings and costs that determines which upgrades can be installed through LIMF. BCR is calculated through standard algorithms established in the *Massachusetts Technical Resource Manual (TRM)* and is expressed as a number from 0 to infinity. The program will install only measures that have a BCR of 1.0 or higher. See also *Cost-Effective*.

BTU: British Thermal Unit is used to measure the energy content of fuel. 1 BTU = 1/100,000 therms.

Building: A building that qualifies for the program. It must contain five or more residential dwelling units with at least 50% of the households meeting the 60% AMI threshold.

Building Assessment: The walk-through evaluation of a building's equipment and conditions to identify opportunity for building envelope measures, identify need for upgrade to heating systems, and note any health or safety risks.

Client: Public Housing Authority, non-profit, or for-profit owner or representative of a multi-family property participating in the LIMF Program.

Community Action Program (CAP) Agency: A non-profit entity and member of the Low-Income Energy Affordability Network that serves a particular region of the state with energy assistance programs, including the LIMF Program.

Contractor: Person or company providing installation services for building shell and HVAC work. Distinct from *Vendor* (see below).

Cost-Effective: As required by the Green Communities Act, all energy efficiency measures provided under the LIMF and other Mass Save® programs must be cost-effective to ensure that the value of the

measures is greater than their costs. A Benefit Cost Ratio (BCR) is calculated to compare savings to costs. Measures with a BCR of 1.0 or higher are considered cost-effective.

Eligible Properties: Sites served by one or more of the Massachusetts *Energy Efficiency Program Administrators* with one or more buildings meeting the definitions of *Low-Income* and *Multi-Family* (see below). Eligible properties can be owned by a non-profit, for-profit, or government entity. Eligible properties include family housing, elderly housing, Single Room Occupancy (SRO) units, and shelters, among others. The program serves the residential buildings at eligible properties only. Community (non-residential) and administrative buildings are not eligible for services.

Heating Degree Day (HDD): A unit of measurement of how much and for how long the outside air temperature during the heating season is below a base temperature of 65 degrees Fahrenheit. HDD is used to account for weather changes in order to compare heating fuel consumption from one year to the next.

Lead Agency: The CAP agency or other non-profit, community-based organization responsible for implementation of the LIMF Program. Part of the Low-Income Energy Affordability Network.

Low-Income: For purposes of this program, low-income means at least 50% of the units in a residential building are occupied by households earning at or below 60% of AMI.

Low-Income Energy Affordability Network (LEAN): The network of CAP agencies, other community-based organizations, government agencies and other stakeholders that coordinates delivery of fuel assistance and energy efficiency services to low-income residents in Massachusetts.

Low-Income Multi-Family Advisory Committee: The committee that assists with policy development and advocacy for the program. The Committee includes Program Administrators (see below), LEAN agency staff, technical advisors, and representatives of multi-family affordable housing.

Mass Save®: The brand name of all the energy efficiency programs offered by the Energy Efficiency Program Administrators (i.e., investor-owned gas and electric utilities and Cape Light Compact) in Massachusetts: <http://masssave.com>.

Measure: Any heating, building envelope, ventilation, appliance, lighting or other energy efficiency upgrade identified and/or funded through the program. Allowable measures are listed on page 10.

Multi-Family: A building having at least five residential units. Buildings with fewer than 5 units are considered to be single-family and are served by the Mass Save® residential (1 to 4 unit) programs. However, there are also multifamily scattered sites, which include groups of 1-4 unit buildings.

Notice to Proceed: Signed installation agreement between the Lead Agency or PA and the Client regarding permission to install upgrades.

(Energy Efficiency) Program Administrators (PAs): The electric and gas investor-owned utilities and municipal aggregators that administer LIMF and other energy efficiency programs in the state. The LIMF PAs are Berkshire Gas, Cape Light Compact, Columbia Gas, Liberty Utilities, National Grid, Eversource, and Unitil.

Project: A site receiving LIMF services.

Therm: A unit of measurement of the energy content in fuels, equals 100,000 BTU.

Vendor: A person or company used for Electric/Appliance Audits and electrical installations. Vendors are pre-selected by the PAs.

### ***Appendix B: LIMF Contact Information***

	<b>Lead Agency</b>	<b>Contact</b>
<b>LEAN</b>	Action for Boston Community Development (ABCD)	James Collins 617-348-6430 <a href="mailto:James.collins@bostonabcd.org">James.collins@bostonabcd.org</a>
<b>Program Administrator</b>		
Berkshire Gas	Community Action!	Peter Wingate 413-774-2310 <a href="mailto:pwingate@communityaction.us">pwingate@communityaction.us</a>
Cape Light Compact (CLC)	Housing Assistance Corp. (HAC)	Briana Kane, CLC 508-744-1277 <a href="mailto:bkane@capelightcompact.org">bkane@capelightcompact.org</a> Dave Fuller (Starting 2020) 508-771-5400
Columbia Gas	ABCD	James Collins see above
Liberty Utilities	Citizens for Citizens (CFC)	Madeleine Cormier 508-675-2157 <a href="mailto:mcormier@cfcinc.org">mcormier@cfcinc.org</a>
National Grid Electric & Gas	Action, Inc.	Brian Beote 978-283-2131bbeote@actioninc.org
Eversource Electric & Gas	ABCD	James Collins see above
Unitil	Montachusett Opportunity Council (MOC)	Karen Hulette 978-342-7025 x 310 khulette@mocinc.org
Eversource Western Mass	ABCD	James Collins see above

LIMF website: [www.leanmultifamily.org](http://www.leanmultifamily.org)

Mass Save: [www.masssave.com](http://www.masssave.com)