



Commonwealth of Massachusetts
**DEPARTMENT OF HOUSING &
COMMUNITY DEVELOPMENT**
Charles D. Baker, Governor ♦ Karyn E. Polito, Lieutenant Governor ♦ Chrystal Kornegay, Undersecretary

Public Housing Notice 2017-20

To: Local Housing Authority Executive Directors

From: Amy Stitely, Associate Director, Division of Public Housing & Rental Assistance

Subject: FY18 Sustainability Initiative Program Update and LEAN Communication Requirements

Date: September 7, 2017

The purpose of this Public Housing Notice (PHN) is to provide all Local Housing Authorities (LHAs) updated information on:

1. The Sustainability Program Initiatives. Note that the dominant portion of the program remains unchanged; however, we have added two new categories: replacement trees and exterior venting.
2. Required communication by LHAs for LEAN projects which involve boiler or air source heat pump evaluations and installations.

I. Sustainability Program Initiatives

A. New Categories for enhancing sustainability of approved capital projects:

1. ***Shade tree replacement:*** Up to \$10k will be disbursed for the replacement of shade trees which are required to be removed as part of a capital project. The trees must provide shade on buildings, parking lots, sidewalks or outdoor seating areas. Decorative or screening trees are not included. Either the project design team or a qualified nursery expert must assist with: a) the choice of tree variety, and b) the specific planting location (so as to not cause future problems in disturbing paved walkways/areas and to be optimally located relative to the building structures).

Eligibility: Currently LHAs in Gateway Cities are *not* eligible, as during FY17 the MA Department of Conservation and Recreation (DCR) was able to furnish Gateway Cities with trees for free. The future budget of that program is unknown at this time, so we will revise this exclusion as appropriate once DCR budgets are finalized for FY18 and FY19. A list of

Gateway Cities and the complete Tree Replacement Program details are included at the end of this PHN.

Application process for tree replacement - two paths:

- a. *New projects:* Award opportunity is identified by an AESU team member and receives approval from the Sustainability Program Developer. An AESU team member will consult with the assigned House Doctor (who likely has landscape design capability in-house), or with Bill Koetteritz on optimal placement and variety of trees.
- b. *Previous (2016 or 2017) projects:* Recent capital projects which required tree removal. Specification needs to demonstrate the involvement of a nursery or landscape architect for proper location and tree variety. Apply directly to Betsy Harper, betsy.a.harper@state.ma.us

Note: complete Tree Replacement and Program description follows at the end of this PHN.

2. ***Exterior venting – from range hoods or bathrooms:*** Awards will be disbursed for ventilation to the exterior (i.e. not the attic) when a Kitchen & Bath project doesn't currently include new venting to the exterior of the building envelope. The new vents can either be for a range hood or for bathroom fans. Priority will be given to awards up to \$15k.

Application process: Typically these opportunities will be identified by the AESU architect or engineer working on an existing capital project and will be presented to Betsy Harper for potential funding.

B. Existing Categories for water, electric, and gas saving measures:

Eligibility: In order to be considered for a DHCD Sustainability award for a water, electric, or gas savings project, LHAs served by an investor-owned utility (e.g. NGrid, EverSource, Cape Light Compact, Columbia Gas, etc.) ***must first exhaust all efforts to obtain free installation of energy-saving measures through the utility-supported LEAN program.*** Application to that program is made through www.leanmultifamily.org. See full description of LEAN after this section.

Water Savings: Awards up to \$75k per project will be disbursed for installing low-flow toilet and showerhead replacements, with priority given to developments where water & sewer expenses exceed \$60 per unit per month (PUM) or where there are septic system problems.

Electric measures: Awards up to \$20,000 per project will be disbursed for lighting, refrigerators and maximum set-point thermostats after the LHA has exhausted all other means of obtaining LEAN funding.

Electric Measures for LHAs served by Municipal Electric Service: Priority will be given to developments with electric use higher than 6,000 kWh per unit per year. Measures will be similar to what is offered in the LEAN program (described below), such as refrigerators,

lighting and insulation. The maximum award is dependent on many factors, including the size of Sustainability Awards made to the LHA in previous years.

Air Source Heat Pumps (ASHPs) for Community Rooms (CRs) or Offices: The LEAN program is now commonly installing ASHPs in CRs and offices. The previous stand-alone Sustainability-supported installations in CRs and offices have been phased out except for small systems anticipated to cost \$10k or less, or for LHAs in municipal light territories with failing equipment.

Application process: Contact Betsy Harper, the Sustainability Program Developer (betsy.a.harper@state.ma.us) as the preferred process. Alternatively, you may request Sustainability Funds in your CIP submission, especially if the energy use is identified as greater than the thresholds listed on Item 12 of the CIP narrative.

- C. **Improving building envelope with air sealing and insulation:** A limited number of awards will be disbursed for adding insulation and air sealing to roof projects. Adding insulation to siding projects will also be considered when there is currently no insulation in the walls. Priority will be given to projects requiring \$30,000 or less.

Application process: Typically these requests come through AESU architects as part of a larger capital project. These requests are reviewed by the Sustainability Program Developer.

II. **LEAN Program Outline and Requirements for communication by LHAs:**

A. **Summary of LEAN program:**

Eligibility: any development with more than 4 units which has either never received an energy audit, or received one prior to 2014 and now has a specified, high-energy use opportunity not previously evaluated. Often LEAN has been to an LHA and evaluated the largest developments, but the LHA should have ALL remaining developments with more than 4 units evaluated.

The three LEAN Administrators who implement the LEAN program are: Action, Inc., ABCD and Cape Light Compact. Each of these administrators employ sub-contractors (e.g. RISE Engineering and Clear Result) to initiate the process with an energy audit. *Please return these phone calls to schedule a free LEAN energy audit – they are not marketing calls by for-profit vendors!*

Application process:

For entirely **new** energy audits, www.leanmultifamily.org is a very fast, simple application.

For a request to **return to a property**, please send an email stating the reason for the request for a new energy audit to one of the people listed below. The request must be for a significant upgrade which will save significant energy – e.g. not just a 20 exterior lights. The LEAN administrators *will not* return to a property when they don't see an opportunity for significant electric kWh or gas therm savings. For example, if you have very high electric use

- e.g. kWh per unit of greater than 9,000 - you may request a return for an evaluation your lighting and electric heating & cooling use.

For a return audit, contact the following:

-EverSource territory (ABCD) for lighting and/or gas: [Victoria Nasanga: Victoria Nasanga: victoria.nasanga@bostonabcd.org](mailto:Victoria.Nasanga@bostonabcd.org);

-NGrid territory (Action, Inc.) for lighting and/or gas: Cindy Schimanski: CSchimanski@ActionInc.org.

If you have a time-sensitive capital project that is in your CIP within the next two years that will require energy-saving measures at the same time (i.e. insulation at the time of a roof replacement), it is critical that you tell the LEAN administrators the nature of the project and the timeframe for design and construction of that project. LHA staff will most often know about upcoming capital projects in their CIP before they are assigned to an AESU team member – at which point the application may be too late. For example, lag time for evaluation of potential boiler replacements is 12-18 months; insulation 9-12 months, and lighting 6-9 months.

Note: most lighting measures will no longer be eligible after January, 2019 when the building code changes to LEDs as the baseline. Applications for lighting should be initiated ASAP in 2017 and early 2018.

LEAN free installation measures include:

-Refrigerator replacements (for models over 10 yrs. old);

-Lighting upgrades (interior fixture or bulb replacement; motion sensors in stairwells and hallways; exterior and common area LED fixtures and bulbs). Many of these will be eliminated in 2019 with building code upgrades.

-Weatherization: air sealing, insulation, attic hatch sealing and door weather-stripping;

-Showerheads and aerators;

Note: DHCD recommends not accepting aerators for kitchen or for bathroom faucets where there is already a long wait time for hot water. These flow restrictors tend to frustrate tenants, who remove them. At that point, the faucets are left without even the standard flow limiters which come with each faucet.

-Air source heat pumps (also referred to as “duct-less mini-splits” or “heat pumps”) to replace electric baseboard heat where kWh usage is extremely high. Note: the LEAN program will often include the community rooms and offices while evaluating the residential units;

-High-efficiency boilers;

-High efficiency domestic hot water heaters.

DHCD also recommends NOT accepting programmable thermostats from LEAN. These have proven to be confusing to tenants and ineffective in reducing energy use. If an LHA wants to install maximum set point thermostats, these can be requested from Sustainability Funds.

Only measures that pass the utilities' cost-effectiveness tests will be installed. Cost-effectiveness tests are generally completed within 3 weeks of the audit.

B. LHA Communication Requirements:

For any LEAN projects that include HVAC equipment (boilers or Air Source Heat Pumps - ASHP), the LHA is required to inform Betsy Harper (betsy.a.harper@state.ma.us) at the time of various milestones below:

1. At the time when Action, Inc. or ABCD has informed the LHA that they will evaluate a development for the possible cost-effectiveness of replacement boiler or an air source heat pump (ASHP).

For ASHPs, LEAN will schedule a contractor walk-through, which John Donoghue needs to attend in order to accurately describe the design requirements for the system. During this walk-through, the Executive Director (ED) and maintenance staff must be present in order to voice any site-specific needs which will be incorporated in the design.

The ED also needs to communicate to DHCD whether the development is also being evaluated and accepted for **other measures** (lighting, refrigerators, insulation and air sealing, etc.).

2. At the time when the LHA is offered a contract specifying the HVAC equipment, the LHA should request from the contractor the following:
 - the \$ value of that equipment (referred to as the "Incentive or Measure Cost;"
 - the predicted annual kWh or therm savings;
 - the predicted annual \$ savings.

In NGrid territory, this is presented in a summary page. (See Exhibit A at the end of this document). In EverSource territory, the LHA has to specifically request this information from the auditor or ABCD. Please forward to Betsy a copy of the NGrid summary or the ABCD/EverSource email containing this information.

If the LHA is offered any **other measures (e.g. lighting, insulation)**, please forward a copy of this contract to Betsy, again with measures, value and predicted annual kWh or therm savings and annual \$ savings.

A Construction Advisor *will not be necessary for these non-HVAC installations*, nor will any of the following communications be required.

3. At the time when a Pre-Construction meeting for ASHPs or boilers is starting to be scheduled, it is the responsibility of the ED to include the Construction Advisor in the conversation to ensure his schedule will allow him to attend that meeting.

4. At the start of construction.
5. At any time of major issues that arise that cannot be resolved by the Construction Advisor.
6. At the time of project completion.

Please contact Betsy Harper, Sustainability Program Developer: betsy.a.harper@state.ma.us with any questions.

III. **Tree Replacement Initiative (full details)**

Project Framework and Goal: To replace the tree canopy on LHA properties when trees are required to be removed. Tree canopy provides benefits which are directly and indirectly related to reduced energy use and human comfort/quality of life.

- 1.) For northern climates, it is estimated that for every 1% increase in tree canopy above a minimum of 10% canopy cover brings a 1.9% reduction in energy needs for cooling and up to a 1.1% reduction in energy for heating. This is effective for buildings directly adjacent to the trees, as well as up to 1,500 feet away, thus providing a whole neighborhood benefit.
- 2.) Tree canopy cover will reduce the Urban Heat Island effect and decrease summer air temperatures in a city neighborhood through shading and increased transpiration. Planting 5-10 trees per acre will provide benefits to 15-25 households, depending on building density.
- 3.) Payback of the investment can be realized in as soon as 15 years, with additional energy savings realized for the life of the trees.
- 4.) Summer shade to outdoor seating areas reduces the discomfort of direct sunlight on residents and encourages more communal, outdoor activity. When tenants are outside in moderate and summer weather, they tend to use less air conditioning.
- 5.) Used with a filter box, tree planting may be used to improve the water quality of storm water runoff and to mitigation increases in storm water runoff volume through soil infiltration.
- 6.) Trees can shade hard surface areas such as driveways, patios, building and sidewalks, thus minimizing landscape heat load – a build-up of heat during the day that is radiated at night.
- 7.) Trees create an ecosystem to provide habitat and food for birds and other animals.
- 8.) Trees absorb carbon dioxide and potentially harmful gasses, such as sulfur dioxide, carbon monoxide, from the air and release oxygen.

Eligible projects: Trees which are being replaced because they are dead or because they have to be removed due to a capital project (such as siding or roofing or because they conflict

with the design of site improvement projects). LHAs in Gateway Cities¹ may not apply during FY18, as we are hopeful that the budget for the DCR's "Greening the Gateway Cities" will be restored in the future. We will consider amending this exclusion if the DCR budget is not restored by FY19.

Maximum award: \$10,000. Note, typically a 3-4" caliper tree costs approximately \$1,000 installed.

How to apply - two paths:

a. Award within a current capital project as identified by an AESU architect:

AESU identifies opportunity and receives approval from the Sustainability Program Developer. AESU consults with the House Doctor assigned to the project and if necessary with Bill Koetteritz on optimal placement and type of trees for the subject area.

b. Award to LHA for previous capital projects:

Projects during 2016 or 2017 which required tree removal. The Scope of Work needs to include the involvement of a nursery or landscape architect within the award amount.

Criteria for Planting & Tree Selection:

- 1.) Note the proximity of new trees to site improvements and use root barriers where necessary to prevent damage to pavement as trees mature;
- 2.) Research archived plans of subsurface utilities to avoid planting over subsurface piping. Require the contractor to call DigSafe to verify locations of subsurface utilities prior to planting;
- 3.) Note the proximity of new trees to buildings and select columnar tree varieties where there may be issues of proximity and overhanging onto roofs and overhead wires;
- 4.) Deciduous varieties (i.e. for summer shading, not for screening). The shape and form must be suitable to increasing the tree canopy;
- 5.) Indigenous – i.e. native, suited to the plant hardiness zone of the site location, disease resistant; suited to the site subsoil texture and soil moisture conditions, and easily available;
- 6.) Non-invasive – most invasive trees (e.g. Norway Maple) aren't available for purchase at a nursery;
- 7.) Non shallow-rooting or location sufficiently far from walkways or driveway paving so as not to cause uprooting of pavement. (Beech, Honeylocust, Birch, Poplar, and Maple trees are examples of shallow-rooting.);

¹ The 26 Gateway Cities are listed below. Those which have already received free trees from DCR are underlined: Attleboro; Barnstable; Brockton; Chelsea; Chicopee; Everett; Fitchburg; Haverhill; Holyoke; Leominster; Lowell; Lynn; Malden; Methuen; New Bedford; Peabody; Pittsfield; Revere; Springfield; Taunton; Westfield; Worcester.

- 8.) Economical (no exotic or high-cost species);
- 9.) Aesthetically pleasing, with some variety to color and/or texture.

Maintenance requirements:

- 1.) Trees should be installed at appropriate time of year (spring & fall) to best ensure success;
- 2.) Water bags should be installed at the base. These require watering approximately weekly, depending on the ambient temperatures, soil moisture conditions and size and species of the plant;
- 3.) Ground surface shall be maintained with a 3-inch± layer of aged bark mulch to retain soil moisture and keep mown lawn surfaces at a distance;
- 4.) Maintenance staff will need to follow new tree requirements recommended by nursery or design consultant.

Exhibit A: Summary of Measures and Predicted Savings by NGrid

National Grid Residential Multifamily Efficiency Program

Energy Saving Opportunities

Somerset Housing Authority- Eugene Murphy Village

Eugene Murphy Village., Somerset, MA 02726



Program Vendor: RISE Engineering

| Location | Elec. Conservation Measures | Measure cost | Your cost | Estimated annual kWh savings | Estimated annual \$ savings |
|--------------------|---------------------------------|--------------|-----------|------------------------------|-----------------------------|
| Exterior | Lighting | \$37,725 | \$0 | 52136 | \$7,820 |
| Community building | Mini-split heat pump | \$12,000 | \$0 | 14649 | \$2,197 |
| Garage | Mini-split heat pump | \$6,200 | \$0 | 2988 | \$448 |
| Dwelling units | Lighting | \$2,753 | \$0 | 15970 | \$2,396 |
| Dwelling units | Mini-split heat pumps | \$465,000 | \$0 | 216738 | \$32,511 |
| Dwelling units | Domestic hot water conservation | \$2,003 | \$0 | 9675 | \$1,451 |