

EEAC LOW-INCOME WORKSHOP BRIEFING PAPER

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Statutory framework and funding allocation

By statute, the Low-Income energy efficiency programs are funded at a minimum of ten percent of the total electricity budget, and by 20% of the total gas budget. The Low-Income Energy Affordability Network (LEAN) is the statutory designee to implement and coordinate the programs, together with the Program Administrators (PAs):

"(c) Electric and gas energy efficiency program funds shall be allocated to customer classes, including the low-income residential subclass, in proportion to their contributions to those funds; provided, however, that at least 10 per cent of the amount expended for electric energy efficiency programs and at least 20 per cent of the amount expended for gas energy efficiency programs shall be spent on comprehensive low-income residential demand side management and education programs. The low-income residential demand side management and education programs shall be implemented through the low-income weatherization and fuel assistance program network and shall be coordinated with all electric and gas distribution companies in the commonwealth with the objective of standardizing implementation. Such programs shall be screened only through cost-effectiveness testing which compares the value of program benefits to program costs to ensure that a program is designed to obtain energy savings and system benefits with value greater than the costs of the program."

G.L. c. 25, sec. 19(c).

Program description

The low income programs provide comprehensive whole-house energy efficiency services, providing all cost-effective measures to low-income-occupied single-family (SF), multi-family (MF), and new construction dwellings. Service to the SF and MF sub-sectors is operated and funded as a single program, with funding determined by relative demand. Funding totals about \$100 million a year, which represents per-unit average investment of about \$4000, and achieves benefit:cost ratios (BCR) over 2.0.

Eligibility

All who qualify for Fuel Assistance are eligible for the programs, i .e., those who receive Fuel Assistance or a program with a similar or stricter income screen (60% of median income), or document such income to a LEAN Network agency. There are nearly 200,000 Fuel Assistance households, about 30% of whom heat their homes with oil, 10% with electricity; nearly all of the remainder heat with gas. All who apply for low-income energy efficiency services are served if eligible.

The cost of electric heating has been particularly daunting this winter, increasing 37-51% from the previous season. While heating oil prices have softened for the moment, Fuel Assistance benefits have also dropped substantially as the federal appropriation has fallen by a third since 2010. As a result the current Fuel Assistance benefit is enough for only about 1.5 tanks of oil, half the requirement for a typical Massachusetts winter. The Community Action Agencies, which implement Fuel Assistance, are asking the General Court for additional assistance. All screening is performed by a Network agency, almost always in conjunction with customer applications for Fuel Assistance, which is thus the gateway to Energy Efficiency (EE) and other Low-Income (LI) energy benefits (including discounts if income is under 200%

of the Federal Poverty Line (FPL), arrearage management).Low-Income Multi-Family (LIMF) applications are made by building owners/managers, through a special web site. The LIMF program is well known to LIMF building owners because all LIMF sectors are represented on the LIMF advisory board: public housing (DHCD), non-profits (primarily CDCs), and for-profits (primarily large developers). Applicants or their advisory committee representatives (including DHCD and the Mass. CDC Association) prioritize applications, with final recommendations by the Advisory Board if necessary.Both Single Family (SF) and MF programs are managed to assure geographic diversity. For example, each PA has its own budget. Within each PA and agency territory, Network managers assure geographic diversity.

Services

By definition, customers of LI EE programs face a constant choice between heating their homes and purchasing other essential items such as food, medicine, and telephone service. Low-income households thus cannot afford to make EE investments, however cost-effective they are in the long-run. They therefore receive all EE services with no co-payment.For administrative efficiency, the PAs' program is piggybacked on federal programs, including the US Department of Energy's (DOE's) Weatherization Assistance Program (WAP) and heating system programs funded by the US Health and Human Services (HHS). This provides funding for low- or no-savings measures that are nevertheless required, e.g., health and safety measures such as ventilation, as well as significant co-funding (especially for heating systems), auditor and contractor training, and certification standards. It also provides a comprehensive implementation field guide for all work and 100%+ quality control over joint projects (LEAN auditors QC all contractor work, including in-process where appropriate; DHCD also QCs 50% independently; stand-alone PA jobs receive 5% additional QC from a PA contractor).All work is overseen by the Network. First, a Network Auditor scopes the work and provides customer education (see the two attached flyers as examples) and direct install measures (e.g., LEDs). The Network contracts with network-certified contractors for the work, bidding all measures on a uniform statewide basis at least every two years (LEDs more frequently because of the rapidly changing market). Note that some LEDs are probably purchased by low-income customers at retail, underwritten by rebates arranged and financed by the Residential program.The PAs provide essential managerial support and cost-effectiveness screening support. PAs and agencies meet regularly to implement the programs and chart results. They also meet periodically in the statewide Best Practices Task Force convened by LEAN to address such statewide concerns as new measure and protocol opportunities, obstacles met, and training needs.

Key program measures include:

- Insulation and air sealing
- Heating Systems repairs and replacements
- Weatherization repairs
- Lighting (LEDs, fixtures)
- Appliances, such as refrigerators
- Smart strips
- Hot water saving measures, such as low-flow showerheads

Program achievements

Low-income programs are uniquely and universally "whole house" comprehensive programs. By design, they install all cost-effective measures in every treated housing unit. Over time, they are also broad, with the objective of reaching every low-income home whose occupants desire the service, subject only to

program budget constraints. As the numbers below demonstrate, the Low-Income Programs are robustly cost-effective, with BCRs above 2.0. However, falling avoided cost of natural gas heating may adversely affect heating system economics. Similarly, more aggressive appliance standards affect lighting and appliance economics. These may be offset to a degree by review of Non-Energy Benefits (NEBs). Note also that low-income programs exceed goals and provide savings at lower-than-projected costs to achieve.

	2014 Electric - Planned	Achieved	Gas - Planned	Achieved
Participants (a)	27,488	148%	6,840	157%
Expenditures	\$54.9M	106%	\$35.9M	107%
Benefits		\$129.6M		\$93.3M
BCR (computed)		2.2		2.4
Capacity	3246 kW	142%		
Annual Energy	27,259 mWh	161%	1,439,072 th	183%
Lifetime Energy	260,056 mWh	166%	28354751th	180%

Source: Latest PA report

(a) Participants may be counted more than once if they participate in both gas and electric programs. LEAN estimates a total of 25,000 discrete participating households. LEAN estimates that about half of participating households statewide are tenants, three-quarters in the City of Boston.

In addition to energy, capacity, and other utility benefits, low-income programs provide the significant benefit of making utility services more affordable for low-income customers. Because of their very low incomes, low-income households pay a substantially higher fraction of their small incomes for household energy than do typical Massachusetts households. For example, a family of four at the Federal Poverty Line spends about 15% of income on household energy; those with smaller incomes even more -- 30% is not unusual. In contrast, a Massachusetts median income household spends about three percent. Independent evaluation research shows that low-income programs also provide substantial non-energy benefits to program participants, as defined by DPU regulation (D.P.U. 08-50-B (2009), EE Guidelines at sections 3.4.3.1, 3.4.4.1(b)(ii), 3.4.4.2(b)(ii)), which are documented in the Technical Reference Manual (TRM). These benefits to program participants include: improved health and safety (including reduced fires), increased property values, increased comfort, reduced noise, and, for utilities and their ratepayers, reduced bad debt, arrears, and shut-off/reconnection costs. LEAN has proposed additional evaluation research with respect to participant health benefits (which a national DOE study performed by the Oak Ridge National Laboratory show to be substantial) and participant property value benefits.

Opportunities

RCS regs revision to allow services to MF oil heated buildings

If the revised RCS regulations are adopted by DOER, it will become possible to treat oil-heated LIMF

buildings in a manner similar to that now done for SF (1-4 unit) buildings.

Eligibility standards

LEAN is proposing that the current eligibility standard for low-income services be reviewed. For example, small non-profit organizations that serve low-income populations currently pay into the PA programs through their utility bills but cannot access services because they cannot afford the co-payments required by commercial and industrial (C&I) programs, which are oriented to for-profit commercial customers. Since small non-profits typically occupy buildings similar to LIMF buildings, LEAN proposes to serve these few customers through the LIMF program. Examples include food pantries, adult and child day care centres, and Head Start facilities.

Similarly, there are many utility customers with incomes above 60% of state median income but at or below 80%. These households are struggling to make ends meet, poor by any reasonable standard. (For example, the bare bones annual budget for a Suffolk County single-parent household with 2 children is \$71,160, or 81% of the FY 2015 State Median Income. See, Wider Opportunities for Women, Economic Security Database.) They contribute to EE program funding through their utility bills, but cannot reasonably afford a co-payment for EE services. LEAN therefore proposes that a small initiative be conducted to experiment with offering the low-income program to households that apply for Fuel Assistance but are found to be over-income for that program, i.e., self-identified struggling households, an estimated 5000-6000 households over time. Similarly, LIMF buildings with tenants under 80% of area median income (AMI) contribute to the programs but cannot afford the C&I co-payments. There are a few buildings with almost 50% of tenants who have incomes at 60% AMI but many more tenants between 60% and 80% of AMI; these buildings would qualify for service if the eligibility standard for LIMF buildings were changed from at least 50% of tenants at or below 60% AMI to at least 50% of tenants at or below 80% AMI. LEAN therefore proposes to adjust the building eligibility standard to include tenants with incomes at or below 80% AMI, which is the HUD standard for low-income. Most non-profit and for-profit LIMF buildings are regulated under the HUD 80% income screen.

Technologies

Through the LEAN Best Practices Task Force, as well as the PAs' Massachusetts residential Technology Assessment Committee (MTAC), LEAN and the PAs explore the cost-effectiveness of new technologies that could provide substantial energy savings. Those under current consideration include:

- Air source heat pumps
- LED fixtures, particularly for SF
- Wireless enabled thermostats/smart controls
- LIMF owner training and building commissioning/recommissioning

Possible discussion questions

1. Should the eligibility standards for the LI and LIMF be adjusted in the ways described above?
2. What additional technologies/practices should be included in the LI programs?
3. Any other potential changes to LI programs?
4. Are there opportunities for coordination and information exchange with market sector programs? (LEAN and the other sectors currently coordinate their programs by the LEAN Best Practices Task Force, and by LEAN's participation in: the PAs' Massachusetts residential Technology Assessment Committee (MTAC), Residential Management Committee (RMC), and Multi-Family Working Group.)

For more information

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