RESIDENTIAL WHOLE HOUSE

COUNCIL WORKSHOP
FEBRUARY 26, 2015

www.ma-eeac.org
HOME ENERGY SERVICES
## OVERVIEW

<table>
<thead>
<tr>
<th>Description</th>
<th>Measures and Practices Encompassed by Initiative</th>
<th>% of Savings Lifetime (2013)</th>
</tr>
</thead>
</table>
| In-home energy assessment providing site-specific recommendations to improve the energy efficiency of 1-4 family homes using a whole house approach. | -Direct install of no/low cost instant savings measures  
-Consumer education via house as a system approach  
-Creation of a site-specific home energy report  
-Turn-key weatherization services provided by participating, qualified contractors  
-Cross promotion of electric and gas products offerings  
-Early boiler and furnace replacement  
-Access to non-regulated fuel heating/hot water rebates  
-Access to 0% HEAT Loan financing                                                                 | 16% Electric  
42% Gas  
57% Total Benefits |
# HES DELIVERY CHANNELS

<table>
<thead>
<tr>
<th>Functions</th>
<th>Delivery Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers call Mass Save, and LV allocates projects to contractors</td>
<td>Customers call contractors, or contractors find projects through their own means</td>
</tr>
<tr>
<td>Call Center Intake, Contractor Coordination, Data Management, Other</td>
<td>LV</td>
</tr>
<tr>
<td>Energy Assessments</td>
<td>LV</td>
</tr>
<tr>
<td>Measure Installation</td>
<td>Independent Installation Contractors (IICs)</td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>Statewide Quality Assurance/Quality Control (QA/QC) Vendor and/or Lead Vendor</td>
</tr>
</tbody>
</table>

BPWG facilitates on-going communication among parties to inform continuous improvement.
HES OPPORTUNITIES
Performance indicators can be helpful to track progress and trends, but don’t always tell the whole story…

2013 Lifetime Savings per Participant (MMBtu), all Fuels

- New Construction
- Home Energy Services
- HVAC & DHW
- Multi-Family Retrofit
- Lighting
- Consumer Products
- Behavior/Feedback

2013 HES Conversion Rates by PA
INCREASE DEPTH OF SAVINGS

▶ Increase rate at which recommended measures are installed

▶ Promote deep energy retrofits statewide and/or further expand deeper savings measures

▶ Introduce custom offering targeted to comprehensiveness and measuring increased performance

▶ Revise tracking mechanisms to capture successful cross-program referrals (e.g., HES to HEHE and vice versa)
INCREASE SERVICES TO MODERATE INCOME CUSTOMERS, ESPECIALLY RENTERS

► Served in base HES (1-4 units) and Multi-Family Retrofit (5+) offerings, but specifically targeted in Efficient Neighborhoods+® and Renew Boston
  - Enhanced incentives targeted to 60-100% of state median household income (EN+--up to 120% for Renew Boston)
  - EN+ in 2014 served 52 Census blocks and two entire towns

<table>
<thead>
<tr>
<th></th>
<th>Representation in EN+ Treatment Communities Overall (2013)</th>
<th>2013 EN+ Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>68%</td>
<td>88%</td>
</tr>
<tr>
<td>Renter</td>
<td>25%</td>
<td>4%</td>
</tr>
<tr>
<td>Landlord</td>
<td>6%</td>
<td>3%</td>
</tr>
</tbody>
</table>
INCREASE SERVICES TO MODERATE INCOME CUSTOMERS, ESPECIALLY RENTERS

► Define target market and implementation roles
  - 60%-80% 100%? 120%? median income, qualification process to be determined
  - Interest from LEAN as well, will most likely require some level of collaboration and cross-program tracking (and with multi-family as well)

► Deploy at scale
  - Apply lessons learned in EN+, Renew Boston and elsewhere in a statewide offering

► Devise methods for benchmarking and tracking progress

► The Residential Barriers Working Group could provide valuable input
PROVIDE NEW AND/OR REVISED MEASURES AND PRACTICES

► Insulation

► Assess cold climate heat pumps as early replacement measure (considerations include RCS regulation changes and cost effectiveness)

► Home scorecards

► Harmonize with efforts of MA Clean Energy Center and others

► Leverage pending revisions to Residential Conservation Services regulations and guidelines to open new doors
CONTINUE TO REFINE KEY PROGRAM ASPECTS

- Market-based program delivery model
  - Contractor performance criteria
  - Workforce development
  - Recommendations to customers

- HEAT Loans
  - Alternative financing methods for customers who don’t qualify
  - Appropriate financing level for securing customer investment
  - Measures included
  - Allocation methods for savings and goals
KEY QUESTIONS
DEEPER SAVINGS

What approaches to achieving deeper savings offer the best opportunities for increasing depth of savings in a cost efficient manner while providing a high quality experience for the customer? For example:

• Deep energy retrofits
• Improving rate at which recommended measures are installed
• Testing a comprehensive/customized approach to savings
• Other
MODERATE INCOME CUSTOMERS AND RENTERS

1. How could/should efforts to serve moderate income customers be revised and expanded to a larger scale in the 2016-2018 Plan?

2. How can renters in particular be more effectively reached and served?
NEW MEASURES AND PRACTICES

What revised or new measures or practices should be considered for inclusion in HES for 2016-2018?
HOME ENERGY ASSESSMENT

How can we make the most of the home energy assessment opportunity while at the same time avoiding overburdening the auditor and the customer? For example:

- Clear energy scorecards
- Fuel neutral heating system recommendations
DELIVERY MODEL

Are there continued refinements to the contractor-based program delivery model that would be beneficial to the PAs, contractors, and customers?
HEAT LOANS

Are there further enhancements or modifications to the HEAT Loan offer that should be considered for 2016-2018?
COORDINATION AND DEEPER SAVINGS

How can the Whole House and Products Programs be better coordinated to promote efficient products and encourage their proper installation in existing homes, including expanding early replacement opportunities, and support a more complete accounting for achievement of deeper savings?
NEW CONSTRUCTION
OVERVIEW

► Initiative serves
  - Low-rise new construction: prescriptive
  - Low-rise new construction: performance
  - Multi-family high rise new construction (4 stories+)

► Recent market highlights
  - Serving approximately 15,000 units/year
  - Preliminary year end results (% of sector savings): 7.5% annual gas, 15% lifetime gas; 2% annual electric, 2.7% lifetime electric
  - Shift to multi-family (moving to more than 50 percent of market in 2014)
  - Shift from prescriptive path to performance path
OPPORTUNITIES

► Increase support for zero net energy construction
  - Require that new construction receiving PA incentives at at least the highest tier(s) be “renewable ready”
  - Offer a ZNE incentive tier for the 2016-2018 New Construction Initiative

► Continue to introduce new technologies
  - Home automation
KEY QUESTIONS

► What role could the PAs play in supporting expanded efforts to construct zero net energy homes?

► How should emerging technologies such as home automation and renewables be integrated into residential new construction in Massachusetts?
BEHAVIOR
OPPORTUNITIES

► Behavior program offerings from all PAs
► Combine gas and electric behavior reports across
  - In limited deployment at this time
► Implement new behavior approaches utilizing new technologies with a view to a larger customer engagement strategy
KEY QUESTIONS

1. Should the specific opportunities outlined above be pursued?
2. How might PAs’ behavior programs most effectively drive participation in their other programs?