Residential Workshop 3: 2016-18 Three Year Efficiency Plan
Monday March 9th, 2015
9:00 AM – 1:00 PM
Department of Public Utilities, Fifth Floor, Hearing Room A
One South Station, Boston

Meeting Summary

Thirty-seven people attended this workshop (see Appendix A for a list of individuals who attended and signed in). The background materials and the presentation can be found at http://ma-eeac.org/march-9-residential-workshop-3-meeting-materials/.

INTRODUCTION, CONTEXT SUMMARY, AND WORKSHOP OVERVIEW

Dr. Jonathan Raab, facilitator from Raab Associates, welcomed participants, reviewed the meeting agenda, and reminded participants of the meeting ground rules. Dr. Raab noted that the group would first discuss, develop and finalize its recommendations for the New Construction initiative and then review, revise and seek agreement recommendations for the Products, HES, Multi-Family, and Low Income initiatives. Dr. Raab reminded participants that draft recommendations had already been developed for the Products, HES, Multi-Family, and Low Income initiatives based on the first two residential workshops on 2/12 and 2/16.

See Appendix B for the final recommendations with changes made during the March 9th meeting and agreed to by the voting Councilors.

NEW CONSTRUCTION INITIATIVE

Presentation

Margie Lynch, EEAC Consultant, reviewed the New Construction initiative, providing background on the program and laying out potential advancement opportunities for the Commonwealth.

Clarifying Questions

The group provided the following clarifying questions and comments about the New Construction initiative, organized by theme. *Responses are in italics.*

Size of electric savings

- You noted electric savings of 2% or 2.7%, which seems low. Is it low because the baseline is so high? *In Massachusetts, we tend not to use electricity for heating or for hot water, and almost all the savings we see come from lighting. The savings are fairly small for other end uses besides lighting.*

Savings and expenses

- The difference between the basic insulation incentive of $1,250 and the enhanced incentive of $7,000 seems very large. Why? *When you get into higher insulation levels the structure has to be built using different construction techniques and sizing. In addition, the $7,000 dollars is a whole building incentive, not just for the insulation.*
- In terms of cost per BTU of savings, how do the savings from the $7,000 incentive compare to savings under the HES program? Given our limited budget we should be careful not to take funding from other important programs. *During our residential overview presentations, we showed that New Construction had the second lowest dollar per saved BTU cost among our initiatives, second only to HES. We also showed that New Construction had the highest energy savings per participant of any initiative. In addition, there are positive spillover effects from the New Construction initiative due to ongoing training with contractors on the stretch code and code compliance.*
- Promoting compliance with the stretch code (which is in place in half the towns and cities in Massachusetts and all the major cities) provides PAs with good opportunities to achieve savings. We need to be aware, however, that the baselines will shift over the three-year planning period.

Market penetration

- What is the market penetration of the New Construction initiative? *Approximately 30%. Since there are about 15,000 units of new construction in Massachusetts as a whole, 30% equates to roughly 4,500 units.*
- For commercial construction with an upstream lighting program, there is a much higher market penetration. This suggests it may be possible to get more market penetration for New Construction as well.

Net zero energy

- The market is ready for the net zero energy goal. Although "net zero energy" homes may be roughly equivalent to "45% better than the baseline User Defined Reference Home (UDRH)," it is a much more recognizable and resonant term.
- Massachusetts is considering updating the building code to include a solar ready requirement. We (Mass Save) should do this soon if it is to be in place before the code baseline changes. This would help with code adoption.
- What type of incentive do we really need for zero net energy? With zero net energy you need mini splits or a heat pump, and you move yourself into a larger *photovoltaic* (PV) system in the 5 kw to 10 kw range. *You don't need a 5 kw system, especially in multifamily residences where we are seeing systems at 3 or 3.5 kw. You also don't need to put money in to incentivize solar. Developers are able to get financing for solar separately, and there are valuable SRECs. You are just adding training and awareness so developers know about the solar*

opportunity. It is also important to remember that homes are built for 80-100 years, and failing to use a solar friendly design would be a huge missed opportunity.

- What is the difference between "renewable ready" and "zero net energy." *"Renewable ready" is a set of requirements that gets a home ready to accept solar photovoltaics or solar hot water. "Zero net energy" describes a home that likely will have renewables on it and is generating as much energy as it is using.*
- Does having a zero net energy tier mean buying and plugging in solar panels? *The zero net energy tier would be part of a progression. Many builders are not in the solar industry but can make a building "solar ready." All they need to do is run a conduit, and do not need to do anything related to finance. Builders on tier 1 or tier 2 now within the PAs' program see this as an acceptable step, while others are ready to do zero net energy right now.*
- We are not seeing the same zero net energy performance packages being offered in multifamily home construction. What is the performance path for multifamily homes? *PAs are contemplating this and energy modeling software is under review to do it.*
- Can we use energy efficiency dollars to support renewable or zero net energy options? *Tier 3 can get you to zero net energy, and some tier 3 homes are coming out as zero net energy homes. PAs can and should consider this an energy efficiency program, so although efficiency funds can support renewables they likely do not need to.*

Multifamily units

- Why are incentives per unit for single-family homes so much larger than they are for multi-family units? *This difference developed mostly because when we were looking at square footage, it is scaled. You also don't need as much money in multi-family homes because there are common walls.*
- There are efficiency benefits to using multifamily homes, so to the extent multifamily homes could get similar incentives for similar benefits it would be helpful for multifamily owners.
- There may be an opportunity to offer sweeter incentives to properties likely to include rental units as opposed to condos.

Home automation and energy management systems

- Home automation and home energy management systems are exciting in terms of demand response. Can the PAs provide more details on this issue? In addition, with respect to installing AMI or AMR meters, it seems important to get the right meters in. *PAs are all pursuing smart grid modernization pilots, and many of them have rolled out advanced metering infrastructure in a limited manner. There is a large pilot in Worcester with 15,000 homes that National Grid is implementing. The pilot is testing different demographic groups and collecting data. National Grid and the other PAs will use this data to determine what works*

best for customers, what is the savings potential, and whether it makes sense to implement the program on a larger scale. They hope to learn a lot in next year or two.

Recommendations

Participants offered the following comments and questions with respect to draft recommendations on the New Construction initiative, organized by theme. *Responses are in italics.*

New technologies

- Eversource is very interested in home automation and smart appliances, and is attempting to determine the savings for those devices.

Rental housing

- In terms of determining whether new construction for rental housing should have higher incentives than condominiums, the verb "evaluate" is preferable to "explore" because we want to study the data.

Zero net energy

- What does it mean in practice to offer a "ZNE incentive tier"? What are the PAs being asked to do? *The goal is to make the top tier ZNE in order to leverage ZNE branding. Many tier 3 buildings in the performance path are already capable of meeting the standard. A goal of training and outreach should be to get people to understand renewable opportunities, and we should let the PAs earn savings for getting a builder to start doing ZNE buildings.*
- We should not be earmarking energy efficiency funds to support renewable generation. *The recommendation is not that we should pay for putting PV on roofs. It is about how the program is marketed and explained to individuals. The recommendation is that we tell people that embracing energy efficiency may allow them to market a building as ZNE.*
- To get a roof "renewable ready" you need to spend more, right? Are we saying we should add incentives for this? *The entire cost is running a conduit line to get wiring from roof to basement. If you can incent for this, then yes we should do it. If not we can at least train for it and have the market be aware of it.*
- Builders may not be interested in using renewables simply in order to "do the right thing." They may prefer to build what they are used to building.

Multifamily housing

- Multifamily housing in the context of the New Construction initiative means not less than 4 stories, correct? *Yes [Note: there are separate paths for multi-family low rise (under 4 stories) and high rise (4 stories and above)].*

- Many contractors build both, so there is some market confusion and we should be specific.

Dr. Raab revised the recommendations in response to these comments. All of the voting Councilors present at the meeting agreed to support the revised recommendations. See Appendix B for the recommendations agreed to by the voting Councilors.

PRODUCTS PROGRAMS RECOMMENDATIONS

The conversation on the Products initiatives draft recommendations addressed LED lighting, new technologies, and heating and cooling equipment. Each of these topics is addressed in turn.

LED Lighting
Participants discussed whether the recommendation on a joint PA/EEAC Consultant assessment should include a required deliverable, and made the following comments:

- The market adoption model that is currently being used will inform the process, but a separate deliverable may also be helpful. June 2015 was suggested as a date that would still inform the final 3 year plan.
- The recommendation should recognize that this is part of an ongoing process in a rapidly changing field, and a single report will become dated very quickly and may not be helpful in informing the three-year plan.

New Technologies
The group provided the following questions and comments about new technologies:

- The recommendations should account for the fact that new technologies will be impacted by the grid modernization proceedings before the DPU. There is therefore one bucket of existing opportunities, and one bucket of opportunities that are dependent on grid modernization.
- It is important to make the business case that new technologies will create savings and benefits to ratepayers before rolling them out.
- There should be more assertive language in the recommendation on Massachusetts being a leader in promoting new technologies.
- The Massachusetts Technical Assessment Committee (MTAC) meets monthly and looks at new emerging technologies that may lack a foothold in the market.

The group discussed whether it would be helpful to commit to a specific number of demonstration projects. Some participants felt that demonstration projects may be helpful, but that it was not necessary to commit to a specific number.

The group also discussed adding language requiring a demonstration project on upstream HVAC equipment. The PAs noted that given the nature and maturity of the

HVAC market it would be difficult to conduct a demonstration project. Councilors agreed that upstream HVAC should be part of the conversation, but decided it was not clear what it would mean to conduct a demonstration project.

Heating and Cooling Equipment
Councilors and PAs discussed whether language recommending a more fuel blind approach should be included, and made the following comments:

- The goal should be to support renewable thermal in oil and gas homes, not a fuel blind approach. The language should not tie us to getting more natural gas over the next 30 years.
- If the language recommends a "fuel blind" approach but also avoiding "excessive" use of natural gas, it is not clear how we determine what is "excessive."
- Participants had differing perspectives on whether the EEAC should provide incentives for energy efficient natural gas units for customers currently using oil.
    - Some participants felt it was inequitable only to provide such customers with incentives for putting in another oil burner.
    - Other participants expressed concern about accelerating the trend of oil to gas conversions.
    - Given the lack of consensus, the group agreed to remain silent on the issue.

Dr. Raab revised the Products program recommendations in response to these comments. All of the voting Councilors present at the meeting agreed to support the revised recommendations. See Appendix B for the recommendations with changes made during the meeting and agreed to by the voting Councilors.

HES INITIATIVE RECOMMENDATIONS

The conversation on HES Initiative recommendations addressed programs on deeper savings, moderate income and renters, HEAT loan/financing, new technologies and practices, and home energy assessment/delivery models. Each is addressed in turn below.

Deeper savings
Participants made the following comments and suggestions on the draft deeper savings recommendations:

- The first recommendation should suggest that multiple tactics can be used to address the close rate issue.
- The third recommendation should not presume that incentives are the only approach.
- With respect to the fourth recommendation, Cape Light Compact does not support different incentives for different income classes. When incentives are

not uniform, it makes it more difficult for people to communicate with each other about the program.
    - Dr. Raab noted that the fourth recommendation is about assessing these incentives, not implementing them.
    - A participant noted that there is already differentiation on this issue for low-income and non-low income participants.
- The fifth recommendation should be clarified to indicate that customers will actually be targeted.
- Lead vendors should be evaluated on performance, and we should track non-program measures.
    - PAs noted that their contracts already have performance incentives.
- Participants suggested a number of additional minor language changes.

Moderate income and renters
Participants expressed satisfaction with the draft recommendations on this issue as written.

HEAT loan/financing,
Participants made the following comments and suggestions:

- "Low income" should be removed from the recommendation for on-bill financing, since low-income customers should be receiving the product for free and we do not want to create more bills for them. The language should be clear that the purpose is not to pull low-income customers into a program where they will owe money.
- Participants discussed what the correct interest rate should be for the HEAT loan program.
    - Cape Light Compact does not support changing the loan from 0% for some customers, because this would create confusion in the market.
    - Another participant suggested that altering the percentage on the loan would represent a big change to what has been a very successful product, and the potential impact should be evaluated carefully.
    - Others noted that higher income customers may not really need the 0% rate, and that there is a perception that Massachusetts PAs may be overpaying for the savings they get from the HEAT loan program.
    - A participant noted that it may be difficult to measure the overall impact of the HEAT loan program or determine the optimal interest rate because the program's impact cuts across all other programs.
    - A participant said that the HEAT loan had an interest rate in the past and it did not have great uptick at that time.
    - A participant cautioned that a total resource cost (TRC) test would likely destroy the HEAT loan, and it would be helpful to explore trying to capture savings from the HEAT loan program.
- Participants discussed the issue of verifying customers' income levels.

- Some participants expressed concern that the verification process could lead to customer confusion if different programs have different income level cutoffs.
- Other participants suggested that banks already do income verification as part of the program, and it is relatively straightforward.
- Participants agreed that the HEAT loan process should be as simple and straightforward as possible.

New technologies and practices

Participants agreed that it was not necessary to have a recommendation in this section separate from the recommendations in the Products section addressing the same topic. Participants made the following additional comments:

- Support for new technology is especially relevant to new products, because they often start as high cost and only get cost effective when they get to scale. We do not want to discourage innovative programs that might have savings down the road, just because they are not immediately cost effective.
- Supporting new technology is important, but it is important to remember that you pay more for savings when measures are less cost effective.
- It may be helpful to broaden the time horizon and consider cost effectiveness over the life cycle of a product.
- PAs are already very on top of cost-effectiveness; the language should be supportive and suggest that we don't want to hamper the PAs.
- There are several measures in the C&I program which are not cost effective themselves, but the suite of measures is cost effective overall.

Home energy assessment/delivery models

Participants made a number of comments on the recommendation suggesting the introduction of an energy scorecard, but could not reach agreement on some of the issues. The conversation included the following comments:

- The recommendation should also suggest improving education.
- The PAs feel that there is a lack of evidence of savings associated with scorecards, and we need to determine if it really helps the customer before implementing it.
- The PAs feel that the recent Home MPG initiative (in which scorecards were piloted) did not adequately demonstrate the value of scorecards because Home MPG included other innovations, including enhanced incentives and rebates, making it difficult to attribute Home MPG results to the scorecard.
- DOER believes there is a lot of evidence that the scorecard is effective and that customers find it helpful. DOER did two evaluations, both by phone and online. In the first, more than 95% of respondents said they liked the scorecard and it influenced their behavior. In the second, 97% said they really liked the scorecard and would like to have it on hand when selling their house.

- The scorecard is different from the Opower assessment that looks at your utility bills relative to neighbors' utility bills in that it is based on the physical attributes of the home, not on resident behavior.
- The scorecard could use the DOE energy model, which is a proven model, is integrated with models used by HPCs and other vendors, and includes information the utilities are already generating. The scorecard would simply present this information in the form of user-friendly scorecard.
- DOER stated that any scorecard used should include a comparison to neighbors (as did the Home MPG scorecard) because, as shown by Opower, customers are motivated by comparisons with neighbors.
- The scorecard would be beneficial by helping vendors sell weatherization.

Participants shared the following differing perspectives on the likely cost of a scorecard.

- The cost would be minimal. It would be extremely low cost for the first scorecard, since vendors deliver a report on energy usage. All they would need to do is use the information from this report to fill out the scorecard, making it clear, crisp and concise. The main cost is the second, follow-up scorecard after the customer has done some energy efficiency measures. However, we consistently discuss the importance of customer follow up, so the follow-up visit could actually have a lot of side benefits.
- The cost may not be as minimal as we assume. Costs begin to build up when you compensate vendors for their time. Delivering the scorecard may require additional discussion with customers, which takes time. Adding language on renewables requires even more extra time. Eversource is already on the border of needing to reduce the number of assessments an auditor can do per day. Once this happens, costs will go up a lot.

Participants expressed different opinions on whether vendors are appropriately compensated for their extra time. They also discussed whether it would be helpful to recommend evaluating the scorecard, rather than requiring implementation, or whether adding the word "possible" would help. Participants again expressed different perspectives on the issue, and made the following comments:

- DOER already performed a 2-year pilot of the scorecard, and that the scorecard has already been rolled out successfully in other states, so further evaluation is not needed. The product is ready for the 2016 plans.
- The Council should be presented with a very detailed discussion on the findings of the DOER pilot before making a decision.

Councilors could not agree on language for a recommendation on the scorecard, with some wanting to go forward with the scorecard and others concerned about requiring implementation without fully understanding how the program has been evaluated. They decided to note the lack of agreement in the final recommendations document and revisit the issue.

Participants made comments on the third recommendation addressing integrated one-stop shopping and the provision of more comprehensive information. A participant expressed concern that this recommendation would create additional requirements for the energy audit, and suggested adding clarifying language. Other participants suggested that the recommendation as is does not address audits or suggest adding requirements to them. Participants agreed to accept the existing language so long as it is clear it does not add anything to the audit.

With respect to the fourth recommendation on screening offers to the customer and improving the sales process, a participant said that the meaning of "streamlining" is not clear. This participant suggested we should specify that the term includes "establishing pre-screening and follow-up protocol for all HEA customers."

Participants expressed different opinions on whether language should be added to this recommendation requiring that the PAs ensure HEA is profitable for the provider, offering the following comments:

- Contractors should not have to lose money when conducting HEAs. This has been a frequent complaint.
- It is not the job of the EEAC to discuss or ensure private sector profitability, and this should be an issue between the PAs and the contractors and vendors

Participants discussed different, more nuanced language that might address the concern over providers' profits such as "evaluate additional compensation to vendor," but did not agree to add anything to the recommendation to address this issue.

Dr. Raab revised the HES initiative recommendations in response to the comments above. Except for those recommendations noted above where agreement was not reached (and for which the lack of agreement is noted in the revised document), all of the voting Councilors agreed to support the revised recommendations. See Appendix B for the recommendations with changes made during the meeting and agreed to by the voting Councilors.

BEHAVIOR INITIATIVE RECOMMENDATIONS

The group offered the following comments and suggestions on the behavior initiative draft recommendations:

- There is concern from the low-income perspective about the amount of time needed to implement the recommendations.
- The recommendations may actually help low-income people.
- The "unlikely to happen" language may be read to suggest we are not going to do this, which would not be helpful.

- The "unlikely to happen" language was put in because of the DPU schedule. Advanced metering is not likely to be in place before 2018, but the intention is to put people on notice that Council is interested in this.

With those clarifications, the participants agreed not to remove the "unlikely to happen" language. All of the voting Councilors agreed to support the revised recommendations. See Appendix B for the recommendations agreed to by the voting Councilors.

MULTI-FAMILY RETROFIT INITIATIVE RECOMMENDATIONS

The conversation on the Multi-Family Retrofit recommendations addressed the comprehensive integrated approach, benchmarking and serving buildings with unregulated fuels, addressed in turn below.

Comprehensive integrated approach
The group offered the following comments and questions on the comprehensive integrated approach draft recommendations. *Responses to questions are in italics*:

- What are rules for multifamily building owners getting aggregated data for their buildings? Is there a threshold size to ensure we're not giving away confidential information? *There is an agreement in place in Boston and Cambridge with BERDO for a three-fifty rule. If there are more than three account holders with no more than one of them having greater than 50% of the usage, then we can provide aggregated data without raising privacy concerns. Sometimes the common meter is more than 50% of the building's electric, so they have to leave that out or get permission from the building owner(s) to get aggregated data.*
- It is difficult to get tenant approval to track energy, and aggregated data comes in a single snapshot.
- The recommendation on benchmarking within this section of the recommendation document should be moved to the section on benchmarking.

Benchmarking
The group offered the following comments and suggestions on the draft benchmarking recommendations:

- PAs have concerns about the applicability of benchmarking to the market rate program. There is evidence that benchmarking is great for the low-income program, but there is less evidence that up front money spent on benchmarking will create more savings on the back end in the standard income program.
- The benchmarking recommendation might be self-defeating if our goal is to target tenants. Tenants might not be able to insulate their walls and have fewer opportunities to achieve savings.

- The next step for multi-family in the market rate sector may be a voluntary program linked to a performance-based program. Benchmarking allows you to know about the building so you can offer a cost effective custom performance-based incentive.
- The low-income housing inventory is done. We should evaluate how much energy savings resulted from them being benchmarked.
- Although the low-income multi-family program has been benchmarking for its five-year history, the benchmarking criteria might be different here.

Serve buildings with unregulated fuels
Participants expressed satisfaction with the draft recommendations as written on this issue.

All of the voting Councilors agreed to support the revised recommendations on each of the Multi-Family Retrofit initiative recommendations discussed above. See Appendix B for the recommendations with changes made during the meeting and agreed to by the voting Councilors.

LOW INCOME PROGRAMS RECOMMENDATIONS

The group offered the following comments and suggestions on the draft low-income programs recommendations:

- With respect to the first bulleted recommendations, the language should be clarified so that it requires only that "programs as a whole remain cost effective."
- With respect to the first sub-bullet under the second recommendation, there should not be a requirement for "additional" funds, only "adequate" funds.
- It is unclear how PAs will decide if "adequate" funds are available, and this is concerning. However, given the other qualifiers in the recommendation, the text is acceptable.
- The Massachusetts nonprofit network is working on a proposal for nonprofits as part of the recommendations for C&I. The recommendations on this issue should not preempt that discussion. We should make sure this recommendation fits with the larger program for non-profits in the C&I program.
- There should be improved reporting on the customers who are served and the criteria. LEAN folks think hard about whom they serve, but this information is not always shared with others in the pipeline. If there were more transparency, this might defuse criticism of the program.
- LEAN runs a program for 20,000 to 25,000 households per year. Given this large volume of work, transparency can be challenging.
- In principle, LEAN could support publishing a list of every non-profit it serves, but it needs to evaluate whether customers might object.

- It might be helpful to include a definition for "non-profits serving primarily low income." This term has been defined elsewhere and the definition should be identified.

All of the voting Councilors agreed to support the revised recommendations on the low-income programs. See Appendix B for the recommendations with changes made during the meeting and agreed to by the voting Councilors.

CROSS CUTTING ISSUE: DEMAND REDUCTION RECOMMENDATIONS

Participants expressed satisfaction with the draft recommendations as written on this issue. See Appendix B for the recommendations agreed to by the voting councilors.

NEXT STEPS/WRAP UP/FEEDBACK

Dr. Raab thanked participants for their hard work on editing the draft recommendations and congratulated them for making their way through all the recommendations in the allotted time. He acknowledged that they had not reached full agreement on every issue, but suggested that they would likely have been able to do so had there been more time.

Dr. Raab invited feedback from group members on the residential workshop process, whether it was helpful, and what improvements they might recommend. A number of participants thanked Dr. Raab and Raab Associates for running an effective process, and expressed gratitude towards the Consultants and PAs for preparing useful meeting materials. Participants offered the following comments and suggestions:

This kind of facilitation would be welcome at the full EEAC meetings. It makes it easier to have conversations focused on specific topics.

It was very helpful to have Dr. Raab shepherd the group through the process, and DOER should consider using external professional facilitators for the full EEAC meetings.

It is helpful to be able to have more of a conversation on the issues — it feels more like we're a team working towards something. The workshop format is really helpful.

Participants did a good job coming to the meetings prepared.

Although it would be impossible to hold these kinds of meetings all the time given the time investment required, we should consider doing similar workshops more frequently such as through a quarterly meeting with Dr. Raab and/or through a review process after the PAs have given us their plan.

In response to these suggestions, a representative from DOER noted that DOER hopes to involve Raab Associates after the April draft plan comes in to hold facilitated workshops on both the residential/low income/multifamily portions of the proposed 3YP and the C&I portions of the proposed 3YP. However, the DOER representative cautioned that DOER did not believe it would be fair to PAs to continue such time-intensive meetings after the plan is approved.

The meeting adjourned on schedule at 1 PM.

ACTION ITEMS

The following action items were captured during the meeting:

EEAC Councilors
DOER will provide more data on the energy efficiency scorecard, and councilors will revisit the issue.
The LEAN program will look into publishing a list of the non-profits it serves.
Councilors will investigate a definition for “non-profits serving primarily low income.”
Raab Associates (with CBI)
Prepare the meeting summary for this workshop.

Appendix A
Attendance

EEAC Residential Workshop #3, March 9, 2015 9-1 MA DPU, One South Station, Hearing Rm. A			
Last Name	**First Name**	**EEAC Councilor?**	**Company**
Berger	Leah	No	Columbia Gas of Massachusetts
Berkman	Toby	No	CBI
Bliss	Malcolm	No	Next Step Living
Boecke	Donald	Yes	Attorney General's Office
Boyd	Amy	Yes	Acadia Center
Breslow	Marc	No	Climate XChange
Carroll	Ed	No	Franklin Energy
Cellucci	Elizabeth	Yes	Columbia Gas of MA
Chretien	Larry	Yes	Mass Energy Consumers Alliance
Demeter	Kristen	No	Energy Savvy
Downey	Maggie	Yes	Cape Light Compact
Finlayson	Ian	Yes	MA DOER
Gibbons	Eugenia	No	Mass Energy Consumers Alliance
Glynn	Elizabeth	Yes	LISC
Grubbs	Harrison	No	CSG
Harak	Charlie	Yes	National Consumer Law Center
Jacobson	Elliott	Yes	Action Energy/Lean
Johnson	Paul	Yes	Greentek
Lawrence	Spencer	No	MA DOER
Lopez	Lourdes	No	City of Boston
Lynch	Margie	No	Core Energy Insights, Inc.
McCarey	Maggie	No	MA DOER
Mermin	Naomi	No	Naomi Mermin Consulting
Moriarta	Courtney	No	SRA
Oppenheim	Jerrold	No	LEAN
Palma	Thomas	No	Unitil
Papali	Alex	No	CWA/Green Justice Coalition
Pereira	Laurie	No	Eversource Energy
Pfeiffer	Ellen	No	National Grid
Pignatelli	Mark	No	ICF International
Pike	Brenda	No	National Grid
Raab	Jonathan	No	Raab Associates

Reed	Glenn	No	Energy Futures Group
Sommer	Michael	Yes	Berkshire Gas Company
Swing	Bradford	Yes	City of Boston
Taglienti	Rick	No	Rogers Insulation
Vavak	Amy	No	National Grid
Venezia	Steve	No	MA DOER

Appendix B

EEAC Residential Workshops: Draft Recommendations
For Discussion at March 9, 2015 Workshop
Redlined Version Showing Changes Made During Meeting

Note: These draft recommendations are based on the residential workshop discussions on 2/12 and 2/26, except as otherwise indicated in yellow highlight (where they've been added to subsequently by DOER/Consultant team for consideration.) Please review this document and come ready to suggest improvements at the 3/9 workshop. Also note that the Low Income recommendations were agreed to at the 2/26 workshop (verbally), while the other recommendations are all up for refinement at the 3/9 meeting.

Products Programs

LED Lighting

- LEDs are superior to CFLs except for first cost
- The quicker we can progress from CFLs to LEDs in all the programs the better
- Councilors support the PAs' plan to lead with HES/whole house programs where they could move to 100% LEDs directly installed as soon as 2016 (depending on pricing), and moving as rapidly as possible to all LEDs for specialty lighting in the products program
- Conduct a joint PA/EEACC Consultant assessment (as part of on-going assessment activities) with a report back to the EEAC in June to determine the strategy for progression to only supporting LEDs for general lighting in the products program
    - The plans may benefit from flexibility on the timing of general lighting progression to LEDs because the speed of lighting product innovation and pricing is rapid and uncertain

New Technologies (including Wi-fi learning Thermostats, connected devices, energy star dryers etc)

- Massachusetts should continue to be a leader in promoting new technologies and practices by accelerating adoption and deployment where appropriate. However, each specific technology will likely need its own road-map including where, when, and how to apply incentives
    - Identify and support additional and appropriate demonstration projects on new technologies
- A one size fits all upstream approach may not be appropriate for all products, but upstream incentives have worked in other states, and so merit some further investigation
    - Evaluate upstream program designs for HVAC related products

Jonathan Raab 3/9/2015 10:05 AM
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Jonathan Raab 3/9/2015 10:26 AM
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Jonathan Raab 3/9/2015 10:25 AM
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- Inform EEAC and reconsider new technology strategies, pending finalization of DPU grid modernization proceedings

Promotion of Renewable thermal of heating and cooling equipment

- Broad desire to support renewable thermal in oil/gas heated homes. Be proactive about pursuing renewable options, and coordination w/existing renewable incentives.
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- Develop a methodology for claiming savings from renewable equipment
- Continue to support greater integration of HVAC into HES (building on the success of early boiler and furnace replacement offerings)
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HES Initiative

Deeper Savings

- Focus on increasing the closure rate on weatherization—e.g., analyze why jobs are not closing and improve contractor and vendor monitoring and other methods of evaluating and increasing performance (e.g., cost/MMBTU saved, cost of customer acquisition, % recommendations implemented)
- Integrate a scorecard to communicate "home energy performance" pre and post cost-effective recommendations, and to compare to other homes
- Utilize strategic entry points for deeper savings by offering incentives, information, and technical assistance timed to integrate with other building retrofit triggers
- Reassess the insulation incentive (75% up to $2,000), including considering whether to adjust both the $2,000 limit and the 75%, and two tiers for market rate vs. moderate income
- Collect more information to enable the targeting of customers such as high-users or those with electric resistance heat (and to actually target)
- Improve program coordination by tracking measures at the household level where possible (i.e HEHE and HES, MF and Low-income but not retail lighting, including non-program measures)
- Implement a means of compensating contractors and vendors for achieving overall savings rather than for installing individual measures

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Moderate Income & Renters

Moderate income and rental populations are both difficult to reach sectors and more targeted efforts are needed. The approaches might not be identical, but may have some overlap.

- Given the on-going challenges of serving rental housing, a more renter specific initiative is needed. This could be a more step-wise program (e.g., start with LED lighting/appliances and expand to weatherization and other measures)
- A new statewide initiative for moderate income households (60-120% AMI, building on what was learned from EN+) should be implemented, but not rely on straight income qualification to qualify customers, and should instead look at alternatives (e.g. by zip code, rent costs, or other ways)
- Form partnerships with community groups to help market the HES program including coordination with municipal efforts

HEAT loan/financing

- Evaluate current 0% Heat Loan program compared to other cost-effective ways of procuring comparable savings from Residential customers
    - Evaluate maintain 0% loans for moderate-income households/zipcodes and consider offering a loan loss reserve; and evaluate modest (e.g.,2%) loans for market rate customers [non-low/moderate income] to improve cost-efficiency
- Financing options including on-bill financing or modifying the HEAT loan through the establishment of a loan loss reserve for lower credit scores, would better serve moderate income households/zipcodes
- HEAT loan eligible measures currently funded by DOER should be considered for inclusion either statewide (DER and biomass) or as moderate income specific offerings (pre-weatherization incentives, landlord 2-3 unit loans)
- Examine way of simplifying/accelerating Heat Loan application and approval process

New technologies and practices

- See above under Products (new tech and practices)

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Home Energy Assessment/Delivery Models

- Help people better understand how their house uses energy and what they can do to save energy and money through combination of an assessment and some type of energy scorecard and education [Note: Not agreement among Voting Councilors and between PAs and Voting Councilors—DOER will come back with reconsidered recommendation.]
- Provide all homeowners with the opportunity to switch fuels if they so decide [Note: Also mentioned under Products programs]
- Create more integrated one-stop shopping and provide more comprehensive information to the customer. Programs (including both Mass Save and non-Mass Save incentives/rebates (e.g., state renewable energy credits); and Products and Whole House programs) are too segmented—and it's hard for the customer to figure out the best package
- Assess methods of streamlining (including pre-screening process and follow-up protocols) offer to customer at the point of the home energy assessment and improving sales process to secure greater participation

Behavior Initiative

- Expand savings from behavior programs including linking to home automation technology (such as learning thermostat)
- Movement in Massachusetts toward time varying rates could create an opportunity with technology to get greater energy savings and demand reductions from behavior programs, but unlikely to happen in timeframe relevant to the development of the 2016-18 plan

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Multi-Family Retrofit Initiative

Comprehensive Integrated Approach

- Seek better ways to segment the sector due to the variety of ownership patterns, building types, meter configurations, etc.
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- Whole building based performance remains the gold standard
- Implement a new initiative in partnership with housing finance institutions to target retrofit opportunities such as refinancing, rehab, etc. of larger commercial/residential multi-family buildings to piggy-back retrofit work on.
- Provide a fully-integrated (Residential/C&I) Multi-Family program
    - Single point of contact
    - Report C/I side energy use and savings information and integrate with the residential information, to allow a view of how programs are serving entire multi-family buildings
    - Similarly, there is a desire to look at incentives on both the residential and the C/I sides and to make them more integrated

Benchmarking

- Benchmarking would be helpful/critical in identifying retrofit candidate buildings and giving feedback to owners and tenants
- Massachusetts already has important experiences with benchmarking including WegoWise for the low-income multi family program. Benchmarking and public disclosure is also happening in Boston and Cambridge for large multi-family buildings as part of building disclosure ordinances.
- Broader benchmarking of some or all sub-sectors of multi-family housing would be beneficial both from individual owners perspective and from PAs perspective of identifying and motivating owners to save in various ways
- Need to develop a plan/initiative for how benchmarking would be used.
    - Consider voluntary program first that allows a 'pay for performance' approach to retrofits including pre and post retrofit baselines for evaluation. Consider as demonstration project.
- Concerns around more extensive benchmarking include privacy concerns and cost issues.
    - Privacy concerns could be addressed by looking at other states, and Boston disclosure ordinance where this problem was addressed (e.g., at least 3 units with no one unit with over 50% of the consumption). Benchmarking also does not require disclosure e.g. Low income multi-family program
    - Benchmarking has a cost; but WegoWise does not seem to be cost prohibitive, and other companies offer these services

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Serve Buildings with Unregulated Fuels

- Allow PAs to account for the benefits that they get from saving unregulated fuels similar to in HES
- Revise the metrics or seek alternative metrics. For example, a metric could be added for oil, or translate all savings into btus, or use a carbon metric or some combination
- Other areas that might allow PAs to appropriately claim savings from renewable fuels would be renewable thermal credits (regulations are in development at DOER) and the proceedings at the DPU to add an avoided cost of GWSA compliance to the set of avoided costs used to calculate the benefits of energy efficiency programs

Low Income Programs

- LEAN should continue to pilot test new energy saving technologies and practices and incorporate them into their programs when they make sense, provided programs as a whole remain cost-effective
- LEAN should expand its eligibility criteria to include 1) low-income multi-family houses that heat with oil/propane (assuming RCS change); 2) non-profits that primarily serve low-income customers; and 3) multi-family buildings that meet 80% of HUD standard
    - However, the two caveats are that 1) non-profits serving primarily low income need to be clearly defined and synced with C&I non-profit initiatives; and 2) there need to be adequate funds available to cover these expansions without reducing resources to pre-existing LEAN markets or exacerbating the low-income weatherization queue issues
    - Should be reporting about which non-profits are served
- Defer supporting LEAN's request to also expand eligibility to households applying for but not eligible for fuel assistance (those at 60-80% of median income)
    - There were concerns that this might be inequitable to others in the 60-80% category who didn't apply for fuel assistance, or cause many more 60-80% households to apply for such assistance. In the end, it was agreed to defer this request to the broader discussion within the context of serving 60-80% category in the full HES program at the 3/9 meeting.
- Councilors were also more broadly interested in an initiative targeted at potential retrofit opportunities when any multi-family building is being refinanced
    - State agencies that know a low-income building is coming up for refinance should share that information with PAs and LEAN so they can capitalize on it with an appropriate retrofit initiative

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Cross Cutting Issue: Demand Reduction

- Support products and practices that reduce winter and summer peak demand
- Develop a demand reduction strategy for the 2016-2018 plan

New Construction

- Increase support for zero net energy construction
  - Evaluate offering a ZNE incentive tier for the 2016-2018 New Construction Initiative (but not $ for PV)
  - Require that new construction receiving PA incentives in at least the highest tier(s) be "renewable ready"
- Continue to introduce new technologies
  - Home automation
  - AMI functionality
- PAs should evaluate adding performance path for multi-family housing (4+ stories)
- Evaluate whether new construction for rental housing should have higher incentives than condominiums

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