

Massachusetts Energy Efficiency Advisory Council

Comments regarding the April 30th Draft 2016-2018 Energy Efficiency Plan

Draft Resolution for EEAC Comment

Comments submitted by Emmett Lyne, on behalf of the PAs

I. Introduction

Under the Green Communities Act (“GCA”), the Energy Efficiency Advisory Council (“EEAC” or “Council”) is charged with reviewing the Massachusetts Program Administrators’ (“PAs”) draft Statewide Electric and Gas Energy Efficiency Plan (“the Draft Plan”), submitted to the EEAC on April 30, 2015. Having reviewed the Draft Plan, the EEAC provides the following comments to the Department of Public Utilities (“the Department”) and the PAs.

The EEAC recognizes and commends the PAs on the significant achievements made during the first two 3-year planning and implementation cycles, in particular surpassing the 2014 Plan goals on a state-wide level. We look forward to building on that success by learning from our collective experiences and sustaining our shared commitment to design and deliver the best programs possible. The EEAC also recognizes and appreciates the significant hard work that the PAs have put into the development of the Draft Plan, and applaud the cooperation among PAs, the EEAC and its consultants, and stakeholders through the planning process.

The following comments represent input from councilors, stakeholders, legislators, and EEAC consultants, gathered through EEAC meetings, two public comment sessions and nine workshops to engage councilors and PAs in discussion. The EEAC particularly appreciates the PAs’ willingness to engage fully in these workshops, and thinks they were a helpful exercise.

We look forward to continuing collaboration and exchange of information between the PAs, the EEAC and its consultants, and interested stakeholders throughout the summer and fall. It is our expectation that the PAs, working alongside the EEAC, its consultants and others will continue to refine and improve the Draft Plan, through. The Council requests timely interim updates on program design that respond to this resolution, and a revised draft no later than September 1st, leading up to the filing of a Final Plan with the Department in October. In this spirit of collaboration, we provide the following specific comments on the Draft Plan.

A. Savings Goals and Program Costs

The EEAC's first and highest priority in evaluating the Draft Plan is the level of lifetime savings and benefits achieved by the programs. As the EEAC resolved on March 31st, 2015, it "shall only approve 2016-2018 Plans that include savings goals that build on the achievement of the prior Three-Year Plans and conform with and support the successful attainment of all available cost-effective energy efficiency." The We believe the current Draft Plan falls short of both the objective, while building upon previous successes and reflecting many positive aspects, does not add enough to build on the programs' prior achievement, and the falls short of the objective to meet the GCA's mandate to achieve all available cost-effective energy efficiency. The We understand the need to continue to address and consider multiple factors relating to savings goals, but we believe the PA-proposed savings goals in the Draft Plan are too low for both gas and electric.

The EEAC sees many indications that the PAs can and should pursue additional energy savings and benefits, beyond those reflected in the Draft Plan. Among these are:

- The historical PA achievements including the evaluated level of savings in 2014 (for electric: 2.76% of annual savings as a percentage of retail sales, and 13,554,964 MWh of lifetime savings; and for gas: 1.35% of annual savings as a percentage of retail sales, and 382,857,716 therms of lifetime savings), recognizing that past performance is not a sure projection- of future opportunity;
- The EEAC Consultants' March 10th Assessment of Potential (3% of annual sales for electric and 1.5% for gas), recognizing that PAs are relying on service-territory specific assessments of achievable savings potential that differ from the Consultant's recommendations;
- The EEAC Consultants' April 30th recommendation on savings goals (on average, across the 3 years, 3.04% of annual savings as a percentage of retail sales for electric , 1.47% of annual savings as a percentage of retail sales for gas; over the 3 years, 44,259,424 MWh of lifetime electric savings and 1,348,630,693 therms of lifetime gas savings);
- The energy efficiency savings goals established in the Clean Energy and Climate Plan for 2020¹; and
- The robust benefit/cost ratios for the electric programs in the Draft Plan (2.38 overall and increasing across the three years).

The EEAC also appreciates the challenges that have been noted by the PAs, including:

- Changing baselines and codes and standards that still foster savings, but limit the PAs' ability to claim those savings going forward;
- Successful penetration and implementation in many market sectors by the PAs' extensive efforts to date ; and
- The need to consider customer bill impacts, contractor capacity limitations, and market acceptance of programs and services.

¹ The savings included in the CECP reflect adjusted gross savings and market effects, not net savings. Further analysis is required to assess how PA results and Plans conform to those objectives. In addition, the Green Communities Act and not the CECP is the direct driver of PA EE three-year plan efforts.

It is appropriate to also consider these factors in establishing savings goals for 2016-2018.

Given the differences in savings goals and program costs between the Draft Plan and some of the indicators above, it is clear that some of the planning assumptions made by the PAs in the Draft Plan are not consistent with those made by the EEAC consultants in their April 30th recommendation. The EEAC appreciates the collaborative effort that the PAs and Consultants have put into exploring the main assumptions that account for these differences in recent weeks, and expects that the results of this “key drivers” process will be reported to the EEAC for our consideration at the August EEAC meeting. The EEAC will consider these discussions and analysis in determining its recommendations for achievable savings and budgets.

The EEAC also notes that, in 2014, the PAs achieved savings significantly above plan year goals while spending close to budgeted costs. Notwithstanding the potential for assumptions to change through the “key drivers” analysis and upward pressure in some pricing components, this indicates that the steep increase in levels of program costs in the Draft Plans is appears not merited, without a commensurate increase in savings fully justified and merits careful scrutiny. Where budget increases are proposed above 2014 actual levels, the EEAC expects to see a detailed and reasonable justification of higher costs in the Draft Plan, clearly linked to market conditions and pricing, program redesign, specific baseline changes, new initiatives, deeper savings, or incorporation of the EEAC’s informed recommendations.

The EEAC expects that the September revision of the Plan will provide significantly higher savings goals at similar or lower program costs than reflected in the April 30 Draft Plan, and clearly demonstrate that the PAs seek to achieve all available cost-effective energy efficiency. The EEAC requests that the next draft provide more specificity and back-up data for the proposed goals in general, and, more specifically, complete and updated cost-benefit screening tool data by PA and discussion of how PA service area-specific studies have been used in establishing goals. If any PAs propose for any year within 2016-2018 reducing below 2014 evaluated levels of lifetime savings in kWh, ~~BTUs~~ or therms achieved by any sector, please provide detailed and specific relevant data that informed the decision to reduce, including any independent market assessments.

B. Other EEAC Priorities

The EEAC reiterates its high-level prioritization of continuous improvement in lifetime savings, benefits, and customer experience for the 2016-2018 Plans, as expressed in its March 31st Resolution. The EEAC encourages the PAs to maintain an emphasis on prioritizing lifetime savings and benefits, and integrating the gas and electric programs, while closely examining whether additional winter and summer peak demand savings can be identified to increase benefits, in making refinements to the Plan. Although there are line items for summer and winter electric demand savings in the EEAC reviewed term sheet template, the EEAC did not see much emphasis on demand reduction in the Draft ~~Plans~~ Plan, although the Draft Plan indicates that work is continuing on examining demand savings opportunities.

We encourage additional prioritization of efforts that will realize electric demand savings.

The EEAC also appreciates the PAs' creation of offerings that will target small businesses and different, historically underserved, segments of businesses and residents statewide, such as renters, and moderate income customers, and small businesses. This is the type of segmentation and targeting that will enable the programs to continue to grow, capture savings, and equitably serve ratepayers throughout the Commonwealth, and we urge the PAs to include more detail about these offerings and additional offerings that target other segments in the Plan.

The EEAC ~~thinks~~believes the Mass Save Data website to be a useful tool and greatly appreciates the PAs' continual improvement to this website. However, many councilors do not believe it is ~~not~~yet a comprehensive statewide database with sufficiently granular inputs and should not be framed as such. Instead, the Draft Plan should ~~more accurately~~reference the status of the EEAC stakeholder process, building on the Department's December 2014 decision, and noting ongoing Department review of these matters. A comprehensive database ~~will significantly~~could potentially aid in identifying untapped opportunities for savings, enable better comparisons between PAs and incorporation of best practices across territories, and address many of the EEAC's requests for additional reporting.

Finally, we recognize that performance incentives are an integral part of the planning process and of program implementation. ~~We do not and that savings, budgets and performance incentives are~~ interwoven and must be addressed in an integrated manner. While supporting performance incentives, we do not yet provide any comments on the performance incentives proposed in the Draft Plan at this stage. ~~Before~~Well before October, the EEAC will review the overall framework of the current performance incentive model with the PAs and EEAC consultants, in order to optimize and calibrate the performance incentive structure to reflect the priorities of the EEAC and ensure the best results, consistent with the GCA.

C. Major Overarching Comments

The Draft Plan describes in detail the existing programs already established and underway, but ~~provides~~ littleshould provide more specificity regarding changes or enhancements the PAs propose for 2016-2018. The EEAC ~~requires~~understands that the PAs are building on successful programs and requests that the September draft of the Plan include ~~additional~~detail and clarity regarding what is clarify new initiatives and specific improvements being ~~newly~~introduced in the 2016-2018 timeframe, what is being continued from previous years, and what is being continued with specific improvements. We agree that the Plan is necessarily a strategic document, as opposed to a detailed operating or marketing manual, that needs to maintain flexibility for adjusting to market conditions. However, we also expect to see details a greater level of detail in the September draft, including implementation strategies, budgets, and timelines for all of the material changes the PAs plan to introduce.

The Draft Plan provides few firm commitments, specifics, or dates by which program enhancements and new initiatives will be introduced. Similarly there are only rarely descriptions of action plans or

timeframes for deciding on and implementing the various options the PAs are exploring.² Taken as a whole, the lack of specificity in the Draft Plan is such that the EEAC cannot, at this stage, determine whether it can support the programmatic changes the PAs propose. The EEAC understands that the Draft Plan was submitted six months prior to the anticipated final filing date, making specific timelines difficult to assess at that time, but requests dates, milestones, and additional detail for all material changes to programs and initiatives in the Plan, while maintaining strategic flexibility to respond to market conditions.

The EEAC encourages more innovation through pilots and/or demonstration projects, and programmatic changes, and urges the PAs to take advantage of more opportunities to introduce new approaches and advance the energy efficiency market further. In particular, The EEAC recognizes and appreciates the strategic steps PAs initiated and implemented resulting in LED penetration at levels much higher than proposed in the 2013-2015 plan. The PAs have the opportunity to continue to help drive the LED market and the related phase-out of CFLs, rather than merely capitalize on it, as described in the Draft Plan even further, with the EEAC recognizing the key role the PAs have played to date in revolutionizing the LED market.

The EEAC recognizes that lighting baselines and certain building code provisions are changing in the coming years. However the EEAC remains confident that the PAs can deliver programs that continue to grow yield cost-effective and deeper savings by leveraging increasing customer awareness, reaching historically underserved sectors, and taking advantage of rapid changes in technologies such as lighting, controls, and heat pumps, aligned with falling costs of these and many other efficiency technologies. The EEAC recognizes that increasing customer awareness and reaching historically underserved sectors can result in additional acquisition and administrative costs. We cannot ignore any demand-side opportunities for cost-effective energy efficiency at a time when other energy sources are constrained and the Commonwealth is contemplating considerable infrastructure investments that will impact ratepayers for decades to come.

Finally, the EEAC has prepared detailed comments regarding the PAs' responses to the informed recommendations that we provided in our March 31st resolution. Those more specific comments are included below in Section II. The specific program design comments in Section II may not represent the opinion of each Councilor, but on the whole, the EEAC has determined that they should be considered and addressed in the September draft of the Plan.

² The PAs have included such detail in their past draft plans. As an example, compare the PA's action plan for Efficient Neighborhoods+ in the July 2012 draft "Projected Milestones: 1. PAs intend to define target neighborhoods and finalize initiative design (including incentive structure) by the end of Q1 2013. 2. PAs plan to test this initiative in May-August, 2013. ... 4. PAs will assess results and report to EEAC in Q1 2014" (at 37) with language describing the next stage of this moderate income offering in 2015, "Continue to seek to understand and delineate moderate income and renter markets and explore solutions for clearly defined segments. The residential customer profile study currently underway, as well as the lessons learned from Efficient Neighborhoods+ and the Renew Boston Whole Building Incentive initiatives will offer significant insight for planning." (at 53-54)

The EEAC emphasizes its appreciation for the hard work and efforts of the PAs in developing the Draft Plan and implementing the current, nation-leading and award winning programs. The EEAC recognizes that the planning process is an ongoing one, and the PAs are continually working on further refinements. and that key drivers and other data analysis and related discussions will continue to inform the EEAC's recommendations. We stand ready and willing to work with the PAs, prior to the October filing with the Department, to make improve the Draft PlansPlan and align the programs they describedetails of the best they can be.

Plan with the goals of the GCA and the Council's recommendations.

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II. EEAC Recommendations

In support of the priorities articulated above, and in order to achieve the high levels of lifetime electric and natural gas savings and demand reduction that the Green Communities Act requires, we make the following informed recommendations.- The EEAC appreciates that some of these recommendations have cost-effectiveness, budgeting, and bill impact implications that the PAs ~~will~~must consider.

Of the recommendations noted below, the [XXX] recommendations accorded highest priority by the Council are [YYYY] [specify most key priorities.]

Cross-Cutting Recommendations

- a. The PAs, in coordination with the EEAC, should develop a methodology and report accurate program penetration and participation numbers. The EEAC appreciates the difficulty of reporting on upstream programs. As such, it is appropriate for the PAs to ~~develop~~assess building-level tracking with zip-code level reporting³ for building level measures, and to report on upstream programs at a measure level by PA territory. Such assessment should be informed by any applicable orders of the Department and should be presented to the EEAC by [XXXX].
- b. The PAs should support products and practices that reduce winter and summer peak demand by taking the following actions:
 - i. Design, implement, and evaluate a demand reduction or demand response offering in each PA's service territory.
 - ii. Detail the results of the PA's-PA's' ad hoc group that is exploring demand reduction strategies, subsequent actions to be taken, and a timeline for implementation of such strategies in the September Plan.
 - iii. ~~Support~~Collaborate with the EEAC consultants in investigating the potential impact on efficiency savings from a greater emphasis on demand savings or peak demand savings, including reviewing whether recommending changes to the cost-benefit screening tools ~~are~~may be appropriate.
 - iv. [PAs would delete this section, seems better addressed in Grid Modernization.] Present to the EEAC a ~~joint-report-with EEAC consultants~~ on the impacts, opportunities and challenges of time varying rates on the energy efficiency programs, within ~~36~~ months of the Department's order approving such rates, providing an advance draft copy of such report to the consultants for their review and comment. Such report shall also include an analysis of the impact of incorporation of technologies like advanced metering in the efficiency programs, including demand response offerings and potential adverse impacts on particular customer segments, such as low-income.

³ Reporting at higher aggregations than a single zip-code may be warranted on a case-by-case basis for certain C&I measures, but the EEAC believes the default should be to provide geographic information while maintaining ~~client~~customer confidentiality.

- c. The PAs should work with DOER ~~to coordinate and participate in a working group~~ and the ~~EEAC consultants~~ to identify and address barriers associated with incentivizing renewable thermal technologies through the Mass Save programs. These discussions should include the following goals:
- i. ~~The working group shall develop~~ Develop a common definition of “renewable thermal” equipment to be considered.
 - ii. ~~Develop~~ a methodology to claim savings associated with the installation of renewable thermal equipment and fully account for savings associated with the reduction in use of the prior fuel source, where appropriate and supported by applicable law and regulations, providing that including that prior use is reflective of the baseline condition that should be considered in the analysis.
 - iii. ~~The PAs should provide rebates and~~ Provide incentives for renewable thermal technologies, where deemed appropriate and cost-effective at the program level pursuant to the above methodology, not later than Q3 2016 in a mutually agreed upon timeframe.
 - iv. ~~The PAs should continue to coordinate~~ Continue to support coordination with the Massachusetts Clean Energy Center and DOER to provide information to customers and promote coordinated rebates and incentives for renewable thermal technologies, or empower the PAs to provide more offerings with the funding to do so.

C&I Recommendations

[General PA comment – much detail in many of these recommendations, and prioritization will be appreciated.]

A. Segment Specific Approaches

The Draft Plan includes several examples of existing segment-specific approaches, and it is clear that this is an important part of the PAs’ C&I strategies.

- a. The PAs should provide more specifics about segment-specific approaches in the Plan, including:
 - i. Which segments will be and are being served with segment-specific approaches, and timeframes and strategies for introducing new approaches.
 - ii. The PA’s forthcoming on-line application and ~~energy conservation measure~~ portal use of customer portals.
 - iii. How the PAs are leveraging industry, professional and Councilor associations and networks.
 - iv. More details and timeframes on staff and vendor training to better communicate the value proposition of energy efficiency with customers.
 - v. How the PAs are addressing demand and peak load reduction through segment-specific approaches.
 - vi. How the PAs are addressing the topic of statewide consistency and best practice sharing for segment-specific approaches.

- vii. More information about targeted communication materials for sectors as well as improvements to the Mass Save website to provides these materials
- b. The EEAC would like the PAs to regularly report on progress and innovations in how the PAs are implementing segment specific approaches. The PAs should propose a format and schedule for these less formal updates in the Plan, ensuring adequate time for presentation and recommending frameworks that are administratively efficient and convenient.
- c. *Healthcare* - The PAs shall provide information about how recommendations from the ~~joint~~ PA/EEAC Consultant Healthcare Best Practices study will be implemented, including commitments specific timelines for adoption and discussion of where and why certain recommendations are not adopted.
- d. *Mid-Size Customers* - The PAs shall provide a timeline, and details ~~and budget~~ for new mid-size customer strategies.
- e. *Non-Profits* – The PAs shall provide a timeline, and details of strategic outreach, ~~and budget~~ for serving non-profits beyond what is included in the Draft Plan.
- f. *Commercial Real Estate (CRE)* - The CRE sections were not included in the Draft PA Plan. The EEAC requests that the PAs provide this section of the Plan, informed by the findings of the CRE Working Group in an interim update, before August 1st, if not sooner. [PAs request that this be done in September draft.]
 - i. This interim update should include the following information:
 1. Plans for evaluating submetering for the CRE sector, whether it will be considered as part of PA offering, and by when that determination will be made.
 2. An evaluation of all recommendations for CRE from the EEAC’s March resolution, and a specific response to each.

B. Continuous Technology Improvement

The PAs did not propose any new pilot programs, as the EEAC recommended in March, but note they will continue to foster innovation and will undertake a “consolidated research and development (‘R&D’) effort to (a) support the work of the MTAC, and (b) pursue technologies of interest in order to remain at the top of the ‘innovation curve.’” However, there is little detail on how this work will be undertaken. New for the Draft Plan is the PA inclusion of a budget line item for “C&I R&D and Demonstration”. The Plan should include the following information:

- a. More details about the scope and operation of R&D projects, especially as it relates to areas the EEAC recommended (“...products that reflect rapid innovations in the marketplace, are of high customer interest, and/or have dependence on the customer for persistent savings...”) This will include work performed at the MTAC and PA innovations outside the MTAC.
- b. Mechanisms to advance innovation (joint PA/EEAC effort) e.g. through demonstration projects.
- c. Regular updates to the EEAC on emerging technology/process/approach research. The PAs should propose a format and schedule for these less formal updates in Plan.

C. C&I Reporting

The PA Draft Plan has included more initiatives in the C&I programs, largely in line with the Council recommendations. These initiatives will have their own goals and budgets associated with them and will be part of the regular PA tracking data, with reporting at reasonable intervals. [Monthly sub-initiative reporting would be expensive and administratively burdensome.] The PA's should include the following information in the Plan:

- a. Establish CHP goalstrategy (not necessarily as a separate initiative in C&I Retrofit) and track/report on this CHP-specific goalstrategy as part of the PAs annual reports to the EEAC/DPU.
- b. Consider adding an Upstream Products break-out for New Construction that includes products beyond lighting, such as water heaters.
- c. Continue to report annually on C&I segment-specific approaches (e.g. CRE, healthcare, mid-size, industrial, etc.), leveraging on EMV work, such as the C&I customer report.
- d. IncreaseUpdate goals for LED lighting, and C&I Retrofit in accordance with the results of the key driver analysis.

D. C&I Updates

The PAs deliver significant energy savings and benefits through the programs through their hard work and innovation and updates from the PAs help inform the EEAC of these efforts and innovations. In the March 2015 resolution, the EEAC asked for regular PA updates on a number of topics. For some topics, like the CHP potential analysis, these requests will require formal reports. Other areas, like the updates on sector-specific approaches or small business program innovations, will not necessarily require regular formal written reports. The EEAC would like to see the PAs commit to a less formal reporting method to keep the Council informed of these and other efforts through means such as presentations to the EEAC or periodic (quarterly) PA C&I webinars. The PAs should propose a format and schedule for these updates in the Plan. The Council thinks these less formal program updates will keep the Council better informed, while also providing checkpoints for the PAs to share program success.

E. Retro-Commissioning, Building Controls, and Sub-metering

The Draft Plan notes the PAs will align the PAs' RetrocommissioningRetro commissioning programs with the recommendations from the "RetrocommissioningRetro commissioning Best Practices Study" completed by the PAs and the EEAC Consultants. The Council understands that the PAs currently do undertake retro-commissioning work and requests better understanding of the PA's position that retro-commissioning tends to be narrowly applicable and often comparatively more expensive than other C&I efforts. Existing building operator training programs are discussed, but no new training program proposed. No discussion of benchmarking, in the context of commissioning, or legacy controls replacements is included in the Plan. The PAs should include the following information in the Plan:

- a. Address issues of persistence of savings from Retroretro-commissioning projects. Monitoring based commissioning canmay increase and ensure persistence of savings and should be further explored and demonstrated.

- b. How legacy controls will be addressed in the PA's retrofit and ~~Retro~~retro-commissioning programs.
- c. How the use of benchmarking, sub-metering and pre/post metering will be integrated into programs.
- d. A strategy to expand building operator training programs, beyond traditional Building Operator Certification (BOC) offerings and what is included in the Draft Plan, including soliciting input from customers.
- e. Program enhancements that the PAs are adopting from the RCx Best Practices Study should include commitments and specific timelines for adoption.
- f. Commit to increasing the availability of qualified RCx providers.

F. Behavioral and Engagement

The PAs note that they engage in Strategic Energy Management (SEM) in the context of existing programs, and will consider expanding SEM offerings by engaging with early SEM adopters in the Pacific Northwest. The Draft Plan contains little about behavioral programs, and does not commit to deliver reports on either SEM or behavioral programs as requested by the Council.

~~The~~Understanding the PA's view that these efforts have more narrow applicability and comparatively higher costs than other C&I efforts, the PAs should include the following information in the Plan:

- a. Assess cost effectiveness of SEM projects in line with EEAC March Resolution.
- b. If cost effective, develop and evaluate a SEM demonstration project.
- c. More details on behavior approaches (outside of MOUs) and how/if savings are claimed from customer behavior changes.
- d. More detail on load control and methods for how the PAs could engage customers on demand response.
- e. An evaluation of using the CEE Minimum Elements document as a reference when discussing SEM programs, in order to ensure a common understanding of what is included.

G. Small Business

The PAs have mature Small Business programs, and the commitment to these programs is clear from the PA Draft Plan. The PAs address a number of Council recommendations including realizing deeper savings, expanding gas measures, and expanded sector-specific approaches. The PAs intend to make program enhancements through a series of incremental improvements. Using building analytics is under consideration by the PAs for certain sectors and web-based customer engagement portals will be implemented by the PAs. [To confirm.] The PAs should include the following information in the Plan:

- a. Specific commitments to continuously review possible program enhancements for the Small Business program, ~~and a timeline for these enhancements~~. Some of the enhancements noted by the EEAC include expanding offerings for gas measures, more comprehensive marketing/outreach/awareness programs, and more customized approaches for Small Business customers (by size and segment) .

- b. A timeline for evaluating potential and cost effectiveness of building analytics and portals for small business customers (EEAC Councilors discussed Q3 2016).
- c. An action plan for using the data collected by online portals to analyze and benchmark energy use to effectively target small businesses, including timelines.

H. Combined Heat and Power

The PA Commitment to CHP is clear, and the PAs largely incorporated the Council's recommendations. The PAs should include the following information in the Plan:

- a. A firm commitment to complete the CHP potential report and implement findings including:
 - i. Deliverable dates for best practices review and potential study (EEAC suggested end of 2016)
 - ii. Specific mention of pre-packaged and third party CHP options
- b. A clear CHP goal strategy and a schedule for annual reporting on the progress toward the three-year goal under this strategy, even if not as a separate initiative outside of C&I Retrofit.
- c. Higher goals for CHP, in accordance with the results of the key driver analysis.

I. LED Streetlights

LED Streetlights represent a significant source of savings in the Commonwealth. The Draft Plan notes success with streetlight retrofits by Cape Light Compact and other PAs. However the Draft Plan does not commit to any innovations around streetlights, or to the EEAC-requested goal of retrofitting the majority of utility owned streetlights and all municipal owned streetlights by 2018. The PAs should include the following information in the Plan:

- a. An action plan for stimulating rapid conversion for municipally-owned street lights; for example:
 - i. Cape Light Compact managed a joint conversion process for all of its municipalities, providing technical assistance and project management through the entire process, which we understand in most instances spanned 2-3 years from start to finish.
 - ii. Upstream or bulk purchase pricing for municipalities.
- b. A strategy and timeline to retrofit majority of utility-owned street lights to LEDs within this Plan's timeframe (including a timeframe and commitment for filing of an appropriate tariff for utility owned LED streetlights at the DPU). The EEAC will work to support such tariff at the DPU, to aid in removing this barrier for the PAs.
- c. Higher savings goals attributable to LED streetlights in accordance with the results of the key driver analysis.

J. Net Zero Energy Ready Buildings

In the Draft Plan, the PAs propose to establish a basis of technical knowledge and expertise, and framework for program support for Net Zero ready buildings, while continuing to support ZNE development through the New Construction program's currently available Whole Building Approach. However there is no timeline or commitment to implement a ZNEB program. The PAs

should commit to assessing a ZNE ready building tier and include a timeline for a new construction offering in the Plan.

K. Delivered Fuels and Thermal Efficiency

There is no mention of the PAs' marketing comprehensive assessments to non-gas C&I customers. The PAs should include the following information in the Plan:

- a. A strategic plan for marketing, in-print, online, and in-person, a non-gas customers' ability to self-fund the thermal portion of a comprehensive energy assessment using a PA auditor.
- b. A timeline for assessing any barriers or limitations, including statutory barriers, to implementing, and a commitment to work with EEAC to seek ways to address.

Residential Recommendations

A. New Initiatives

Moderate Income Initiative

The EEAC supports the Draft Plan proposal to develop a new moderate income offering within the HES core initiative, and the PAs' proposal to initially focus on households earning 61-80% of state median income (SMI). This initial offering should be expanded into an initiative to attract new participants to the HES and multi-family retrofit programs, as well as support follow-through of existing customers with deeper savings opportunities. Therefore, the Plan should include:

- a. ~~Detail~~ A description of any "soft rollout" strategies to be deployed and a timeline therefor, and detail on the proposed scope of measures, program marketing plan how lessons learned from such a rollout would be incorporated into more detailed plans, including plans to leverage partnerships with community groups that provide strategic outreach capabilities and cost efficiencies, and the possible points of entry and qualification for eligible customers.
- b. Detail and context about the customers in this income range, including number and proportion of residential customers in the 61-80% SMI in each PA territory and the number of those customers that the PAs expect to serve.
- c. Commitment to provide and incorporate, as appropriate, lessons learned from the Efficient Neighborhoods +[®] (EN+) evaluation and other pilots, demonstrations, or applicable programs by Q1 2016.
- d. Commitment to assessing the potential for serving customers at 81-100% and 101-120% of state median income as part of the moderate income offering by Q2 2017-, along with potential and benefits of such expansion.

Renter-Specific Initiative

The EEAC supports the PAs' inclusion of a renter-specific initiative in the Draft Plan, as it recognizes a large and relatively underserved customer base. In order for the EEAC to fully comment and understand this initiative, the PAs should include the following clarifying details in the Plan:

- a. The implementation strategy and schedule for the renter-specific offering, providing dates and milestones, including the timing in 2016 that the offering will be available to qualified

HES and multi-family customers. The PAs should provide details on program marketing, including plans to leverage partnerships with community groups.

- b. The PAs' proposed landlord engagement strategy to ensure immediate benefits to renters, but also have a distinct plan for securing landlord buy-in and follow-through with whole-house/building measures.
- c. The savings measures that will be offered to renters and how those differ from the measures currently provided under the HES and multi-family retrofit initiatives.

B. Whole House Program [concern with granular level of recommendations in this area]

The Council recognizes and has prioritized the need for deeper and diversified savings in the Whole House Program, something which was not fully addressed in the Draft Plan. The EEAC supports the PAs' plan to conduct an extensive review of the customer experience through HES to identify opportunities for increased streamlining, simplifying, and better targeting to maximize opportunities to influence customers to take action and pursue deeper savings. The Plan should include:

- a. A commitment to household-level tracking of all non-upstream measures, where technically feasible.
 - i. Include a proposal, with dates and milestones, date and plan for delivering an assessment of the benefits and challenges of a system for linking rebates and incentives provided to the same household across programs and PAs, together with a plan for reporting this whole house coordinated information at a zip-code level.
- b. Identified dates for the completion of the extensive review of HES program, a plan for implementation of identified opportunities, and a report back to Council, consistent with planned EMV work.
- c. Details, dates, and milestones regarding improvement of the integrated "one-stop shop" customer experience, including providing customers with both Mass Save and non-Mass Save incentive/rebate information, regardless of heating fuel source, in line with the RCS regulations, and contemplated amendments to those regulations.
- d. Commitment to collaborating with DOER and the EEAC consultants to identify implementation stepson a report that identifies actions needed to provide customers with an asset-based "home energy scorecard" including cost estimates for each step, as well as, integration/administrative costs/HES service provider (e.g., HPC) acceptance and an assessment the pros and cons of such an offering.
- e. Strategies (including continuation of existing strategies) tailored to specific customer groups or segments, such as targeted approaches, technical assistance, or offerings (e.g. homes going remodeling work, high energy users, and customers using electric resistance heat).
- f. A description of efforts to ensure equitable treatment of Home Performance Contractors (HPCs) compared to lead vendors, including 3rd party quality control inspections and regular opportunities to engage and present to the Residential Management Committee (RMC).

C. HEAT Loans and Financing

The Council appreciates the success of the HEAT Loan program to date. The Draft Plan proposes no changes to the HEAT loan or other financing initiatives, which Councilors supported at the residential workshop on June 4, 2015. In the Plan, the PAs should include:

- ~~a. Strategy, dates, and milestones plans to assess~~ conduct a formal evaluation assessing how moderate income customers are currently served and whether they could be better served by the HEAT Loan program, including through a loan loss reserve-
- ~~a. A, taking into account actual experience to date~~ by which, possible expense and the economic vulnerability of some customers.
- b. A timeline for the PAs ~~will finalize~~ to consider and adopt additional measures to be financed through the HEAT loan, ~~including those currently funded through DOER's Expanded HEAT Loan Program.~~

D. Multifamily Retrofit

The EEAC understands the complexity of the multifamily sector, including the dual residential-commercial meters that may serve them, and the diversity of building types, ownership entities, and resident profiles. The Council is supportive of improving the customer experience through the PAs' proposed single point of contact for multifamily projects. The PA C&I team should be engaged in refinements to the multi-family program. In the Plan, the PAs should:

- a. Provide detail on the PAs' proposed single point of contact and commit to assessing what changes are necessary to integrate commercial and residential rate codes into a whole building approach.
- b. Commit to developing and providing targeted offerings to different segments of the multifamily building market.
- c. Provide plans for improving the integration of efficiency into refinancing events, such as through a proposed partnership with the state's housing finance agencies.
- ~~d. Commit to providing multi-family customers with user-friendly benchmarking tools to track unit-level energy usage and compare against peers.~~
- d. Provide enhanced support for benchmarking by including a plan to develop and implement a benchmarking initiatives, or for support of benchmarking activities conducted by other agencies.
- e. Implement a pay-for-performance demonstration program.

E. Behavior

The PAs mention positive additions to behavior programs under consideration in the Draft Plan, including home automation, (perhaps in a different initiative), near real-time feedback, smart appliances, and controls. In addition to these enhancements, the PAs should:

- a. Commit to expand behavior program participation, where practicable, and include dates and milestones to implement expansions. For any PA not implementing behavior programs, document why these measures are not cost-effective.

F. New Construction

The Draft Plan does not address the initial Council recommendations on New Construction. The

Council ~~supports~~supports the Draft Plan's inclusion of marketing and education efforts around zero net energy (ZNE) homes. The EEAC recognizes that the introduction of a renewable ready requirement, as well as, a ZNE incentive will necessarily increase costs, but does not allow for PAs to claim additional savings. It is also recognized that this requirement may negatively impact/reduce participation from builders currently participating in the New Construction initiative. In the Plan, the PAs should:

- ~~a. By Q4 2016, commit to working with the EEAC consultants to explore how to claim savings for renewable energy systems in the cost/benefit analysis.~~
- ~~b. Add a performance path for multi-family housing.~~
- ~~c. Implement a renewable-ready requirement in the highest two performance tiers and the top prescriptive tier.~~
- ~~d. By Q4 2016, commit to working with the EEAC consultants to~~ assess the impact of creating a ZNE incentive top performance tier and report findings to the Council. Use~~After~~ collaboration and discussion with the EEAC consultants, use findings to inform possible implementation of a ZNE top performance tier.

G. Renewable Thermal

~~The Draft Plan does not explicitly address the growing market for renewable thermal technologies, though it does reference the expected updates to the RCS regulations that allow fuel switching away from pre-existing heating fuels.~~

- ~~a. The PAs should actively collaborate with DOER on the development and implementation of RCS guidelines, and update and maintain the cost-benefit screening tools for renewable thermal technologies by Q4 2016.~~

[Note – renewable thermal already addressed above.]

H.G. Products Program

Lighting

The EEAC supports the commitment in the Draft Plan to phasing out incentives for specialty CFLs by 2016. However, the Draft Plan does not fully address the Council's recommendations on LEDs and appears to use inconsistent and overly conservative volume and cost projections for 2016-2018. In the Plan, where appropriate based upon key-drivers discussions, the PAs should:

- a. Increase savings projections to reflect a growing market share of LEDs and increasing sales volumes for retail lighting.
- b. Commit to quarterly reporting to the EEAC on progress of LEDs during Plan implementation.

Heating and Hot Water

The PAs did not propose residential upstream incentives for ~~hot~~ water heaters in the Draft Plan, although this is being implemented for C&I customers. The Council recognizes that the PAs need to understand the market potential for this incentive and the effects of implementing an upstream program on savings. The Council also recognizes that the current cost effectiveness of such technology is minimal and that an upstream model resulting in higher free ridership rates may result in an inability for PAs to provide any rebates/incentives for these measures. In the Plan, The PAs should:

- a. Include an assessment of implementing upstream incentives for residential tankless water heaters and other potential HVAC measures and report back to the Council by Q3 2016.

Low-Income Recommendations

The EEAC acknowledges the establishment of the income guideline for Low Income programs at 60% of state median income (SMI) in the Green Communities Act, and the PAs' inclusion of a moderate income offering within the residential Whole House programs, in the Draft Plan. The Council recognizes the need for flexibility in programs that serve buildings with high tenant turnover or families living on the margin of eligibility in the Low Income programs. In addition, the Council recognizes the variety of organizations that hold nonprofit status, and that some of those organizations own buildings that serve low income populations and may have opportunities for energy savings. The Plan should commit to:

- a. Explore ways to flexibly serve low-income multi-family buildings with at least 50% of residents earning up to 80% SMI.
- b. Explore alternative incentives or service approaches for non-profit organizations that primarily serve low income customers, noting that a number of such organizations are C&I customers requiring coordination with C&I efforts.