

Massachusetts Energy Efficiency Advisory Council

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

Draft Resolution ~~for EEAC Comment July 8, 2015~~

Council comments due to Executive Committee by July 7th at 5:00pm

Email comments to Maggie.McCarey@state.ma.us

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~~ years of the current 2013-2015 Plan, in particular surpassing the 2014 Plan savings goals on a state-wide level. ~~We look~~ The Council looks forward to building on that success by ~~learning from our~~ leveraging the collective experiences and ~~sustaining our~~ shared commitment to design and deliver ~~the best~~ programs possible to achieve all available, cost-effective energy efficiency savings consistent with the GCA goals. The EEAC also recognizes and appreciates the significant hard work that the PAs have put into the development of the Draft Plan, and ~~applaud~~ encourage the continuing cooperation among PAs, the EEAC and its consultants, and interested 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 notes and~~ appreciates the PAs willingness PAs’ contributions to engage fully in these workshops, ~~and thinks they were a helpful exercise. While the EEAC appreciates the input of these many parties, this Resolution is necessarily the consensus position of the voting councilors.~~

~~We look~~ The Council looks forward to continuing collaboration and the exchange of information ~~between among~~ the PAs, the EEAC and its consultants, and interested stakeholders throughout the summer and fall. It is ~~our~~ the EEAC’s expectation that the PAs, ~~working alongside will work with~~ the EEAC, and its consultants ~~and others will to~~ continue to refine and improve the Draft Plan, through timely interim updates on program design that respond to this resolution, ~~and with~~ a revised draft Revised Plan to the Council no later than September 1st 8th, leading ~~up to the filing of~~ a Final Plan with the Department in October. ~~In this spirit of collaboration, we provide~~ the Council provides the

following ~~specific~~ comments on the Draft Plan as the next step in its role in shaping the 2016-2018 Final Plan.

A. Savings Goals and Program Costs

The EEAC's first ~~and highest~~ priority in evaluating the Draft Plan is to consider the level of targeted lifetime savings and benefits achieved by the programs. ~~As the~~The EEAC resolved on March ~~31st~~31, 2015, ~~that~~ 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 Draft Plan falls short of both ~~the objective~~objectives: to build on the programs' prior savings and benefits achievement and ~~the objective~~ to meet the GCA's mandate to achieve all available cost-effective energy efficiency. The ~~PA-PAs'~~ proposed savings goals for gas and electric in the Draft Plan are too low ~~for both gas and electric, and are below the level of current achieved savings. Consistent with the GCA, the PAs must take advantage of all cost-effective innovations on the demand side, especially at a time when other energy sources are constrained.~~

The EEAC sees many indications that the PAs can ~~and should~~ pursue and achieve additional energy savings and benefits, beyond those reflected in the Draft Plan. Among ~~these~~the more significant indications 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 megawatt hours (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);
- The EEAC Consultants' March 10th Assessment of Potential for energy efficiency savings (3% of annual sales for electric and 1.5% for gas);
- The EEAC Consultants' April 30th recommendation on savings goals (on average, across the 3 years, of the 2016-2108 Plan) of 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, with 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 line with the Massachusetts Clean Energy and Climate Plan for 2020; and
- The robust benefit/cost ratios for the electric programs in the PAs' Draft Plan (2.38 overall and increasing across the three years).

Given the differences in savings goals and program costs between the Council's consultants and the Draft Plan, it is clear that some of the planning assumptions made by the PAs in the Draft Plan are not consistent with differ from those assumptions made by the EEAC consultants in their April 30th recommendation. The EEAC appreciates the collaborative effort that the PAs and Consultants have ~~put into~~expended in recent weeks exploring the main assumptions that account for these differences ~~in recent weeks~~, and expects that the results of this "key drivers" process analysis will be reported to the EEAC for ~~our~~ consideration at ~~the~~its August EEAC meeting.

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, ~~this indicates~~ the PAs’ most recent results indicate that the steep increase in levels of program costs in the Draft ~~Plans~~Plan is not merited, without a commensurate increase in savings. Where budget increases are proposed above 2014 actual levels, the EEAC ~~expects to see~~requires a detailed and reasonable justification of any higher costs in the ~~Draft~~Revised Plan, ~~clearly~~with factual support linked to program redesign, specific baseline changes, new initiatives, deeper savings, ~~or~~ incorporation of the EEAC’s informed recommendations, ~~or other rationale(s)~~.

The EEAC expects that the ~~September revision of the~~Revised Plan will provide significantly higher savings goals at similar or lower program costs, ~~and while~~ clearly ~~demonstrated~~demonstrating that the PAs seek to achieve all available cost-effective energy efficiency, consistent with GCA. The EEAC ~~requests~~requires 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. If any PAs propose ~~for any year within 2016-2018 reducing goals~~ below 2014 evaluated levels of lifetime savings in ~~kWh, BTUs or MWh, therms, gallons of oil, or British thermal units (BTUs) of propane~~ achieved by any sector, ~~please provide for any year within 2016-2018, the Revised Plan must include~~ detailed and specific relevant data that informed the decision to reduce the savings goal, including any independent market assessments of achievable savings goals.

B. Other EEAC Priorities

The EEAC reiterates its ~~high-level prioritization~~priority of continuous improvement in lifetime savings, benefits, and customer experience for the 2016-2018 ~~Plans, as~~Plan expressed in ~~its~~the March ~~31st~~31, 2015 Resolution. ~~The~~ In refining the plan, the EEAC encourages the PAs to maintain an emphasis on prioritizing lifetime savings and benefits, ~~and integrating the~~. The Council further supports greater integration of gas and electric programs, ~~while closely examining whether~~ and additional winter and summer peak demand savings ~~can be identified to increase benefits, in refinements to the Plan~~. Although there are line items in the EEAC reviewed term sheet template for summer and winter electric demand savings in the EEAC reviewed term sheet template, the EEAC ~~did~~does not see much emphasis in the Draft Plan on demand reduction ~~in the Draft Plans~~. ~~We encourage~~. The Council encourages additional prioritization of efforts that will to realize electric demand savings.

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

The EEAC thinks the Mass Save Data website ~~to be~~is a useful tool and greatly appreciates the PAs’ continual improvement to this website. However, ~~it is not~~the Council continues to request a

comprehensive statewide database with sufficiently granular inputs and [this website](#) should not be framed as such. Instead, the ~~Draft~~[Revised](#) Plan should more accurately reference the status of the EEAC stakeholder process, ~~building on~~[including](#) the Department's December 2014 decision. A comprehensive database ~~will significantly~~[is still seen by the Council as a significant](#) aid in: identifying untapped opportunities for savings, ~~enable~~[enabling](#) better comparisons between PAs and ~~incorporation of~~[incorporating](#) best practices across territories, ~~streamlining~~ and ~~address~~[reducing costs of EM&V, and addressing](#) many of the EEAC's requests for additional reporting.

Finally, ~~we recognize~~[the EEAC recognizes](#) that performance incentives are an integral part of the planning process and of program implementation. ~~We do~~[The Council does](#) not provide any comments on the performance incentives proposed in the Draft Plan at this stage. 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.

C. Major Overarching Comments

The Draft Plan describes in detail the existing programs already established and underway, but provides little specificity regarding changes or enhancements [proposed by](#) the PAs ~~propose to these programs~~ for 2016-2018. The EEAC requires that the [Revised](#) Plan include additional detail and clarity regarding ~~what is~~[the program elements](#) being newly introduced ~~infor~~ the 2016-2018 timeframe, ~~what is~~[elements](#) being continued from previous years, and ~~what is being continued~~[elements the PAs propose to continue](#) with specific improvements. ~~We expect to see~~[The Council expects additional](#) details [in any Revised Plan](#) including implementation strategies, budgets, and timelines for all ~~of the~~[substantial](#) changes the PAs plan to introduce ~~relative to the 2013-2015 Plan~~.

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.¹ 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 requests dates, milestones, and additional detail for all changes to programs and initiatives [be included](#) in the [Revised](#) Plan.

The EEAC encourages more innovation [by the PAs](#) through pilots and/or demonstration projects, and programmatic changes, ~~and~~. [The Council](#) urges the PAs to take advantage of ~~more~~ opportunities to

¹ 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)

introduce new approaches ~~and to~~ advance the energy efficiency market further. In particular, the PAs have the opportunity to ~~help drive the continue driving the light emitting diode (LED lighting) market and the related phase-out of compact fluorescent lightbulbs (CFLs),~~ rather than ~~merely capitalize on it, simply reacting to current market trends~~ as described in the Draft Plan.

The EEAC recognizes that lighting baselines and certain building code provisions are changing in the coming years. ~~that affect the level of claimed savings.~~ However, the EEAC remains confident that the PAs can deliver ~~new and improved~~ programs that continue to grow 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 decreasing capital and installation~~ costs of these and ~~many other efficiency~~ technologies. ~~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 the Council~~ provided in ~~our~~its March ~~31st~~31, 2015 resolution. ~~Those~~The Council's more specific comments are included below in Section II.

The EEAC ~~re-~~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. ~~We stand~~The Council is ready and willing to work with the PAs, prior to the October filing with the Department, to ~~make improve~~ the Draft ~~Plans~~Plan and ~~align~~ the ~~programs they described~~details of the ~~best they can be~~Revised and Final Plan with the GCA and the Council comments and recommendations.

II. EEAC Recommendations

In support of the priorities articulated above, and in order to achieve the high levels of benefits, lifetime electric and natural gas savings ~~that, and demand reduction consistent with the Green Communities Act requires, we make~~ GCA, the Council makes the following ~~informed~~ recommendations. The EEAC appreciates that some of these recommendations have cost-effectiveness, budgeting, and bill impact implications that the PAs will consider ~~alongside benefits. At the same time the EEAC thinks that the Revised Plan must innovate in order to set the stage for future plans where lighting is expected to contribute a lower percentage of overall savings and benefits.~~

Cross-Cutting Recommendations

- a. The PAs, in coordination with the EEAC, should develop a methodology ~~and report for reporting~~ reporting accurate program penetration and participation numbers that will be reported regularly to the EEAC. The EEAC appreciates the difficulty of reporting on upstream programs. As such, it is appropriate for the PAs to develop building-level tracking with zip-code level reporting² for building level measures, and to report on upstream programs at a measure level by PA territory.
- 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'~~ PAs' ad hoc group that is exploring demand reduction strategies, including a description of subsequent actions to be taken, and a timeline for implementation of such strategies in the ~~September~~ Revised Plan.
 - iii. ~~Support~~ Collaborate with the EEAC consultants in investigating the potential impact on efficiency savings from a greater emphasis in program design on demand savings or peak demand savings, including reviewing whether changes to the cost-benefit screening tools are appropriate.
~~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 3 months of the Department's order approving such rates. Such report shall also include an analysis 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.~~
- ~~d.c.~~ The PAs should work with the Department of Energy Resources (DOER to coordinate and participate in a working group to) to identify and address barriers associated with incentivizing appropriate incentives in the Mass Save programs for renewable thermal technologies ~~through the Mass Save programs~~.
 - i. ~~The working group~~ DOER and the PAs shall jointly develop a methodology to claim savings associated with the installation of renewable thermal equipment and fully

² 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 default should be to provide geographic information while maintaining client confidentiality.

account for savings where appropriate associated with the reduction in use of the prior fuel source, ~~where appropriate~~.

- ii. The PAs should provide rebates and incentives for renewable thermal technologies, where deemed appropriate and cost-effective at the programsector level pursuant to the above methodology, not later than Q3 2016.
- iii. The PAs should continue to coordinate with the Massachusetts Clean Energy Center and DOER to provide information to customers and promote coordinated rebates and incentives for renewable thermal technologies.

C&I Commercial and Industrial (C&I) Recommendations

A. Segment Specific Approaches

The Draft Plan includes several examples of existing segment-specific approaches such as coordination with municipalities, and it is clear that ~~this is~~ these are an important part of the PAs' C&I strategies.

- a. The PAs should provide more specifics about segment-specific approaches in the Revised Plan, including:
 - i. Which segments will be and are being served with segment-specific approaches, and the timeframes and strategies for introducing new approaches.
 - ii. The PA's/PAs' forthcoming on-line application and energy conservation measure portal.
 - 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 with customers the value proposition of energy efficiency ~~with customers~~, address concerns, and stimulate interest in moving forward with recommendations.
 - 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~~ provide these materials
- b. The EEAC ~~would like~~ requests that 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 in the Revised Plan for these less formal updates ~~in the Plan~~.
- 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.
- 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~~ develop a CRE section of the Plan, informed by the findings of the CRE Working Group ~~in an interim update,~~ before August 1st, if not sooner.
- i. This ~~interim update~~ section should include the following information:
1. Plans for evaluating ~~submeterings~~ sub-metering for the CRE sector, whether it will be considered as part of ~~PA offering~~ PAs' offerings, and by when that determination and/or implementation 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 in the Draft Plan any pilot programs, as the EEAC recommended in March, but note they will undertake a "consolidated research and development ('R&D') effort to (a) support the work of the ~~MTAC,~~ Massachusetts Technology Assessment Committee (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 Revised Plan should include ~~the following information:~~

- a. More details about the scope and operation of R&D projects, This will include work performed at the MTAC and PA innovations outside the MTAC.
- ~~a-b.~~ Commitment to implement demonstration projects that advance innovation, 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.~~ R&D and demonstration projects. The PAs should propose a format and schedule for these less formal updates in the Revised 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. The ~~PA's~~ PAs should include the following information in the Revised Plan:

- a. Establish a three-year Combined Heat and Power (CHP) goal (not necessarily as a separate initiative in C&I Retrofit) and track/report on this CHP-specific goal as part of the ~~PAs~~ PAs' annual reports to the EEAC/~~DPU~~ Department.
- 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.).
- d. Increase goals for LED lighting, and C&I Retrofit in accordance with the results of the key driverdrivers analysis.
- e. Semi-annual reporting to the EEAC on LED streetlight conversions.

D. C&I Updates

The PAs deliver significant energy savings and benefits through the programs through ~~their~~ hard work and innovation ~~and updates.~~ Updates from the PAs help inform the EEAC of these efforts and innovations. In the March 31, 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 to 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 Revised Plan. The Council thinks these less formal program updates will ~~keep the Council better informed, while also~~ providingprovide 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' ~~Retrocommissioning~~ retro-commissioning (RCx) programs with the recommendations from the "RetrocommissioningRetro-commissioning Best Practices Study" completed by the PAs and the EEAC Consultants. Existing building operator training programs are discussed, but no new training ~~program~~ programs are proposed. ~~No discussion of The Draft Plan does not address~~ benchmarking, in the context of commissioning, or legacy controls ~~replacements is included in.~~ In the Revised Plan. ~~The, the~~ PAs should ~~include the following information in the Plan:~~

- a. Address issues of persistence of savings from ~~Retro-commissioning~~ RCx projects. Monitoring ~~-based~~ commissioning can increase and ensure persistence of savings and should be further explored and demonstrated.
- b. How legacy controls will be ~~addressed~~ included in the ~~PA's~~ PAs' retrofit and ~~Retro-commissioning~~ RCx programs.
- c. ~~How~~ Address how the use of benchmarking, sub-metering and pre/post metering will be integrated into programs.
- d. ~~A~~ Commit to a strategy ~~to expand~~ that expands building operator training programs, beyond ~~the Draft Plan and~~ traditional Building Operator Certification (BOC) offerings ~~and what is included in the Draft Plan,~~ including soliciting input from customers.
- e. ~~Program~~ Commit to specific program enhancements ~~that the PAs are adopting from the RCx Best Practices Study should include commitments~~ and ~~specific~~ timelines for adoption of best practices identified in the RCx Best Practices Study.
- 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~~from the Pacific Northwest. The Draft Plan contains little information about behavioral programs, and does not commit to deliver reports on either SEM or behavioral programs as requested by the Council. The PAs should include the following information in the Revised Plan:

- a. ~~Assess~~Commitment to assess cost effectiveness of SEM projects in line with the EEAC March 31, 2015 Resolution.
- ~~b. If and, if deemed~~ cost-effective, develop and evaluate an SEM demonstration project.
- ~~c. b.~~ More ~~details~~detail on behavior approaches ~~(~~outside of memoranda of understanding (MOUs) and how ~~/if and whether~~ savings are claimed from customer behavior changes.
- ~~d. c.~~ More detail on direct load control and methods for how the PAs could engage customers ~~on~~in demand response.
- ~~e. d.~~ An evaluation ofCommitment to using the Consortium for Energy Efficiency (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 Council appreciates~~ the PAs' commitment to ~~these programs is clear from~~ the PA Small Business program. The Draft Plan ~~The PAs address~~ addresses 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 and web-based customer engagement portals will be implemented by the PAs. The PAs should include the following information in the Revised Plan:

- a. Specific commitments to program enhancements for the Small Business program, and a timeline for these enhancements. Some of the enhancements ~~noted by~~ the EEAC thinks are important 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 a Q3 2016 deadline).
- c. An action plan, including timelines, 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 Revised Plan:

- a. A firm commitment to complete the CHP potential report and implement findings including:
 - i. Deliverable dates for a 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 and a schedule for annual reporting on the progress toward the three-year goal, even if this is not ~~as~~ a separate initiative outside of C&I Retrofit.
- c. Higher goals for CHP, in accordance with the results of the key driverdrivers 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 Revised 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.
 - ii. Upstream or bulk purchase pricing for municipalities.
- b. A strategy and timeline to retrofit the 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 Department). The EEAC ~~will work~~ intends to support such a tariff at the DPU Department, 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 driverdrivers analysis.

J. Net-Zero Net Energy (ZNE) 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 ZNE ready buildings. However there is no timeline or commitment to implement a Zero Net Energy Buildings (ZNEB) program. The PAs should commit to assessing a ZNE ready building tier and include a timeline for a new construction offering in the Revised 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 Revised Plan:

- a. A strategic plan for marketing, in-print, online, and in-person, a non-gas customers'customer's 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 to implementing the strategic plan, and a commitment to work with EEAC to seek ways to address any barriers/limitations.

Residential Recommendations

A. New Initiatives

Moderate Income Initiative

The EEAC supports the Draft Plan proposal to develop a new moderate income offering within the Home Energy Services (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~~developed further 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 Revised Plan should include:

- a. Detail on the proposed scope of measures, ~~and~~ program marketing plan, including plans to leverage partnerships with community groups, ~~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~~assess by Q2 2017 the potential for serving customers at 81-100% and 101-120% of state median income as part of ~~the~~ expanded moderate income offering ~~by Q2 2017~~.

Renter-Specific Initiative

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

- a. The implementation strategy and schedule for the renter-specific offering, providing dates ~~and~~ milestones, ~~including the timing and when~~ 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 with~~ 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

The Council recognizes ~~and has prioritized~~ the great 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, streamline, simplify~~ and ~~better targeting to~~ maximize opportunities to influence customers to ~~take action and~~ pursue deeper savings. The Revised 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, 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~~Dates for the completion of the extensive review of the HES program, a plan for implementation of identified opportunities, and a report back to Council.
- 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~~consistent with the proposed Residential Conservation Services (RCS) regulations.
- d. Details of the expected oil and propane savings by PA based on an analysis of their service territory.
- ~~d.e.~~ Commitment to collaborating with DOER and the EEAC consultants to identify the actions and implementation steps needed to provide customers with an asset-based “home energy scorecard””, including cost estimates for each step.
- e.f. 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~~undergoing remodeling work, high energy users, and customers using electric resistance heat).
- f.g. 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. In the Revised Plan, the PAs should include:

- a. Strategy, dates, and milestones to assess how moderate income customers are currently served and could be better served by the HEAT Loan program, including ~~through~~assessment of the cost and effectiveness of a loan loss reserve, taking due account for the economic vulnerability of some customers.
- b. A date by which the PAs will finalize 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 Revised 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 or commercial lending institutions.
- d. Commit to providing multi-family customers with user-friendly benchmarking tools to track unit-level energy usage and compare comparisons against peers.
- e. Implement a pay-for-performance demonstration program.

E. Behavior

The PAs ~~mention~~ include consideration of positive additions to behavior programs ~~under consideration~~ in the Draft Plan, including home automation, near real-time feedback, smart appliances, and controls. In addition to these enhancements, in the Revised Plan the PAs should:

- a. Commit to expand behavior program participation and include dates and milestones to implement ~~expansions. For any PA this expansion. PAs not implementing behavior programs,~~ should document why these measures are not cost-effective and why the PA is not partnering with other PAs that are implementing behavior programs.

F. New Construction

The Draft Plan does not address the initial Council recommendations on New Construction. The Council ~~support~~ supports the Draft Plan's inclusion of marketing and education efforts around zero net energy (ZNE) homes. In the Revised 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 findings to inform 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~~ references 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.

H. Products Program

Lighting

The EEAC supports the commitment in the Draft Plan to ~~phasing phase~~ 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 Revised Plan, 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. In the Revised Plan, ~~Thethe~~ 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 Revised 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.