

# JUNE 2015 C&I COUNCIL WORKSHOP #4



▶ June 9, 2015

[www.ma-eeac.org](http://www.ma-eeac.org)

# GROUND RULES



- ▶ **Participate/Weigh-In (indicate w/table tent when want to speak)**
- ▶ **But Stay on Topic**
- ▶ **Be Succinct, Share Air Time**
- ▶ **Be Respectful/Civil**
- ▶ **Minimize Electronic Distractions**
- ▶ **If Can't Support Next Steps/Recommendations, Explain Why Can't and Try to Offer Alternative**
- ▶ **Note: Facilitator May Need to Establish and Enforce Per Person Time Limits and/or other ground rules as needed**

# WORKSHOP OBJECTIVES



- ▶ **Focus discussion on Council recommendations that are not fully addressed in draft Plan**
- ▶ **Develop recommendations regarding program-related issues to include in Council's July 31 comments to the PAs on the draft Plan**
- ▶ **Provide PAs with feedback on draft plan, and have discussion with PAs about draft plan**

# KEY DRIVERS PROCESS



- ▶ **Informal discussions between Consultants and PAs to understand and close the gap between the draft Plan and the Consultants' May 12th memo to the Council**
  
- ▶ **C&I topics**
  - CHP
  - Large projects
  - C&I lighting
  - C&I Large Retrofit, electric and gas
  - Streetlights

# SEGMENT SPECIFIC APPROACHES



#	Council Resolution	PA #
6	The PAs shall continue to improve their delivery of efficiency services via C&I market segment specific approaches using the following strategies:	1
a	Provide more targeted communication materials to different market segments, explaining the benefits from, and availability of, energy savings opportunities to drive participation.	1
b	Improve of the Mass Save® website to provide these sector-specific materials, including PA-specific materials, such as marketing materials, case studies and educational opportunities.	2
c	Leverage partnerships with trade associations and other sector-specific partners to tailor efficiency program implementation to address sector-specific barriers and opportunities.	1
d	Inform the EEAC in semi-annual reports about sector specific approaches (e.g., municipal, health care, commercial real estate, education, non-profits, hospitality, mid-size and small C&I), including:	4
i	The impacts of sector specific strategies being implemented across the state.	4
ii	How the results of EM&V studies and market research are being incorporated in program design.	4

► **Reference PA Plan Page 130-131 and 134-141**

# SEGMENT SPECIFIC APPROACHES

- ▶ **The plan includes several examples of existing segmentation approaches and discussion of areas for new work. These include:**
  - Developing strategies for mid-sized customers.
  - MOU/SEMP approach for large customers
  - Continuing to work with municipalities and wastewater districts
  - Commercial real estate (TBD)
  - Working with experts to engage industrial customers
  - Commercial Non-Profit Organizations
  - National Grid working on approach to houses of worship
- ▶ **Specifics about new activities, materials and reporting are limited.**

# SEGMENT SPECIFIC APPROACHES COMMENT OPTIONS

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## ▶ **Minor**

- Commit to a minimum level of reporting to the Council including content
- Provide a timeline and details for implementation of the new mid-size C&I strategies

## ▶ **Major**

- Include specifics about new segmentation efforts
- Address issues of statewide consistency given the PA specific approach to segmentation

# COMMERCIAL REAL ESTATE

#	Council Resolution	
7	The PAs shall continue to improve the efficiency programs targeted to the commercial real estate sector through the following strategies.	1
a	Implement recommendations from Commercial Real Estate Working Group Roadmap, Massachusetts Commercial Real Estate Survey Analysis and Office Market profile report.	1
b	Expand the Sustainable Office Design program features, including streamlined review of incentives to technologies beyond lighting. Implement pre-packaged offerings to address multiple end-uses.	3
c	Use a whole building approach to target mid-size office buildings.	3
d	Leverage energy reporting and disclosure ordinances to identify commercial real estate participants and explore the use of low-cost, streamlined whole building audits to support multi-year engagements on energy efficiency with interested property managers.	3
e	Explore market transformation opportunities, including updated advanced building operator training, sub-metering, wireless controls and better financing opportunities.	3
f	Investigate the main drivers for commercial real estate energy efficiency investment opportunities.	3

► **Reference PA Plan Page 105-106, 127 and 139**



# COMMERCIAL REAL ESTATE

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- ▶ **The PAs will develop this section following the release of the CRE Working Group final report.**
- ▶ **The CRE WG report was released in May.**

# COMMERCIAL REAL ESTATE COMMENT OPTIONS



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## ▶ **Minor**

- The PAs should provide a draft of this section for EEAC review in advance of the final draft plan
- Explore all EEAC recommendations

## ▶ **Major**

- Explain how sub-metering will be included or evaluated for the CRE sector and if it will be considered for inclusion in the Sustainable Office Design or other offerings

# COMBINED HEAT & POWER

#	Council Resolution	PA #
9	The PAs shall increase the overall number of Combined Heat and Power (CHP) installations.	1
a	Provide additional education and outreach on CHP technology, including cost-effectiveness and other implementation barriers.	1
b	Deliver a report on CHP by the end of 2016 that:	1
i	Provides a statewide, bottom-up analysis of potential for custom, pre-packaged and third-party CHP projects;	3
ii	Identifies technical, policy, financial, legislative, and market barriers and potential solutions, including, but not limited to, custom, pre-packaged and third-party CHP;	3
iii	Determines the costs and feasibility of the PAs' implementing the identified solutions;	3
iv	Investigates the challenges for installing CHP systems posed by natural gas availability and volatility in fuel prices, and potential programmatic approaches to mitigating those risks; and	3
v	Assesses the interconnection challenges in area networks and how these challenges have been addressed in other cities, states or countries.	3
c	Implement cost effective CHP program enhancements according to the findings of the report.	1

## ► Reference PA Plan Page 132

# COMBINED HEAT & POWER



- ▶ **Commitment to CHP is clearly present.**
  - The plan includes a review of CHP best practices and reassessment of potential
  - The plan outlines a method to identify barriers to implementation
  - The plan commits to education and technical assistance to promote CHP
  
- ▶ **There is no firm timeline for completion and the content of the potential study is under consideration.**

# CHP COMMENT OPTIONS

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## ► **Minor**

- The plan should include specifics for the CHP statewide potential study:
  - Deliverable dates for best practices review and potential study
  - Bottom-up analysis to determine potential?
  - Specific mention of pre-packaged and third-party CHP options

## ► **Major**

- Make firm commitment to complete CHP report and implement findings

# CONTINUOUS TECHNOLOGY IMPROVEMENTS

#	Council Resolution	PA #
10	Given the importance of ongoing research and development of energy efficiency technologies, the Council recommends the PAs fully utilize all pilot funds.	1
11	The PAs shall develop a piloting or demonstration process and guidelines to facilitate and incentivize a more rapid and nimble adoption of emerging technologies, products, services, and strategies that enable energy efficiency savings. To that end, the PAs shall:	1
a	Assess products that reflect rapid innovations in the marketplace, are of high customer interest, and/or have dependence on the customer for persistent savings (not limited to: data analytics, advances in sub metering, and advanced controls). As appropriate, adopt these measures into the C&I Programs.	3
b	Examine combinations of products, services and strategies that enable energy efficiency savings or measurement of savings to assess their effectiveness.	3
c	Report to the EEAC semi-annually on program selection, design, key performance indicators, and results.	3
d	Complement the existing Massachusetts Technical Assessment Committee (MTAC). However, unlike the MTAC, the PAs will take the lead to identify and pilot these new technologies, services, and strategies.	2

► **Reference PA Plan Page 151 & 152**

# CONTINUOUS TECHNOLOGY IMPROVEMENTS

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- ▶ **The plan does not propose any pilot programs.**
- ▶ **In addition to the MTAC, “PAs propose 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.”**
- ▶ **The plan proposes a budget of \$275,000 on electric side, and \$356,000 on gas side for R&D.**

# CONTINUOUS TECHNOLOGY IMPROVEMENTS COMMENT OPTIONS

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## ▶ **Minor**

- Provide regular updates on new technology research

## ▶ **Major**

- Provide more details about the scope and operation of R&D projects.
- Explain why the use of pilot funds is not included in the plan.



# RETROCOMMISSIONING, CONTROLS & SUB-METERING

#	Council Resolution	PA #
12	The PAs shall increase participation in retro-commissioning, building controls and sub-metering initiatives by enhancing the current offerings and incentives.	1
a	Use data analytics and benchmarking processes to identify ideal retro-commissioning candidate projects.	1
b	Promote continuous commissioning projects for retrofit and new construction projects by changing incentive structure to promote program participation, offering appropriate incentives, sponsoring new technologies, and training system operators.	3
c	Where appropriate, incentivize the replacement of legacy building controls and open architecture in control systems to facilitate simpler system upgrading.	3
d	Educate customers and vendors about new technologies and education opportunities, including regularly posting webinars, case studies, and videos on the Mass Save® website.	3
e	Update and expand building operator training offerings, with input from customers, and explore the impact of combining these trainings with peer-to-peer based group learning.	3
f	Expand training to increase the number of vendors who provide retro- commissioning and building controls in the marketplace.	3

► **Reference PA Plan Page 118, 120-121**

# RCx, CONTROLS & SUB-METERING



- ▶ **The PAs report that RCx program redesign to align MA programs with the “Retro-commissioning Best Practice Study” is in progress.**
- ▶ **The plan appears to target buildings more than 30 years old for RCx.**
- ▶ **The plan includes a definition of monitoring based commissioning.**
- ▶ **No discussion of benchmarking, in the context of commissioning, or legacy controls replacements is included in the plan.**
- ▶ **Existing training programs are outlined, but no new training programs proposed.**

# RCx, CONTROLS & SUB-METERING COMMENT OPTIONS

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## ► Minor

- The plan should commit to completing specific program enhancements that they are adopting from the RCx Best Practices Study with a specific timeline.
- Commit to increasing the availability of qualified RCx providers.

## ► Major

- The plan should specifically discuss how legacy controls will be addressed.
- Include a discussion of how the use of sub-metering and pre/post metering will be integrated into programs.
- Include expanding building operator training program developed with input from customers.

# BEHAVIORAL AND ENGAGEMENT

#	Council Resolution	PA #
<b>13</b>	In recognition of the significance of C&I customer behavior on energy efficiency, the PAs shall:	4
a	Deliver a report by the end of 2016 on Strategic Energy Management (SEM)/ Continuous Energy Improvement (CEI) programs for large commercial and industrial customers that:	4
i	Researches SEM/ CEI programs to determine their applicability, cost effectiveness, and feasibility of implementation in Massachusetts;	3
ii	Evaluates the potential savings from SEM/CEI programs;	3
iii	Develops guidelines for how energy savings from SEM/CEI programs can cost-effectively be measured and verified; and	3
iv	Explores leveraging such programs for dispatchable load control.	3
b	Based on the reports, if appropriate, implement SEM/CEI with large commercial and industrial customers, including providing technical assistance to identify opportunities and/or project management support for implementation.	4

## ► PA Plan Pages 120 – 125

# BEHAVIORAL AND ENGAGEMENT CONT.

#	Council Resolution	PA #
c	Deliver a report by the end of 2016 on behavioral programs for small and mid-size commercial customers that:	4
i	Investigates successful commercial behavioral programs to determine the critical elements for success and their cost-effectiveness;	3
ii	Evaluates the potential savings from commercial behavioral programs;	3
iii	Develops guidelines for how energy savings from commercial behavioral programs can cost effectively be measured and verified; and	3
iv	Explores leveraging such programs for dispatchable load control.	3
d	Assess and, if appropriate, implement upfront incentives for building operators and owners for behavior-based and operational savings, building operator training around behavioral strategies, and support for peer-to-peer cohorts.	3

## ► PA Plan Pages 120 - 125

# BEHAVIORAL AND ENGAGEMENT

- ▶ **The plan describes Strategic Energy Management (SEM) in the context of expanding already occurring activities, including RCx, training, and behavior approaches for SEMP/MOU customers.**
- ▶ **The plan states that expansion of SEM is being considered, and that the PAs will engage with the early adopters in the Pacific Northwest to integrate their knowledge.**
- ▶ **The plan contains little detail about behavioral activities or load control.**
- ▶ **The plan does not commit to deliver reports on either SEM or behavioral programs as requested by the Council.**

# BEHAVIORAL AND ENGAGEMENT COMMENT OPTIONS

## ► Minor

- Consider using the CEE Minimum Elements document as a reference when discussing SEM programs, in order to ensure a common understanding of what is included  
[http://library.cee1.org/sites/default/files/library/11283/SEM\\_Minimum\\_Elements.pdf](http://library.cee1.org/sites/default/files/library/11283/SEM_Minimum_Elements.pdf)
- Provide more details on behavior approaches (outside of MOUs) and how/if savings are claimed from behavior changes.
- Provide more detail on load control.

## ► Major

- Commit to deliver reports on SEM and behavior as recommended by the Council.

# C&I MULTI-FAMILY: DISCUSSED AT RESIDENTIAL

#	Council Resolution	PA #
28	<b>The PAs shall increase savings from, and improve the customer experience in, the multi-family retrofit initiative:</b>	1
a	Provide weatherization incentives and HVAC and hot water equipment rebates to multi-family buildings that heat with unregulated fuels (e.g., oil or propane) to the same extent provided to gas or electric resistance-heated multi-family buildings.	1
b	By Q2 2016, for buildings that benchmark, use benchmarking to:	NA
i	Institute or demonstrate a “pay for performance” approach to retrofits using pre- and post-retrofit baselines for evaluation.	4
ii	Customize incentives to facilitate participation and deeper savings per building.	1
c	By Q2 2016, develop and implement a plan or initiative for benchmarking in the multi-family sector.	1
d-f	(next slide)	
g	By Q2 2016, implement an initiative, in partnership with housing finance institutions, to integrate efficiency work into opportunities such as refinancing or retrofitting of larger multi-family buildings.	3

## ► Reference PA Plan Page 119



# C&I MULTI-FAMILY CONTINUED: DISCUSSED AT RESIDENTIAL

#	Council Resolution	PA #
28	<b>The PAs shall increase savings from, and improve the customer experience in, the multi-family retrofit initiative:</b>	1
d	Seamlessly deliver services, rebates and incentives to the customer, regardless of whether such services, rebates or incentives are supported by the commercial or residential program.	1
i	Provide customers with a single point of contact to act as a project manager offering whole building services for both residential and commercially metered buildings, including overseeing energy efficiency installations and coordinating with the PAs and their vendors.	1
ii	For each building, link all services, rebates and incentives provided, regardless of whether such services, rebates or incentives are supported by the commercial or residential program, to provide a comprehensive view of commercially- and residentially-metered energy use and savings.	1
iii	For each building, track and report both commercially-metered energy use and savings, and residentially-metered energy use and savings.	1
e	Segment the sector (e.g. according to ownership patterns, building types, or meter configurations) and implement tailored approaches to facilitate increased participation and savings per building within such segments.	1
f	Prioritize comprehensive whole building based performance.	1

## ► Reference PA Plan Page 119

# C&I MULTI-FAMILY



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- ▶ **Outcome from Residential discussion is that the C&I team needs to be engaged because most multi-family refinance opportunities are with commercial buildings.**

# SMALL BUSINESS

#	Council Resolution	PA #
8	The PAs shall continue to improve their delivery of efficiency services to small businesses through the following strategies.	1
a	Provide deeper savings to each participating customer.	1
i	Expand the menu of prescriptive services to better advance natural gas energy efficiency opportunities and non-lighting electric measures;	1
ii	Use more comprehensive (e.g. integrated gas/electric) marketing programs for small businesses.	1
b	Increase participation in the program.	1
i	Use building analytics and benchmarking to target small business customers;	3
ii	Increase outreach and awareness programs;	1
iii	Continue to work with trade groups and associations.	1
c	Continue to customize services based upon customer size and type.	1
i	Investigate the potential for varied program implementation approaches to better serve the various strata of Small Business customers.	1
ii	Determine which implementation strategies, technologies and building diagnostic capabilities employed in other programs are transferable and effective for serving Small Business customers.	1
iii	Explore a Home Energy Services-type approach for the smallest business customers.	1

► **PA Plan Pages: 8a, c p. 126; 8b p. 129; 8c p. 130**

# SMALL BUSINESS



- ▶ **The plan addresses the Council recommendations and is considering:**
  - Ways to realize deeper savings
  - Expansion of the number of gas measures
  - Segmentation in order to reach more customers
  - New approaches such as a Home Energy Services approach for very small commercial customers
- ▶ **The plan states that any changes may be made as a series of incremental improvements**
- ▶ **The matrix states that 8.b.i “use building analytics and benchmarking...” is under consideration. The plan discusses customer engagement portals as a means to do comparisons amongst customers.**

# SMALL BUSINESS COMMENT OPTIONS

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## ► **Minor**

- Commit to making changes to the small business program by a certain date.
- Use the data collected by online portals to analyze and benchmark energy use to effectively target small businesses.

## ► **Major**

# LED STREET LIGHTS



#	Council Resolution	PA #
14	The PAs shall support LED street lighting technologies:	1
a	Retrofit the majority of utility-owned street lights with LED technology statewide by 2018 and create a plan to retrofit the remainder by 2020, or sooner if possible.	4
b	Work with municipalities to retrofit the remainder of municipally-owned street lights to LED technology by 2018.	4
c	Enable and incentivize advanced controls for LED street lights for both municipally and utility-owned street lights	3

## ► Reference PA Plan Page 143

# LED STREET LIGHTS



- ▶ **Cape Light has retrofitted 17,000 streetlights in 20 towns**
- ▶ **Eversource and National Grid have retrofitted 58,000 streetlights in 21 municipalities**
- ▶ **More than 75 municipalities (out of 351) have purchased their streetlights**
- ▶ **PAs do not commit to any LED street lighting goals**

# LED STREET LIGHTS COMMENT OPTIONS

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## ▶ **Minor**

## ▶ **Major**

- Commit to retrofit of the majority of utility-owned street lights to LEDs within this Plan's timeframe – development of an appropriate tariff is under PA control and should be assigned a deliverable date
- Deploy innovative actions to stimulate rapid conversion for municipally-owned street lights; for example:
  - Cape Light Compact managed a joint conversion process for all of its municipalities, providing technical assistance and project management through the entire process
  - Upstream or bulk purchase pricing



# UPSTREAM LIGHTING, HVAC, ETC.

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- ▶ **The plan has addressed the request to separate Upstream and End of Life Replacement from New Buildings & Major Renovations within the New Construction program.**
- ▶ **The plan includes commitments to assess, but not to include, product types in addition to lighting.**

# UPSTREAM LIGHTING, HVAC, ETC. RECOMMENDATION OPTIONS

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## ▶ **Minor**

- Consider renaming to Upstream Products to reflect the intent to include additional products

## ▶ **Major**

- Combine all upstream, both within New Construction and within Retrofit, into a separate program. Or, explain the differences.

# NEW CONSTRUCTION & NET ZERO

#	Council Resolution	PA #
17	The PAs shall assess offering a tier within the C&I New Construction initiative to enable net zero energy readiness.	3

► Pg 102-103

# NEW CONSTRUCTION & NET ZERO

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- ▶ **The plan suggests involvement could be (1) R&D and/or (2) support for demonstration projects.**
- ▶ **Goal = “establish a basis of technical knowledge and expertise, and framework for program support”**
- ▶ **There is no commitment to a completion date for establishing the framework for program support.**

# NEW CONSTRUCTION & NET ZERO COMMENT OPTIONS

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## ▶ Minor

## ▶ Major

- Commit to assessing a ZNEB tier and timeline for a new construction offering.

# C&I REPORTING

#	Council Resolution	PA #
<b>4</b>	The PAs shall report on the following as separate initiatives within the C&I New Construction Program:	1
a	Upstream	1
b	End of Life Replacement	1
c	New Construction/Major Modifications	1
<b>5</b>	The PAs shall report on the following as separate initiatives within the C&I Retrofit Program:	1
d	Combined Heat and Power	4
e	Retrofit Programs	1
f	Control systems (including retro-commissioning, control upgrades, sub-metering and performance metrics)	4
g	Engagement programs (continuous energy improvement, strategic energy management, behavioral programs)	4

► **PA Plan Pages: 4a p. 117; 4b-c p. 100; 5e p. 116**

# C&I REPORTING



- ▶ **New Construction has two initiatives:**
  - New Buildings & Major Renovations
  - Initial Purchase & End of Useful Life (includes upstream ltg, hvac and dhw)
- ▶ **Retrofit Program has four Initiatives:**
  - Existing Building Retrofit
  - Small Business
  - Multifamily Retrofit
  - Upstream Lighting
- ▶ **The plan has addressed the request to separate Upstream and End of Life Replacement from New Buildings & Major Renovations**
- ▶ **The plan includes commitments to assess other products in addition to lighting in Upstream.**

# C&I REPORTING COMMENT OPTIONS



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## ▶ **Minor**

- ▶ Consider renaming to Upstream Products to reflect the intent to include additional products.

## ▶ **Major**

- Add CHP as an initiative to Retrofit (6-24% C&I savings)



# RENEWABLE THERMAL: INCLUDED IN CROSS-CUTTING ISSUES

#	Council Resolution	PA #
3	<b>The PAs shall proactively promote efficient renewable thermal technologies.</b>	3
a	Develop and implement a methodology in coordination with DOER and the EEAC Consultants 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.	3
b	Provide rebates and 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.	3
c	Coordinate with the Massachusetts Clean Energy Center and DOER to provide information to customers and promote rebates and incentives for renewable thermal technologies.	3

► **Reference PA Plan Page 155**

# RENEWABLE THERMAL



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- ▶ PAs will remain engaged with Council to develop strategies to address renewable thermal savings.

# RENEWABLE THERMAL COMMENT OPTIONS

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▶ **Minor**

- None

▶ **Major**

- PAs commit to working with the Council to collaboratively create a work plan and timeframe for integration of renewable thermal technologies within plan timeframe.

# DELIVERED FUELS AND THERMAL EFFICIENCY

#	Council Resolution	PA #
15	The PAs shall promote non-gas customers' ability to self-fund the thermal portion of a comprehensive energy assessment using a PA auditor.	2

► **Reference PA Plan Page – not included**

# DELIVERED FUELS AND THERMAL EFFICIENCY

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- ▶ **PAs do not mention marketing comprehensive assessments to C&I customers**

# DELIVERED FUELS AND THERMAL EFFICIENCY COMMENT OPTIONS

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## ► **Minor**

- PAs commit to 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.

## ► **Major**

- None

## OTHER TOPICS

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- ▶ **What other C&I Comments are there?**

# OTHER TOPICS COMMENT OPTIONS

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## ► New Construction

### – Minor

- Include a timeframe for the proposed inclusion of gas PAs in small commercial new construction.
- Include in plan if customized modeling is available for new construction projects with specialized functions, such as restaurants or water treatment.
- Elaborate on the trade allies and associations the PAs partner with to seek out and recruit new construction projects.



# OTHER TOPICS COMMENT OPTIONS

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## ▶ **New Construction**

### ▶ **Minor**

- Provide detail on the current capture rate for participation in the New Construction program, and set a goal for improvement

### ▶ **Major**

- The infrastructure for sub-metering and continuous commissioning are most cost-effective at the time of new construction. Please include when and how these will be included in the New Construction Program.

# QUESTIONS?



▶ June 9, 2015

[www.ma-eeac.org](http://www.ma-eeac.org)