



## DRAFT Meeting Summary

December 1, 2020  
Virtual Meeting via Zoom

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**Participants:** Over 114 people attended the workshop including 20 Councilors. A list of Councilors in attendance and Presenters (EEAC Consultants and Program Administrators) is included in the Appendix. The workshop background material and presentations can be found at <https://ma-eeac.org/december-1-planning-workshop-3-existing-buildings-commercial-industrial/>

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### WORKSHOP OVERVIEW

Maggie McCarey, DOER Energy Efficiency Division Director and EEAC Chair, and Commissioner Patrick Woodcock welcomed participants. Maggie explained that there will not be time for public comment at this workshop, as there are six dedicated public listening sessions. The protocol is for all public comments to be posted to the EEAC website. The goal of the workshop series is to develop a set of consensus Councilor recommendations for PAs to address in the development of their next 3-year plan. She then conducted roll call.

Dr. Jonathan Raab, facilitator at Raab Associates, provided an overview of the ground rules and the approach to making recommendations, which can be found on the meeting materials at the link above (“MA EEAC 2020 Workshop Protocols and Groundrules”).

### APPROACH TO RECOMMENDATION FRAMING AND DISCUSSION

The same approach to recommendation review and discussion was employed throughout the meeting. First, the EEAC Consultant Adam Jacobs (or Jen Chiodo, for HVAC) presented a slide describing the recommendation. Then, facilitator Jonathan Raab guided Councilors through each recommendation, one at a time, displaying the Consultant Team slides (linked above) for reference. He organized the conversation around each recommendation by breaking the discussion into two categories: clarifying questions from the Councilors followed by their suggested improvements. After discussing lighting controls and HVAC, Jonathan elicited ideas for potential additional recommendations beyond those listed in the briefing document. Likewise, after discussing industrial/process savings and CHP, Jonathan elicited ideas for

potential additional CHP, industrial/process or other commercial and industrial (C&I) recommendations.

## LIGHTING CONTROLS

**1. End support for non-dimmable TLEDs starting in 2022 across all program pathways; To receive support, dimmable TLEDs should be installed and commissioned to deliver some combination of initial wattage tuning, daylight harvesting, occupancy controls and dimming capabilities. Refocus upstream product offerings on “smart” dimmable and controllable TLEDs and DLC qualified luminaire-level lighting controls.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- By “starting in 2022”, are Consultants recommending ending at the end of 2021?
  - a. *Consultant response:* The timing aligns with DLC changing and listing date – which includes a grace period for things like changing inventory
- To what extent is this already being done on a pilot basis?
  - a. *Consultant response:* Many products are already in the field. TLEDs are an area where we don’t have much experience; may be good idea to get field experience on dimmable and controllable TLEDs
  - b. *PA response:* PA’s don’t currently have a pilot but are aligned with this recommendation.
- If you’re not adding controls, can you add TLEDs to an existing fixture?
  - a. *Consultant response:* Yes, some even have controls in the lamps itself.
- Regarding Figure 7 page 12, why did National Grid have greater success than other PAs, and can they share best practices?
  - a. *Consultant response:* Grid was relatively more successful in delivering controls through the Existing Buildings Retrofit programs, but all PAs have similarly low controls penetration in the Upstream programs
  - b. *PA response:* We’ve discussed this with Consultants and it still eludes us; we will continue to look into this

Councilor Comments/Suggested Improvements

- Change wording to specify “end support for non-dimmable TLEDs by the end of 2021”

**2. Push customers towards luminaire-level lighting controls wherever possible using performance lighting and other more comprehensive pathways. Improve the ease of participation for the Performance Lighting Plus program, particularly for existing buildings.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- What do you mean by “push”? How can we see greater results?
  - a. *Consultant response:* There are many things we can do to this effect; there’s already an incentive structure so we can add more marketing, work with distributors, increase customer engagement, and simplify the process to promote more comprehensive paths
- One of the control issues is how much consumer education– will there be onsite or group trainings to facilitate education?
  - a. *Consultant response:* The next recommendation gets to customer training; When it comes to training, we’ve focused on the supply side of the market, so want to add a focus more on the demand side (customers)
- PA comment: PAs are aligned with this recommendation, and continue to streamline the comprehensive pathway process, and we offer a lighting design training through commissioning

#### Councilor Comments/Suggested Improvements

- Change “push” to “drive” or some other more assertive term
- Add a few concrete actions such as increased marketing, working with distributors, increasing customer engagement, and simplifying the process to promote more comprehensive paths
- Add commissioning to the recommendation
- Add incentives for distributors and/or installers

**3. Continue to invest in lighting controls training for contractors/installers and customers; expand training efforts to include commissioning for contractors/installers, sales strategies for distributors/contractors, operation and maintenance best practices for facility managers, and customer education on energy and non-energy benefits of controls.**

#### Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- Where does data monitoring fit in? Data collection helps with energy optimization, but monitoring is required
  - a. *Consultant response:* These systems come with monitoring data; the focus of this recommendation is to ensure that customers know how to operate lighting as designed and adjust for changes in use patterns and scheduling
- Have there been good evaluation studies of successful implementation?
  - a. *Consultant response:* Custom projects estimated vs. actual realization rate shows significant differences in lighting vs. non-lighting projects. We see a greater number of controls as part of custom projects than in upstream.
  - b. *PA response:* We have case studies showing savings of over 40%; we emphasize training, which is a complex issue, so we don’t offer generic trainings but rather we

- target specific parts of the market (customers, installers, manufacturers, and others); we implemented Advanced Lighting Control Training program and it's been very successful. In short, we've seen good success with our training offerings, and have expanded and evolved those offerings in the past few years.
- I like the word “sales strategies”. Need to provide greater incentive for distributors
    - a. *Consultant response:* There's a difference between availability of offerings vs. actual uptake; there is an order of magnitude difference between the numbers of customers and projects in more vs. less comprehensive paths
  - Control systems deliver savings if commissioned properly, but there needs to be data on the permanence of savings; central control systems are often abandoned due to employee turnover, leading many facilities to favour fixture controls. Should we focus more on incentivizing manufacturers to focus on fixture controls, in particular to push them to add demand response capability, rather than pushing central control systems which are fraught with human issues?
    - a. *Consultant response:* The technology has evolved and works but we need to solve for the human issue: distributor and installer learnings; need to design a system that is both robust and easy to train; suggest ongoing training
    - b. *PA response:* Building managers are in the tenant comfort not the energy efficiency business; need to define which channel this recommendation intends to target (i.e., would incentive dollars be upstream or downstream)
  - This wording seems best suited to medium and large commercial; can this apply to small commercial?
    - a. *Facilitator response:* The focus of this workshop is on medium to large commercial and industrial; there will be a future workshop on small commercial

#### Councilor Comments/Suggested Improvements

- Add language to include incentives (i.e., for distributors/installers)
- Separate out the approach of working with contractors and installers vs. customers
- Add language to clarify how this recommendation is different from current PA offerings (i.e., change “continue to invest” to “accelerate investment”)
- Specify type of training

#### **HVAC**

**4. Increase electric and gas HVAC savings from existing buildings by improving realization rates, increasing participation, addressing system optimization, providing benchmarking services, commissioning projects from concept through operations and including envelope upgrades.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- How are we going to increase savings – and can we get more data on reporting?
  - a. *Consultant response:* The briefing document provides greater depth than the summary on today's slides but may not go that far; often the concept is good, but the

execution is lacking, with custom HVAC projects tending to have low realization rates in recent impact evaluations and some controls-based projects had realization rates near zero. Commissioning and benchmarking are two strategies to ensure stronger execution, as is project level measurement and verification (M&V).

- Do we need something more concrete for the sub-bullet on cost-effective envelope measure? And is any work being done on that now?
  - a. *Consultant response:* Currently envelope measures are limited in medium and large commercial; It's not cost effective to undertake window replacement as an EE measure, but when windows are being replaced it is typically cost effective to help customers upgrade to more efficient windows; air-sealing is very cost-effective for medium and large commercial, particularly in older less efficient buildings
- PA comment: Realization rates are not zero, but they can be improved by commissioning and training; need appropriate baselines at the front end and commissioning and training at the back end
- PA comment: Recent evaluation reports and data highlighted operating hour and baseline issues, which highlighted savings impacts from business closures; PAs have been working with technical assistance (TA) vendors and evaluators to develop a plan to close the realization rate gap

#### Councilor Comments/Suggested Improvements

- Add data reporting, possibly including project level M&V
- Conduct a study to understand factors in the lack of adoption and why realization rates are low
- Add energy/heat recovery
- Identify cost-effective envelope opportunities (i.e., revise “including” to “prioritizing” envelope upgrades)
- Align timing to promote comprehensive upgrades

#### **5. Promote electrification projects including conversions to Variable Refrigerant Flow (VRF) and/or ground-source heat pump systems paired with Dedicated Outdoor Air Systems (DOAS).**

#### Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- Why is this specific to ground source not air source? VRF systems are specific to minisplits; air source technology doesn't necessarily include zones, so it's unclear why we're promoting air source.
  - a. *Consultant response:* VRF is an air-source system, which we thought was more applicable to medium and large commercial. Suggest discussing these technical nuances of types of air source heat pumps offline.
- PA comment: PAs are aligned with this recommendation. Training has emerged as a theme in this discussion, which is important given system complexity.

### Councilor Comments/Suggested Improvements

- Add a specific target
- Provide data reporting (e.g., on the number of projects)
- Change language from “promote” to “drive demand”
- Add air source heat pumps
- Add customer education on project-level viability of electrification
- Add heat pump water heating
- Add operator training
- Consider adding geothermal micro-grid pilot

**6. Undertake a Deep Energy Retrofit pilot including working with customers to leverage planned replacements to achieve cost effective deep energy retrofits. Engage customers with significant real estate portfolios to identify potential buildings and undertake integrated design with scenario modeling, lifecycle and financial analysis to identify the optimum investments. Use the pilot to identify market actors with the skills best suited to delivering successful projects and document project characteristics in promotional materials.**

### Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in *italics*).

- Why isn't this framed as net zero and adding renewables? Concerned this recommendation isn't ambitious enough.
  - a. *Consultant response 1:* Net zero is aligned with the overall goal, but don't have an adequate foundation in the existing C&I building stock.
  - b. *Consultant response 2:* The majority of buildings that exist today will still exist in 30 years when the state needs to meet its policy goals, so this recommendation emphasizes the importance of focusing on the existing building stock, but we can certainly layer on ZNE- and renewable-ready

### Councilor Comments/Suggested Improvements

- Add “build supply chain and workforce”
- Clarify that this is inclusive of both public and private buildings
- Add language to be explicit that the recommendation is foundational for ZNE- and renewables-ready buildings (and add clarity on how to operationalize); consider including/allowing renewables directly
- Specify a target for number of buildings and depth of savings (define “Deep”)

**7. Expand delivery of services and savings relating to building automation and energy management information systems including legacy system upgrades and replacements and portfolio optimization. Increase the use of independent third-party commissioning in the existing building sector to improve savings.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- If an independent provider isn't involved, who implements this? Do we have enough independent commissioning providers?
  - a. *Consultant response:* It's problematic to have the same vendors sell and install products, and ostensibly verify savings. There's a supply and demand issue – programs need to incentivize independent providers.
- How do we increase the use of third-party commissioning – require independent providers to get incentives, or directly incentivize independent commissioning?
  - a. *Consultant response:* Both are good suggestions. We could require projects of a certain size have an independent commissioning provider and require independent commissioning from project concept to operation. Incentives are an important piece. There are typically savings that accrue from commissioning, but there's an accounting issue
- PA comment 1: PAs currently offer third party commissioning for custom projects, but this can be expanded. PAs typically have independent pre- and post- inspection services.
- PA comment 2: For retrocommissioning, PAs are mitigating savings concerns by engaging PA engineering team in projects early on and conducting an internal review

Councilor Comments/Suggested Improvements

- Add language to require and/or incentivize independent commissioning
- Add operator training

**8. Undertake an EMIS pilot to demonstrate the costs and benefits of EMIS and monitoring-based commissioning.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- What's the objective of a pilot versus broader push?
  - a. *Consultant response:* There's a need for greater data and transparency, and to establish the market and marketability. EMIS is widely available but minimally adopted. With a pilot, we can develop a program theory and model more rapidly and evolve it before broader deployment.
- HVAC controls are not typically abandoned, which happens more often for lighting
  - a. *Consultant response:* This recommendation focuses on EMIS not building automation
- A Councilor expressed a lack of support for this recommendation because we tried to sell this to dozens of our customers, but they weren't interested even if it was free.

- a. *Consultant response:* This is why a pilot is valuable: to understand barriers and develop a programmatic approach to addressing barriers
- A Councilor expressed strong support for this recommendation, stating that remote monitoring helps ensure greater ratepayer value by providing data to verify savings overtime. For example, in the affordable housing industry, we make large investments in energy efficiency but lack remote monitoring to ensure lasting savings and ratepayer value.
  - a. *Consultant response:* An illustrative case study is Housing Vermont, which has implemented an EMIS that provides monitoring feedback to help ensure lasting savings.
- PA comment: Why do we need a separate pilot for this since PAs are actively supporting these projects? These don't produce claimable savings, so while we support and encourage EMIS, where applicable, we are concerned about a recommendation targeting these complex systems.
  - a. *Consultant response:* There's no transparency for Councilors or the ability to test the theory that this is appropriate for a few customers. Monitoring based commissioning has been shown to produce savings based on a study from Kentucky.
  - b. *PA response:* PAs can provide data. If this is expanded, we need to address savings issue.

#### Councilor Comments/Suggested Improvements

- Reword to ensure it's not duplicative with what PAs are already doing (i.e., distinguish class of customers or technology)
- Change wording from “demonstrate” to “verify” costs and benefits
- Add language to understand barriers

### **OTHER COUNCILOR HIGH-LEVEL LIGHTING CONTROLS OR HVAC RECOMMENDATIONS**

#### **Ideas for New recommendations related to Lighting Controls or HVAC**

- Increase incentives for market actors across both lighting controls and HVAC
- Continue to convert streetlights to LEDs and incorporate controls into all streetlights (including prior LED conversions)
- Continue to use EM&V to fine-tune technology and programmatic strategies
- Develop a strategy for translating EMIS data into action

### **INDUSTRIAL/PROCESS SAVINGS**

**9. Continue to identify and eliminate barriers that are preventing the implementation of projects and savings already identified through the Industrial Initiative including project following up on opportunities, sales training and using cash flow analysis.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- Can you provide insight into the largest piece of the pie chart on figure 9 (what’s not viable under program rules), and how we can influence it?
  - a. *Consultant response:* This piece of the pie chart includes things like fuel-switching from an electric to gas boiler (where PAs can only claim gas savings), projects with very short paybacks and measures that fail the cost-benefit test
- Are there other incentives for contractors to make initial contact with customers?
  - a. *Consultant response:* Defer to PAs on how they compensate industrial vendors, and whether or how they’ve considered this
  - b. *PA response:* Leidos attends PA trainings, as well as investing in their own staff training and certification. PAs don’t pay contractors to attend training, though we may offer discounts for attending. Contractors are compensated through performance-based contract so yes there are incentives for customer outreach.
- Are AMARESCO and Siemens leaders, and are they brought into the discussion of barriers?
  - a. *PA response:* ESCOs typically focus on municipalities not industrial customers
- How will Councilors know how many barriers are eliminated? What tracking can be added?
  - a. *Consultant response:* Savings for C&I often are labelled under buckets of “custom savings” so there’s not dedicated tag for industrial measures. As for barriers, PAs and Leidos discuss and track barriers, but there may be privacy issues in sharing with Councilors.
  - b. *Consultant response:* A process evaluation could address different ways PAs are approaching this and what barriers exist
- The ESCO model presents conflicts of interests for savings verification; largest barriers are bandwidth of operators and capital funding. Can we do on-bill financing to overcome these barriers?
  - a. *Consultant response:* We’ve seen payback periods of longer than one or two years as a significant barrier

Councilor Comments/Suggested Improvements

- Change language to “Provide sales training and performance-based incentives” to vendors
- Add language for tracking barriers that are being eliminated, possibly through a process evaluation
- Consider offering on-bill financing for customers

**10. Expand Strategic Energy Management (SEM) to a full program offering for all industrial customers.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in *italics*).

- Is SEM uniquely beneficial to industrial customers, or does it have broader applications to commercial and other sectors?
  - a. *Consultant response:* Jurisdictions with deep SEM experience often start with industrial, and then expand to municipalities and school districts and other commercial customers. Considering the low adoption rate, we suggest focusing on improving industrial cohort before adding cohorts from different market sectors.
  - b. *PA response:* We are in the second year of the SEM pilot and expect data before the plan needs to be filed; would like to expand the pilot but want to first see the results
- Do cohorts share process improvements and best practices?
  - a. *Consultant response:* Yes, the current cohort doesn't compete, and they share best practices in process improvements.

Councilor Comments/Suggested Improvements

- Expand to other customer segments (besides industrial customers) as soon as feasible
- Ensure the evaluation of the industrial cohort looks at capital improvements executed by customers who participated in SEM; and look at data/findings from other states where evaluations have shown an increase in capital improvement measures from customers who participated in behavioral SEM programs

**11. Identify niche customer segments with remaining appreciable non-lighting savings opportunities and construct targeted initiatives to address these markets**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in *italics*).

- Can PAs weigh in on which customer segments to target?
  - a. *PA response:* PAs do this analysis on a regular basis; a few years ago, PAs focused on industrial moulding, and more recently cannabis cultivation. Rather than calling out specific sectors, we suggest keeping it broad so there's flexibility
- Considering significant energy consumption in cannabis cultivation, is there a focus on energy impacts?
  - a. *PA response:* We anticipate industry expansion due to recent policy developments

Councilor Comments/Suggested Improvements

- Change “niche” to “Identify *specific* customer segments with similar characteristics/infrastructure”
- Add illustrative examples of specific customer segments to target (e.g., cannabis, unoccupied telecom, etc.)

## COMBINED HEAT AND POWER (CHP)

### **12. Re-asses incentives for natural gas fueled CHP and consider reducing or eliminating all but the most energy-intensive market segments as necessary to meet long term climate goals.**

#### Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- Are there non-energy intensive market segments that have been pushing CHP, and are there participation limits? Should it be promoted for resilience (i.e., climate, pandemic) – especially for customers converting from oil?
  - a. *Consultant response:* Hospitals, pharmaceutical and manufacturing facilities are typically defined as energy intensive. PAs identified senior living facilities and affordable housing as being interested in smaller-scale CHP, and while there may be marginal financial and efficiency benefits in those applications, it may be short-sighted to promote CHP when other options exist.
- PA comment 1: Recommendations should be at a higher level. PAs have influence but are not policy makers. Before PA’s involvement, “it was the wild west” and CHP’s GHG footprint was considerably higher; so, if we reduce incentives in the absence of laws prohibiting the technology, the market will likely revert to higher GHG impacts
- PA comment 2: CHP is a cost-effective measure and PAs have a mandate to pursue all cost-effective measures.

#### Councilor Comments/Suggested Improvements

- Correct spelling of “re-assess”
- Remove “re-assess” to say more concretely “reduce or eliminate”
- Consider promoting CHP for resilience (i.e., climate, pandemic) – especially for customers converting from oil
- Arguments to scratch the recommendation
  - a. CHP cannot afford to lose incentives. This recommendation points to flawed studies, for example the study cited paybacks of one year. Without incentives, paybacks are typically around 8 years. Carbon pricing legislation will erode economics of the system. CHP promotes resiliency, helps renewables integration, lowers GHG impacts, and relieves gas line capacity.
  - b. Recommendation is too simplistic for the complexity of CHP; reducing or eliminating CHP could jeopardize climate goals.
- Arguments for the recommendation
  - a. Recognizing that CHP will continue to be installed, the question is where to spend EE ratepayer dollars. This recommendation dovetails with the next recommendation (CHP evaluation). It’s alarming that we haven’t done an evaluation since 2011, considering how much the market and economics have changed significantly. We are

- at a tipping point where gas-fired CHP installed in the near future, will no longer reduce GHG emissions as the grid decarbonizes.
- b. Comments are not irreconcilable; “re-assessing” directs PAs to stop putting in large gas facilities to further climate goals; support looking at the avoided costs of CHP, and assessing why CHP may be a reasonable investment

**13. Conduct a detailed CHP impact evaluation to be completed no later than 2022 that also includes an update to free-ridership, spill-over and net to gross ratios. Study new and replacement systems separately. Implement programmatic changes based on study results.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in *italics*).

- Why do an evaluation for CHP and not other onsite generation resources such as fuel cells, which may make sense in certain applications?
  - a. *Consultant response:* CHP was called out because other onsite generation technologies don’t receive efficiency incentives, and because CHP is a much more significant portion of portfolio – especially relative to fuel cells
  - b. *PA response:* Question why there’s a microscopic focus on a singular technology

Councilor Comments/Suggested Improvements

- Specify whether “no later than 2022” means end of 2021 or 2022
- Specify study elements including impact on quality of systems, customer costs/economics, climate and pandemic resiliency impacts
- Change last sentence from “Implement programmatic changes based on study results” to “Discuss/consider programmatic changes based on study results” (don’t jump straight to implementation before discussing the study)
- Focus evaluation on ratepayer impact of CHP; believe CHP incentives are a public subsidy for a private good
- Consider adding fuel cells to the evaluation
- Consider new approaches to CHP (e.g., incorporating hydrogen or renewable natural gas) that could further reduce GHG emissions from CHP
- Reach out to regional CHP association lead (Suzanne Watson) to gather input and insights

**14. For all CHP projects, conduct detailed lifecycle emissions analysis using an impartial and agreed upon forecast of ISO New England’s emissions intensity between now and 2050. Also conduct a project-by project economic analysis that determines whether a given CHP project needs Mass Save support to generate a 5-year positive cash-flow.**

Clarifying Questions (Councilor questions. Consultant (and PA if applicable) responses in italics).

- Is the lifecycle greenhouse gas analysis done to come up with the benefits or avoided costs portion of the calculation, in order to evaluate CHP under the energy efficiency umbrella?
  - a. *Consultant response:* We didn't have avoided costs in mind here; there are GHG goals built into the current and likely next 3-year plan; emissions intensity is important for CHP and other electric measures.
  - b. *PA response:* Lifecycle costs studies have compared CHP to average grid emissions, but whenever a megawatt of CHP comes on the grid, it displaces highest marginal cost unit not average emissions. So, suggest the study looks at displacement technology (typically other fossil fuels).

Councilor Comments/Suggested Improvements

- Need to assess how CHP, and perhaps hydrogen and fuel cells, can help MA meet its resiliency, climate, and infrastructure goals.
- Focus study on local marginal unit emission displacement, and not average system emissions
- There are more details and sub bullets on these recommendations in the briefing document for this workshop that were not included in the slides. For example, we included sub bullets to prioritize or offer enhanced incentives for renewable CHP input fuel (i.e., digester gas) – here and in recommendation 12

Jonathan noted that there was general support for a CHP study - although additional discussion may be warranted for use of efficiency funds for CHP, and on whether there would be prioritization for input fuels with lower GHGs. He suggested additional discussion on recommendations 12-14 as the EEAC is finalizing its recommendations.

**OTHER COUNCILOR INDUSTRIAL/PROCESS, CHP, OR OTHER C&I RECOMMENDATIONS**

Ideas for New recommendations related to Industrial/Process CHP or Other C&I

- Consider a distinct pathway for Public Municipal buildings and facilities including structured agreements (i.e., managed partnerships) to drive more comprehensive retrofits for buildings, facilities and other assets (including streetlights). This recommendation is due to a variety of unique factors in the Public sector: baselines need to be understood differently; cost-effectiveness and utility incentive calculations are misaligned with the longer lifespan of municipal buildings; higher reuse of municipal buildings; need for greater assurance on incentive levels due to risk-averse; and barriers to upfront capital.
  - a. PA comment: Conduct an evaluation for Public facilities in order to establish sector-specific baselines

## **WRAP UP, FEEDBACK & NEXT STEPS**

Jonathan Raab thanked participants for their engagement and attention and requested feedback and suggested improvements. Hearing none, he reiterated that the next step is for the facilitation team to develop a meeting summary that focuses on suggested improvements to the proposed recommendations, building towards the final workshop geared at finalizing and potentially prioritizing the recommendations.

In closing, Maggie McCreary thanked participants for a robust discussion. The EEAC meeting originally-scheduled for December 9<sup>th</sup> has been cancelled, so the next meeting of this group will be the next workshop. December's EEAC meeting will be rolled over into January. Emily Powers will send a schedule for 2021.

**APPENDIX: Meeting Attendees (not including the public attendees)**

<b>Dec 1, 2020 Attendance – EEAC Workshop #3</b>	
<b>Voting Councilors</b>	
Greg Abbe	DHCD
Maggie McCarey	DOER
Cindy Arcate	Non-Profit Network
Jo Ann Bodemer	AGO
Amy Boyd	Acadia Center
Justin Davidson	MA Association of Realtors
Charlie Harak	NCLC
Paul Johnson	Greentek
Cammy Peterson	MAPC
Bob Rio	Associated Industries of MA
Dennis Villanueva	Mass General Brigham
Mary Wambui	Planning Office for Urban Affairs
Sharon Weber	DEP
Patrick Woodcock	DOER Commissioner
<b>PA Non-Voting Councilors</b>	
Tim Costa	ISO-NE
Steve Cowell (for Paul Gromer)	Peregrine Energy
Maggie Downey	Cape Light Compact
Mike Ferrante	MEMA
Frank Gundal	Eversource
Audrey Penna	Berkshire Gas
<b>Presenters (Consultants)</b>	
Jennifer Chiodo	EEAC Consultant Team
Adams Jacobs	EEAC Consultant Team
<b>PA Respondents</b>	
Dave Gibbons	National Grid
Zack Lippert	National Grid
Grayson Bryant	Natinoal Grid
Amit Kulkarni	Eversource
Maryette Haggerty Perrault	Eversource
Margaret Song	Cape Light Compact