



MEETING MINUTES

Wednesday, October 19, 2022
Virtual Meeting via Zoom

Councilors Present:	Greg Abbe, Cindy Arcate, Jo Ann Bodemer, Amy Boyd, Justin Davidson, Charlie Harak, Elliott Jacobson, Paul Johnson, Deirdre Manning, Robert Rio, Brooks Winner (for Cammy Peterson), Mary Wambui, Commissioner Patrick Woodcock, Dennis Villanueva, Cindy Carroll, Michael Ferrante, Hammad Chaudry, Maggie Downey, Katelyn Mazuera (for Kate Peters), Hammad Chaudry, Steve Menges (for Chris Porter), Tim Costa, Stephanie Terach
Councilors Absent:	Sharon Weber, Paul Gromer
Consultants Present:	Eric Belliveau, Adrian Caesar, Gretchen Calcagni, Ralph Prah
DOER Staff Present:	Rachel Evans, Maggie McCarey, Alissa Whiteman

1. Call to Order

McCarey, on behalf of the Chair, called the meeting to order at 12:03 PM.

2. Lunch and Learn: Evaluation, Measurement, and Verification (EM&V)

Prah, on behalf of the Consultant Team (C-Team), provided a briefing on the EM&V framework utilized in Mass Save program evaluation. Prah described different EM&V study types, methodologies, and how they are applied to assess program impacts and refine program delivery.

McCarey asked for an explanation between retrospective and prospective application of EM&V study results. Prah responded that through 2021 there was a complicated system for the retrospective application of gross-savings results to the previous full program year, so results from a March 2022 study would apply to all of 2021. For the 2022-2024 triennium, the Department of Public Utilities (DPU) decided to prospectively apply net-to-gross values to the next full program year.

Abbe asked what would happen if the program administrators (PAs) do not adopt EM&V study recommendations. Prah1 replied that the DPU requires the PAs to track and report on the status of EM&V recommendations, most of which are adopted. Prah1 clarified that formal recommendations are tracked, but general considerations derived from EM&V studies are not. Abbe asked if reduced-savings values derived from a study could be applied retrospectively. Prah1 said the reduced value would apply prospectively for one year, thus only impacting the following program year. Abbe asked if the PAs could earn performance incentives based on the previously higher savings assumptions, even though evaluation studies determined that claimable savings are lower. Prah1 said that study results apply prospectively until new studies are completed, but there are pros and cons to eliminating retrospective applications, such as failing to adjust under-stated savings. McCarey said the 2022-2024 Plan is the first Three-Year Plan with only prospective application of study results.

Boyd asked if there is a mechanism to turn considerations into formal study recommendations. Prah1 said evaluation studies produce recommendations with varying certainty, so while there is not a fundamental problem with sharing considerations or informal recommendations, it would be helpful to have track considerations. Boyd agreed.

Chambers clarified that evaluation results are subject to change for the latter two years of a three-year term.

Belliveau noted that all measures or initiatives are not evaluated annually, so proposed values may persist for a few years. Prah1 said that the most impactful items are usually evaluated annually.

Winner asked if Income Eligible programs are evaluated in the same way as market rate Residential programs. Prah1 responded that the Income Eligible sector is treated as a subset of Residential generally, whereas multifamily programs are treated as both Residential and Commercial. Common areas in multifamily buildings are treated as Commercial, but dwelling spaces are treated as Residential. Prah1 said there is a substantial Income Eligible process and impact evaluation launching soon.

Belliveau asked what EM&V studies will need to consider given the potentially large amounts of future federal funding. Prah1 noted that Massachusetts is a net-savings state which considers the incremental effect of programs on the market that would not happen otherwise. Prah1 said it is inevitable that federal funding will reduce attribution of savings to Mass Save programs, even though the funding should drive adoption of more efficient measures. The funding needs to be released and data are required in order to assess the actual impacts.

Winner asked if there are particular studies to which the Council should pay close attention. Prah1 said the Commonwealth is transitioning from an energy efficiency savings framework to a beneficial electrification and decarbonization framework, which is driving many EM&V studies. Prah1 said the PAs have challenging goals to meet under the 2022-2024 plan, making it harder to reach consensus on applying EM&V results. Belliveau added that EM&V guides the PAs on how to apply results, but policy is ultimately what leads to implementation. Prah1 said EM&V collects data and facts and presents them objectively within the existing policy framework.

Johnson asked why Councilors lack opportunities to provide input on evaluation study topics. Prah said EM&V presentations used to be done annually, but the C-Team has not been directed to provide one in three years. Prah said the C-Team can engage with Councilors at any time. Johnson said that he requested to participate in EM&V Committee meetings, but has never been afforded the opportunity to provide input. McCarey said that the Council provides input on the Strategic Evaluation Plan included in each Three-Year Plan filing, since it lays out all evaluation priorities. McCarey said high priority evaluations, including the Nonparticipant Study, are included in Term Sheets and EEAC Resolutions on Three-Year Plans. Johnson recommended that review of Strategic Evaluation Plans be made an explicit part of the Council process. McCarey agreed that Council has not prioritized developing feedback on Strategic Evaluation Plan.

Johnson asked how EM&V is different in Massachusetts than other states. Prah said that Massachusetts has one of the largest and most ambitious EM&V programs, which drives many other states to leverage Massachusetts study results. EM&V functions are organized differently in Massachusetts where studies are statewide, collaborative, and performed by PAs. Prah said that under the Massachusetts framework the C-Team essentially has veto power over PA decisions that are controversial, which is unusual but some states have adopted similar frameworks. In Connecticut, EM&V functions are primarily handled by a third-party. In many other states each utility performs individual studies, but the need to reconcile results statewide makes that approach inefficient. Johnson asked for more detail of EM&V functions managed by third parties. Prah said the Massachusetts framework has a potential conflict of interest, since the PAs conduct studies but also profit based on study results, which is not the case in a third-party EM&V framework. There have been four instances where the C-Team came close to appealing PA EM&V decisions, but they were all resolved. Johnson asked who pays for evaluation studies in Massachusetts. Prah replied that evaluation studies are covered under the utility energy efficiency program budget which is used to pay EM&V contractors to perform the studies. Johnson asked how the contractors could be objective in performing studies if the PAs pay them. Prah noted that EM&V contractors have a conflict of interest since they work under the utilities, which is why the C-Team oversees studies and has the ability to veto PA decisions. Prah said the objective is to come to consensus on study recommendations and results. Every controversial issue has come to a defensible conclusion.

McCarey asked when Connecticut implemented a third-party EM&V framework, and Prah indicated Connecticut transitioned about 15 years ago.

3. Public Comment

Claire Chang

Chang commented that disbursing Inflation Reduction Act (IRA) funding in Q3 2023 would be too late. Chang recommended initiating customer and contractor education efforts to provide guidance on available incentives and how consumers may take advantage. Chang asked how IRA funds would apply to the 40 municipal light towns that are not automatically included in Mass Save programs. McCarey said updates on funding would be provided once available.

Commissioner Woodcock responded that there are tax provisions that may be available prior to Q3, but discussion has focused on funding for two Department of Energy programs, Hope for Homes and Zero Energy Homes, which would be allocated through the states, beginning in late 2023. Commissioner Woodcock said programs and funding would be controlled by either the state or federal government, but all residents including those in municipal light towns should be eligible to participate.

Villanueva joined the virtual meeting at 1:08 PM.

4. Council Updates & Business

Virtual Meeting Procedure Review

McCarey reviewed the virtual EEAC meeting procedures:

1. The Council meetings would be recorded.
2. All attendees except for Councilors and presenters would remain muted for the duration of the meeting.
3. Councilors would hold comments until the end of presentations, but Councilors and other participants should speak instead of using any chat function.
4. Councilors who disconnect from meetings need to announce when they rejoin.
5. All Council votes would be taken by a roll call.

Wambui joined the virtual meeting at 1:13 PM.

August Executive Committee Meeting Minutes

Boyd motioned to approve the August Executive Committee meeting minutes as submitted. Abbe seconded. All were in favor, with none opposed or abstaining. The August Executive Committee meeting minutes were approved, as submitted, by the Executive Committee.

August EEAC Meeting Minutes

Weber motioned to approve the August EEAC meeting minutes as submitted. Arcate seconded. All were in favor, with none opposed or abstaining. The August EEAC meeting minutes were approved, as submitted, by the Council.

September Executive Committee Meeting Minutes

Abbe motioned to approve the September Executive Committee meeting minutes as submitted. Bodemer seconded. All were in favor, with none opposed. Villanueva abstained. The September Executive Committee meeting minutes were approved, as submitted, by the Executive Committee.

September EEAC Meeting Minutes

Arcate motioned to approve the September EEAC meeting minutes as submitted. Winner seconded. All were in favor, with none opposed. Abbe, Harak, and Villanueva abstained. The September EEAC meeting minutes were approved, as submitted, by the Council.

DOER Updates

Commissioner Woodcock thanked the PAs, Liberty and National Grid, for hosting an event in Fall River on Energy Efficiency Day, which highlighted an auto shop and other customers for leveraging Mass Save offerings. Commissioner Woodcock encouraged further expansion of communication and implementation efforts in Fall River and around the state.

McCarey announced that the DPU submitted a memo to the PAs following up on the Climate Act passed this year, which included a provision for the PAs to submit proposals for limited demonstrations for low- and moderate-income whole building efficiency, electrification, and greenhouse gas reduction offerings. The DPU determined that these demonstrations would not be treated as midterm modifications, so the EEAC will have 60 days to review and comment on demonstrations once filed with the DPU. McCarey said that Cape Light Compact intends to file an updated Cape and Vineyard Electrification Offering (CVEO) which would be added to an upcoming EEAC meeting agenda, but no other PAs have indicated their intent to file any demonstrations.

Winter Pricing and Weatherization Updates

Peters, on behalf of the PAs, presented comparisons of year-to-date weatherization projects and home energy assessments (HEAs) between 2021 and 2022. Peters noted that HEAs and completed weatherization projects have come to parity with last year, due to an increase in customer demand, interest in programs, and contractor performance. Peters said that RISE Engineering and CLEAResult are booking weatherization projects into December and January, and there is an ongoing effort to expedite completions. Eversource's lead vendors have begun directing some customers to home performance contractors (HPCs) since their average lead time is three weeks and both weatherization pathways should be communicated to customers. Peters said customers seeking heating system consultations are referred to heat pump vendors, and upfront screenings are provided through the independent insulation contractor (IIC) direct weatherization pathway. Once customers sign contracts, Peters indicated that all weatherization services are provided in five weeks.

Peters also provided an update on winter price mitigation efforts, noting that the enhanced statewide marketing campaign, enhanced online marketplace rebates, and census block group (CBG)-level targeted moderate-income offering launched, while the pre-weatherization barrier mitigation offering for 1-4-unit rental buildings would launch soon. Peters said nearly 3,000 items have been sold through the marketplace in a month, including self-install weatherization kits. Peters said multiple Main Streets efforts targeting small business customers are scheduled or have occurred, which have marketed 100% weatherization offerings. Peters noted that most PAs are finalizing outreach lists for customers in arrears that will detail program offerings. Peters said the PAs are working on a frequently-asked-questions page regarding the IRA and available tax credits, though they want to avoid giving detailed tax advice. Peters highlighted the importance of marketing current Mass Save offerings, while federal grant program details and coordination with state offerings are sorted out.

McCarey said weatherization performance has improved, but wait times into January are concerning. McCarey asked if the IIC direct weatherization pathway will help serve customers before the winter. Peters said Eversource and National Grid are offering this direct

weatherization pathway to connect customers to IICs, which will be supported by the lead vendors.

Johnson hoped weatherization volume would continue to increase. Johnson asked the PAs to explain the direct weatherization pathway and whether call centers are properly explaining the HPC weatherization pathway. Peters said call center staff are equipped to explain each weatherization pathway and the PAs are updating the Mass Save website to make the pathways clearer and highlight a list of HPCs. Peters explained that direct weatherization offered by IICs where they can scope out homes, install appropriate insulation materials, and a full HEA visit is done following the weatherization. The HEA visit serves as both an inspection and marketing opportunity to communicate additional program services. Peters said it allows for direct and efficient delivery of weatherization services. Johnson suggested that the PAs pay HPCs to perform audits while IICs focus on completing weatherization projects. Peters replied that the PAs are open to different strategies and focused on weatherizing as many homes and business as possible. Johnson asked for the average heat pump installation wait time, as some weatherization contractors are unable to insulate attics when customers are waiting to install heat pumps. Peters said there are about 700 contractors in the heat pump installer network, so she would need to request information on heat pump lead times.

Commissioner Woodcock agreed the PAs should communicate tax incentives without providing tax advice.

Abbe asked if customers calling with complaints about high energy bills can be transferred to the Mass Save hotline or receive information on energy efficiency offerings and discount rates. Peters responded that utility customer service efforts to connect customers to energy efficiency services is important, but would follow-up to determine if direct referrals are made in bill complaint situations. Peters said that utility customer service staff are trained on program offerings.

Wambui asked if insulation and air sealing materials are ranked for carbon and health impacts. Peters said she was unsure. Wambui said these impacts need to be considered, as weatherization should be healthy and reduce greenhouse gas emissions.

5. Evaluation, Measurement, and Verification

Consultant Team Presentation

Prahl, on behalf of the Consultant Team (C-Team), provided a briefing on the EM&V framework utilized in Mass Save program evaluation. Prahl described different EM&V study types, methodologies, and how they are applied to assess program impacts and refine program delivery. Prahl also provided details on active evaluation studies, COVID-19 impacts on EM&V, non-energy impacts, and challenges and lessons learned from heat-pump evaluation.

Council Discussion

Harak asked what four controversial decisions nearly led the C-Team to veto PA decisions, and whether they were disagreements about study recommendations or study topics themselves. Prahl said they were all disagreements about the interpretation of impact evaluation results. One

was related to electrification impact parameters, which is a sensitive issue since PAs have ambitious electrification goals. The others were tied to C&I New Construction heat-pump fuel-switching net-to-gross assumptions, the attribution of codes and standards promulgation efforts, and non-energy impact (NEI) study results.

Bodemer asked how statewide results could be informed by a study with a small sample size, such as the C&I New Construction Heat-Pump Fuel-Switching Study with a sample of about 26 respondents. Prahm replied that EM&V have to leverage sampling, and there are established practices on obtaining statistically reliable information and representative samples, practices which the Massachusetts EM&V framework follows. Prahm said it has been difficult to engage large C&I customers in some studies, and while they still yield reliable results the corresponding confidence intervals are not as good. For the C&I New Construction Fuel-Switching Study, net-to-gross results were zero halfway through the study sample and it was determined further sampling would not change that. After analyzing the results, the evaluators and C-Team were confident that program attribution for C&I New Construction fuel-switching was low and supported by data.

Johnson asked for the difference between resource and non-resource benefits. Prahm said resource benefits are energy savings tied to first year savings or measure lives, and non-resource benefits stem from NEIs. Johnson said NEIs are newly important and asked how \$1,400 in thermal stress is quantified in the average home. Prahm said there are strong study results showing that people in weatherized homes are much less likely to have hypothermia, which was then connected to existing literature on the likelihood of death following an emergency room visit for hypothermia. Finally, an accepted value of \$9M per human life was applied to generate the thermal stress value. Prahm commented that quantifying the value of a human life is uncomfortable, but it is important to know.

Winner noted that a Department of Energy study on weatherization assistance programs found that health benefits from income-eligible weatherization projects is 2-3 times as valuable as the resulting energy savings. Winner said it is a positive outcome if studies are showing that lives are being saved on top of saving energy. Prahm said the results supporting health-benefit values are strong and consistent across two Massachusetts studies.

McCarey recalled that the C&I health and safety NEIs helped some Small Business measures pass cost-effectiveness screening, but study results lowered the deemed health and safety benefit values. Prahm said no measures failed cost-effectiveness due to the reduction in health and safety benefit values.

Boyd asked how DPU policy impacts new NEIs approval or NEI values. Prahm stated that current DPU policy and the latest Climate Act are inconsistent, as the Climate Act specifies that all societal NEIs can be claimed, but DPU policy says only NEIs impacting occupants of the treated building can be claimed by programs. Prahm said the issue might be outside the scope of EM&V and expected the DPU to undertake it. New societal-impact NEIs will likely not be claimed until the DPU modifies its policy. McCarey said many provisions in the August 2022 Climate Act will apply to the 2025-2027 Plan, so the new societal NEIs may be proposed as part of the next three-year planning process.

Johnson asked if NEIs are communicated to customers. Prahm hoped they are marketed to customers and said program implementers have used marketing materials to describe NEIs. Porter added that PA sales and implementation vendors work to educate customers about all energy efficiency program benefits including direct energy savings, sustainability, decarbonization, and NEIs where appropriate. Porter said the PAs want to present what resonates with customers, and Johnson recommended marketing ladder-fall preventions since they are common and costly accidents.

Boyd asked how the attribution works for New Construction heat pumps and how fuel-switching is determined. Prahm said the PAs launched dedicated fuel-switching incentives in April 2022. The C&I New Construction Fuel Switching Study sample showed a mix of projects that received fuel-switching incentives, did not receive fuel-switching incentives but received savings for heat pumps, or did not book any energy savings from heat pumps. Across the sample of 27, the net-to-gross ratio was near zero whether the fuel-switching incentives were provided. Prahm clarified that the PAs increased fuel-switching incentives, so only 3-4 customers in the sample received the higher incentives. Prahm said a follow-up study would be conducted once there are enough cases that receive the updated incentives to sample, but net-to-gross results were extremely low without incentives. Boyd asked for clarification on eligibility for fuel-switching incentives. Chambers responded that the C&I New Construction program has energy-use-intensity baselines, assuming customers would use gas if New Construction will occur within 100 feet of a gas pipeline access point, but otherwise propane is the assumed fuel.

Commissioner Woodcock said the Massachusetts heat-pump market is part of a regional and global market and expressed interest in collaboration with other states on market transformation strategy. Prahm replied that heat pumps and the heat-pump market warrant a national consortium of program administrators to electrify the heating sector. Prahm suggested that states planning to invest large amounts in electrification, like Massachusetts, New York, and California, should coordinate all aspects of program design to achieve market transformation.

Johnson asked when the study on heat-pump performance in low temperatures would be completed, as many contractors question heat-pump performance capabilities. Johnson also asked about general levels of heat-pump awareness, and how electricity cost increases are being considered in electrification efforts. Prahm said the Typical Meteorological Year Study would be done in about 2 months. Prahm said there is good surface-level awareness of heat pumps, but a much smaller percentage of people know about the technology's functionality and applications. Prahm added that EM&V cannot study things until they are implemented, but agreed that electricity cost increases will be an issue. Johnson asked if additional cooling-load could be prevented due to heat pump installations, since some customers would have used fans or opened windows in previously unconditioned spaces. Prahm replied that many people with unconditioned or partially conditioned spaces want to add cooling. There is some mechanical cooling that can be provided by opening windows, but mechanical cooling effectiveness and usage are very variable. Villanueva commented that heat-pump cooling might benefit vulnerable populations so not all increased consumption is harmful. Villanueva said increasing clean electricity generation will offset increased electricity consumption.

Villanueva stated that heating electrification has serious obstacles, but heat pump deployment needs to be studied to improve delivery and coming challenges need to be understood to solve them.

Winner encouraged Councilors to change their perspectives on cooling, as no amount of box fans and open windows will keep people cool in 98-degree weather and high humidity in today's climate. Winner said energy efficiency programs need to reflect the current reality and avoid deterring people from using systems that can improve their safety. Winner said Massachusetts has a cold climate culture, but weatherization provides benefits during the summer, and heat kills more people than hurricanes and tornadoes. Winner noted that heat pumps and other new technologies do not have the best economics in some cases. Winner said large-scale heat-pump systems for domestic hot water are not widely available and cost-effective for the affordable housing market. Winner invited the PAs and C-Team to communicate economic conditions with the Council, so that Councilors might convey information to their respective constituents and stakeholders. Winner emphasized the need for nuanced conversations about current and future market conditions and economics. Prahm said ongoing market evaluations will definitely occur.

6. Massachusetts Clean Energy Center (MassCEC) Updates

MassCEC Presentation

McPhee, on behalf of MassCEC, presented an update on MassCEC building-decarbonization programs and coordination with the Mass Save program. McPhee noted that the increasing alignment between Mass Save and MassCEC goals will enable MassCEC to assess innovative energy efficiency program designs on smaller scales and report back to the Mass Save PAs on lessons learned. McPhee also noted that \$12 million will be deployed annually to support workforce development for minority and women business enterprises, communities underrepresented in clean energy, and environmental justice communities.

Council Discussion

Johnson asked what form MassCEC engagement with the Council would take. McPhee envisioned semi-annual updates on priority areas determined by the Council. McPhee proposed that MassCEC provide updates on the Decarbonization Accelerator Program in the spring and McCarey suggested that MassCEC give updates during EEAC meetings.

Winner asked if there are other MassCEC demonstrations that the PAs adopted into Mass Save offerings or programs, such as Passive House rebates or offerings, and are there upcoming examples like the Deep Energy Retrofit work that EEAC should consider for future programs. McPhee said some coordination between the PAs and MassCEC is informal, but MassCEC held joint stakeholder meetings and developed whitepapers to inform Mass Save heat-pump incentive design, which was an instance of formal coordination. McPhee said Mass Save programs and MassCEC demonstrations both align with state climate and decarbonization goals, so MassCEC wants to share as much helpful information with the PAs as possible. Winner said the Empower program and Triple Decker Challenge focus on environmental justice communities, meaning findings from these initiatives can inform renter strategy or delivery of moderate-income program delivery. Winner encouraged MassCEC to continue sharing lessons learned with the PAs.

Downey asked if MassCEC is subject to evaluation and cost-effectiveness requirements like the Mass PAs. McPhee replied that MassCEC has more flexibility on cost effectiveness and evaluation requirements, but it tests on a much smaller scale to inform the design of cost-effective programs or energy-saving measures under Mass Save criteria. Downey said that each potential Mass Save program administrator has different operating guidelines. The current PAs have specific guidelines for administering programs that the DPU requires them to follow. McCarey said MassCEC can test new approaches and provide supporting data if the PAs want to develop full scale offerings.

Commissioner Woodcock recommended making MassCEC and Council coordination more formal and frequent, and asked if there are specific measures or challenges MassCEC should test to inform the 2025-2027 Three-Year Plan. Commissioner Woodcock suggested integrated controls for heat pumps with existing heating systems, and induction stoves. Prahl discussed and asked if these measures, their corresponding operating costs, and NEIs be considered for further analysis. Commissioner Woodcock suggested that the shift toward decarbonization necessitates more engagement with MassCEC. McPhee said MassCEC is open to discussing all areas of common focus.

7. Adjournment

McCarey, on behalf of the Chair, adjourned the meeting at 4:07 PM.

Meeting Materials:

- October 19, 2022 EEAC Meeting Agenda
- Weatherization and Price Mitigation Updates Presentation
- Consultant EM&V Informal Session Presentation
- Consultant EM&V Presentation
- MassCEC Presentation
- August 3, 2022 Executive Committee Meeting Minutes
- August 17, 2022 EEAC Meeting Minutes
- September 7, 2022 Executive Committee Meeting Minutes
- September 21, 2022 EEAC Meeting Minutes