QUARTERLY REPORT

The Massachusetts energy efficiency Program Administrators ("PAs") are pleased to present this report to the Energy Efficiency Advisory Council ("Council" or "EEAC") on the achievement of energy efficiency goals, implementation activities, and evaluation during the 2022-2024 Three-Year Plan.

Below are key highlights from the Program Administrators' 2024 Q3 efforts.

KEY METRICS

	Term Plan	Term Achieved	Term
Portfolio Metrics			
Spending ($)	3,942,380,738	2,710,048,785	69%
2030 GHG Reductions (MTCO2e)	845,638	570,482	67%
Savings (Net Lifetime MMBTU - all fuels)	240,391,556	168,351,570	70%
Economic Benefits ($)	9,236,478,287	6,379,703,968	69%
Program Metrics			
Weatherization Jobs (Homes)	**189,334**	**145,553**	**77%**
Residential Weatherization Jobs	*160,898*	*117,572*	*73%*
Low-Income Weatherization Jobs	*28,435*	*27,981*	*98%*
Heat Pump Installs (Homes)	**63,049**	**73,949**	**117%**
Residential Heat Pump Installs	*55,805*	*67,531*	*121%*
Low-Income Heat Pump Installs	*7,244*	*6,418*	*89%*
C&I Turnkey Savings (Net Lifetime MMBTU - all fuels)	10,588,354	5,846,334	55%

For more data points, please see attached detailed data tables.

PROGRAM HIGHLIGHTS

Heat pump performance in the residential sector remained strong in Q3 of 2024, with heat pumps installed in over 27,000 homes year to date (94.7% of the 2024 residential heat pump goal) including approximately 2,757 low-income households. This performance surpasses the term goal for total residential heat pump performance and places income eligible heat pump installations on track to meet or surpass the term goal by the end of the term (see Key Metrics, above).

While C&I custom electrification performance continues to lag behind plan goals, the PAs have continued our strong start to 2024 into Q3 through the prescriptive electrification pathway. The PAs have delivered over 1.4 million MMBtus in savings via electrification, which is an 88% increase from Q3 2023.

Moderate income performance in Q3 continued to lag significantly behind plan goals, although the program continued to see an uptick in moderate income jobs completed over prior quarters. 1,454 moderate income homes were weatherized and 622 heating systems installed through Q3 in 2024 compared with 308 weatherization jobs and 3 heating system installations for all of 2022. In response to feedback from the Equity Working Group, the PAs worked to implement program changes to the moderate-income offerings to expand eligibility by extending moderate income offers to income-qualified renters and allowing moderate income customers to qualify for weatherization via self-attestation. These changes rolled out in Q2 2024. Additionally, the PAs also worked to simplify the customer experience and reduce out-of-pocket costs, by developing a turnkey offering for moderate income customers in 5 underserved communities. These efforts include developing a technical framework for the turnkey offering that includes electrification, engaging communities to develop outreach strategies for identifying moderate income households, and executing scope amendments with lead vendors to accomplish additional activities envisioned as part of the offering. The offering rolled out in Q3 of 2024.

ADDITIONAL PROGRAM UPDATES

Q3 also saw important deadlines for the fossil fuel phaseout ahead of the upcoming January 1, 2025 moratorium on the programs supporting new fossil fuel equipment, with August 31 the deadline for installation of prescriptive residential fossil fuel equipment and September 30 the deadline for rebate application submission. Moreover, Q3 also saw the launch of Spanish speaking decarbonization consultations where a customer can use a Spanish version of the online scheduling tool to schedule their consultation with a Spanish speaking decarbonization specialist.

EVALUATION: STUDIES COMPLETED THIS QUARTER

Residential Research Area

Residential Coordinated Delivery Single Family Impact Evaluation (MA23R58-B-RCD): This study evaluated gross savings for all Residential Coordinated Delivery Single Family measures. The study found that there were lower average natural gas weatherization savings relative to the previous evaluation completed in 2018.

Income Eligible and Residential Coordinated Delivery Multifamily Impact Evaluation (MA23R59-B-MFI): The goal of the evaluation was to update the existing gross energy savings associated with prescriptive Multifamily measures offered through market rate Residential Coordinated Delivery Multifamily and C&I Multifamily, and Income Eligible Multifamily programs. The evaluation recommended that PAs study the reduction in air infiltration due to air sealing in a future study and improve statewide consistency of data tracking in multifamily.

Income Eligible Single Family Impact Evaluation (MA23R56-B-IESF): The goal of this evaluation was to update energy savings in Income Eligible Single Family for prospective applications for 2025-2027. The study found that there were lower average natural gas weatherization savings relative to the previous evaluation completed in 2012. The study also found that IE SF savings compare favorably with regional benchmarks, IE SF weatherization savings for homes heated by electricity or delivered fuels are similar to weatherization savings in gas heated homes, and that Income Eligible and non-Income Eligible customers heated their homes with heat pumps similarly.

Heat Pump Mini-Split Baseline Reweighting Tool (MA24R67): This study produced an excel-based tool that is designed to allow users to determine heat pump measure impacts based on the Heat Pump Mini-Split using different baseline equipment weights.

Single-Family and Low-Rise Multifamily Residential New Construction Baseline Study (MA23R60): The report leverages the official database of HERS rating data from RESNET to separately describe energy-efficiency practices and code compliance for program and non-program new single-family (one to four units) and low-rise multifamily homes (5+ units, less than four stories). The study covers homes built under the Ninth Edition Massachusetts State Building Code, based on the 2018 IECC, which includes Base and Stretch Code. The study also compares these homes to the Tenth Edition Building Code, based on the 2021 IECC, that started coming into effect in 2023 to see how far the 2018 IECC homes are from meeting the significant changes under the new code.

Heat Pump Weatherization Usage Analysis (MA24R66-B): This study evaluated the relative usage, cost, and customer comfort for homes that weatherized or did not weatherize in

conjunction with installing a heat pump through the Mass Save® heat pump program offerings. This study was conducted to answer research questions posed by the MA Department of Public Utilities "*Prior to the end of the 2022-2024 Three-Year Plan term, the Program Administrators shall undertake an evaluation study comparing energy usage, costs, and comfort levels for customers that did and did not weatherize prior to or after heat pump installation. The evaluation study must include a discussion of comparative bill impacts for each case.*"

Renovations and Additions Process and Program Theory and Logic Model Update (MA23R54): This study included a process evaluation of the Renovations and Additions program which provided key findings. In addition, the study made updates to the existing Renovations and Additions program theory and logic model to reflect programmatic changes being implemented in PY2025. The study included consideration for PAs to run an education campaign to increase program awareness, provide additional support on how to participate, and provide additional educational materials on energy efficiency. It was also recommended that PAs begin tracking program activity indicators and set baselines for indicators of market effects.

C&I Research Area

Massachusetts Impact Evaluation of PY2021/2022/2023 Custom Electric Installations (MA23C06-E-CUSTELEC): The study's overall purpose was to provide verification and re-estimation of energy and demand savings for a recent sample of statistically selected non-lighting custom electric projects through site-specific verification, monitoring, and analysis for Program Year 2021/2022/2023.

Prospective Realization Rates for PY2025 Custom Gas (MA24C03-G-RECUSTGAS): The study aimed to calculate realization rates for steam trap (ST) and non-ST custom gas projects to be used for the 2025 program year (PY).

Energy Optimization Model - Version 2.1 Update (MA24C02-B-EOUPDATE): The Energy Optimization Model (EO Model) is a tool used by the Massachusetts PAs to estimate the energy impacts of prescriptive heat pump measures in commercial buildings. Designed to inform the Massachusetts Technical Reference Manual (TRM), the EO Model quantifies the energy impacts associated with transitioning from inefficient heating oil, propane, natural gas, and electric heating systems to more efficient heat pump systems. This evaluation summarizes the updates made to the EO Model, resulting in version 2.1 (v2.1), which builds upon the previous EO Model version 2.0 (v2.0) created in October 2023.

Special & Cross-Cutting Research Area

C&I Prescriptive and Custom Electric Net-to-Gross Omnibus Study (MA23X15-E-CIONTG_CI): The primary study objective was to produce net-to-gross ratios for the Massachusetts Program Administrators to apply prospectively to the C&I electric existing building downstream programs, beginning in 2025.

Mass Save MWBE Study (MA23X16-B-MWBE): The purpose of this study was to collect and analyze data to determine if there are any disparities between the availability and utilization of Minority and Women-Owned Business Enterprises (MWBE) for contracts awarded by the Sponsors of Mass Save®.

Non-Residential New Construction & Multifamily Market Actor Population Sizing Study (MA23X17-B-NRNCMS): The primary goal of this study was to better understand the populations of market actors and firms operating in the non-residential new construction and multifamily new construction sectors in Massachusetts, including firm size, program participation status, and the extent of firm overlap between the two sectors.

Active Demand Reduction Research Area

2023 Residential DR Battery Storage Study (MA23DR02-E-RESBSDR): The goal of this evaluation is to assess the customer acceptance, demand savings, and performance of battery storage as a resource for lowering the system peak demand. The evaluation consisted of process and impact components.

Cross-State C&I Active Demand Reduction Initiative Summer 2023 Evaluation Study (MA23DR01-E-C&I / CT2214): This study contains both impact and process components. The impact objectives of this study are to evaluate the magnitude of demand reductions for each solution and the efficiency of the battery storage solution in order to recommend realization rates for the various solutions (broken out by dispatch strategy, PA, and state). The process objectives of this study are to assess participant satisfaction, PA satisfaction, participant motivation, barriers to deployment, barriers to participation, importance of the 5-year incentive lock, and whether there has been sufficient improvement in the incentive payment timeline and process.

REGULATORY UPDATE

The third quarter of 2024 saw several important milestones for the draft 2025-2027 Plan. In response to the EEAC's June 26, 2024 resolution, which made several recommendations for changes to the draft Plan, the PAs provided updates and changes on August 15, 2024. Those updates and changes were the last substantive changes made to the Plan pursuant to the 2022-2024 Three-Year Plans Order. The PAs then provided a full draft of the Plan to the EEAC on September 25, 2024, incorporating the updates and changes they committed to in their August 15 filing.

On July 26, 2024, the EEAC passed a resolution supporting mid-term modifications for Liberty, Unitil Electric, National Grid Gas, and National Grid Electric, and on August 21, 2024, the EEAC passed a resolution supporting mid-term modifications for Cape Light Compact, Eversource Gas, NSTAR Gas, and Liberty.

On August 12, 2024, the PAs filed a motion with the Department requesting that the Department waive the requirement that the PAs file a mid-term modification request for any spending above program level budgets. The Department granted this motion on September 3, 2024.

Q3 also saw four mid-term modifications filed:

- Cape Light Compact, D.P.U. 24-126 (withdrawn September 6)
- Eversource Gas of Massachusetts, D.P.U. 24-127 (approved September 17)
- NSTAR Gas, D.P.U. 24-128 (approved September 17)
- Liberty, D.P.U. 24-130 (approved September 17)

There were also four previously filed mid-term modifications approved:

- Liberty, D.P.U. 24-89 (approved August 9)
- Unitil Electric, D.P.U. 24-91 (approved August 9)
- National Grid Gas, D.P.U. 24-98 (approved August 9)
- National Grid Electric, D.P.U. 24-99 (approved August 9)

2024 COUNCIL PRIORITIES

1. *2022-2024 Plan: Monitor and ensure overall progress toward 2022-2024 Three-Year Plan goals and implementation commitments, including:*

a. *The delivery of energy efficiency programs to moderate income customers.*

See Program Highlights section.

b. *The adoption of electrification measures by Commercial and Industrial (C&I) and Income Eligible sectors and in multifamily and new construction programs for all sectors.*

The PAs continue to streamline the rebate experience by working with rebate processing to improve turnaround time and data accuracy on rebate commitment letters. Additionally, the PAs are working with the rebate processing vendor to start making outbound calls to customers with applications that were missing information on top of the process that is already in place of email outreach.

The PAs are also developing a commercial customer Heat Pump Consultation offer, which was beta-tested this quarter and is expected to be available on the Mass Save website in Q4. The consultation will be comparable to the residential decarbonization consult currently offered and will assist customers in understanding heat pump equipment and other energy-efficient equipment for their commercial building application.

PAs have launched the improved HPIN Search Function allowing customers to filter contractors by distance and to identify whether the contractor is a women, minority, or veteran-owned business. Additionally, it provides customers with a detailed map with the locations of the HPIN that fit their criteria which was previously a list.

The residential and C&I new construction programs also continued the transition to all-electric offerings.

Residential high rise multifamily buildings have naturally decreased participation due to the complexity of remaining opportunities given how successful the program has been in the past. Many of the remaining properties that have not yet participated in Mass Save have complicated barriers for pre-weatherization and electrification. The PAs' plan to address this with a turnkey offering for 21 designated equity communities that will automatically qualify for the moderate income incentives. PAs worked with lead vendors to develop cost structures and scopes to ensure that more multifamily properties can participate in weatherization and electrification offerings while addressing these barriers cost-effectively. The offering is expected to roll out in Q1 of 2025.

In the Low-income Program, the PAs and LEAN continued to support up to $10,000 in barrier mitigation funding to assist the installation of energy efficiency services in smaller multifamily buildings (5-25) units. Historically, some of these smaller units did not have access to funding to address weatherization

barriers that were pre-existing. In Q3, ABCD and Action Inc. onboarded additional Home Performance Contractors (HPCs) to support timely delivery of services in Eversource and National Grid territories experiencing a high volume of customer demand, through the Lead Vendor Implementation (LVI) model. This further supported significant participation in the program due to direct marketing in communities and ability to deliver services to mixed-income properties. Additionally, PAs continued to provide on-site and maintenance services for heat pumps.

During the third quarter, LEAN and the PAs worked with the Executive Office of Housing and Livable Communities (EOHLC) to help low-income people living in subsidized housing convert their gas furnaces to efficient electric heating systems by leveraging the EOHLC Utility Allowance Schedule, effective as of January 1, 2024. This is possible because utility allowances are being changed to account for the differences in cost between gas and electric heating, which will relieve these customers' worries about their energy burden. The PAs will continue to prioritize the delivery of electrification technology, such as heat pumps, to low-income customers in situations where the customer energy burden will not be increased, such as when moving from delivered fuels.

c. *The adoption of C&I HVAC measures and the Deep Energy Retrofit offering, as well as any other course corrections adopted to address identified underspending in the PAs' 2022- 2024 filed mid-term modifications (MTMs).*

The PAs are working on introducing an Energy Recovery Ventilation (ERV) measure prescriptive offer to enhance the adoption of C&I HVAC measures. Some PAs have offered higher incentive levels in 2024 for custom electric and gas measures, including HVAC. This has resulted in higher application volume, driving more sales and paid savings.

2. *Identify actions to support transition to 2025-2027 Plan.*

Describe:

a. *Activities undertaken to transition the programs away from fossil fuels in the residential and C&I sectors.*

The PAs worked with DOER to finalize the fossil fuel phase-out policies in previous quarters and are now providing guidance on projects not likely to be completed during the current term. The PAs have continued to remind trade allies and customers that all projects must be completed within the current year, and completion documentation must be submitted in the fall to ensure projects can be paid by year-end.

The PAs and LEAN have continued to focus their efforts on identifying electrification opportunities in low-income households that heat with electric resistance and delivered fuel and offer support for pre-electrification barrier mitigation.

b. *Efforts to test and begin implementation of the 2025-2027 EEAC recommendations to facilitate roll-out of new program designs by January 2025.*

- *Enhancing C&I account management models (C&I recommendation I.B)*

As noted previously, for medium and large C&I customers, PAs believe the challenges identified with the account management model are largely related to communication and process issues. The custom process evaluation identified several areas for improved account management. In response, the PAs have launched an RFP for technical services, soliciting bids from over 100 vendors. This includes a new "project development" scope of work, which will buttress internal PA account management staff. This scope is based on the PAs' proven model in the industrial and grocery sectors, where contracted vendors serve as an extension of PA implementation teams, conduct energy assessments, assisting with processing, and building relationships with customers. The RFP process continued during Q3.

In Q3, the PAs began their statewide adoption of National Grid's offering of Enhanced Monitoring-Based Commissioning (EMBCx) program by collaborating on various projects. The EMBCx program helps reduce energy usage as a C&I customer. The program pairs facility monitoring systems and technical services to turn disjointed data points into cohesive decision-making power. For small businesses, the PAs are continuing to take steps to ensure that Turnkey vendors can provide both gas and electric services to customers.

- *Support for medium/large customer decarbonization and efficiency planning (C&I recommendation II.A)*

The PAs developed their approach to technical assistance studies for the 2025-2027 Plan, including templates, processes, tracking, and study requirements, with a goal of simplifying the process. In Q3, the PAs continued to trial new studies with customers. These trials will help the PAs refine the study process and be prepared to launch at scale in 2025.

- *Expanding comprehensiveness and effectiveness of measures for the Small Business Turnkey offering. (C&I recommendation III.A)*

The PAs are continuing on expanding their offerings to include a more comprehensive measure list for the Small Business Turnkey Offering. In Q3, the PAs launched pre-weatherization barrier remediation incentives that included removal of vermiculite/asbestos, knob & tube wiring and Knob & tube wiring verification. This offer is directed at supporting customers who want to weatherize but the conditions of their buildings do not allow them. This is an additional measure on top of the prescriptive basement insulation and weatherization which was launched in Q1. The PAs are continuing to procure additional Customer-Directed Option partners, who have expertise in a broad range of measures not covered in the turnkey path.

- *Increasing Weatherization paired with heat pump installations (Res recommendation I.B-E)*

The PAs continue to require the demonstration of sufficient weatherization to be eligible for a whole home heat pump rebate. The PAs also offer a $500 bonus to customers installing weatherization prior to or up to six months after the installation of a partial home heat pump. The PAs have worked with their rebate processing vendor to make it easier for customers to apply for and receive the $500 bonus. The PAs also encourage the pairing of weatherization and heat pumps through customer education on the Mass Save website, marketing, and during Decarbonization Consultations. Finally, the PAs encourage the pairing of weatherization and heat pumps through contractor education via required and optional online training courses, monthly office hours, and contractor events.

- *Developing cost management strategies for heat pumps. (Res recommendation I.D.4, Equity recommendation II.D)*

The PAs are actively working to roll out a residential turnkey offering, initially focused on moderate income customers. By facilitating the process and competitively procuring barrier remediation and electrification services, the PAs expect the turnkey offering to support cost management of electrification. For further details on efforts underway to roll out this new offering, see the Additional Program Updates section. The PAs are also planning to create a public geographic based heat pump cost tool based on anonymized program data with the goal of providing customers cost transparency. This tool will be available in 2025. Moreover, a heat pump quote comparison service, which will include a tool designed to compare multiple bids from different HPIN contractors and a consultation with technical experts to walk through the comparison, is actively being developed for deployment by the end of this term.

- *Simplifying the customer experience (Res recommendation II, IE recommendation I.B)*

In addition to the LEAN Statewide Client Services Center for low-income customers, the PAs are actively working to launch a new statewide contact center for residential and small business customers. This center will provide comprehensive support for all decarbonization offerings under the programs and act as a single point of entry for residential and small business customers to engage with the Mass Save programs. Center support will include guidance for customers at the beginning of their journey who want information on where and how to start and the range of potential decarbonization solutions available for their home, as well as customers who have already started their decarbonization journey and are engaged with the programs. Interviews with bidders took place in Q3.

For continued support with navigating heat pump education and questions, the PAs continue to support decarbonization consultants with their lead vendor. Customers can make virtual appointments to get guidance on the benefits and considerations of transitioning to heat pumps, ask technical questions about

how the system works and how to use it most efficiently, and better understand the unique needs of their home to make informed decisions. The PAs added Spanish language consultations in Q3, where the customer is able to schedule their consultation in Spanish and meet with a Spanish speaking decarbonization specialist.

The PAs deployed the expanded range of moderate income turnkey offers that include pre-weatherization barrier remediation, pre-electrification barrier remediation, and heat pumps in select communities in Q3. The PAs provided an update at the August 21 EEAC meeting on the rollout of moderate income turnkey offers and presented two case studies of turnkey projects underway at the time. Through Q3 the PAs continued to collaborate with lead vendors to develop the technical and operational framework that would underpin statewide deployment of the expanded range of turnkey offers starting in 2025.

- *Expanding and increasing income eligible customer capture (IE recommendation I)*

The PAs and LEAN have recently negotiated a data sharing agreement with MassHealth to support automatic data sharing for customers that are eligible for MassHealth which then qualifies the customer for the discount rate and low-income energy efficiency services based on categorical eligibility. Additionally, the PAs and LEAN are also committed to implementing direct income verification for the 2025-2027 term and are working to flesh out the approach for implementation. Finally, ABCD continues to expand its capacity to serve low-income customers by authorizing additional HPCs and working to contract with lead vendors to serve these customers. National Grid is also proactively reaching out to customers who get enrolled on the discount rate about energy efficiency services and how they can participate in the Income-Eligible Program.

- *Simplifying the income verification process for moderate income participation, including the use of AMI and SMI. (Equity recommendation II.B)*

In Q1, the PAs worked to launch the use of self-attestation for moderate income customers seeking weatherization improvements, as well as qualification of moderate-income customers based on area median income. These changes were implemented in Q2. PAs have continued to see a significant increase in moderate income HEAs and weatherization projects with the majority of the increase coming from self-attested customers.

Increased moderate income weatherization production continued through Q3 and brought with it increased moderate income retail rebate volume.

- *Moderate income program enhancements (Equity recommendation I. A B and D), selection of 2025 geographic areas (Equity recommendation I.C.) and simplification of the customer journey (Equity recommendation II G)*

See the Program Updates section for moderate income program enhancements and efforts to simplify the customer experience that the PAs are working to implement. To support greater decarbonization of renter-occupied and moderate-income housing units, the PAs and DOER collaborated on the identification of designated equity communities with a high share of renter-occupied and low- and moderate-income households. This effort resulted in the selection of 21 communities and was based on renter population and percentage of low- and moderate-income households. For further details and the list of designated equity communities, please see pages 118-122 of the 2025-2027 Plan.

- *Any other actions the PAs identify to fully implement the EEAC recommendations in the 2025-2027 term.*

In addition to the efforts described above, the PAs are also actively working to design new initiatives for the 2025-2027 term, such as decarbonization planning, existing building commissioning, support for schools in disadvantaged communities, new small business targeting efforts, and more.

3. *Continue strategic planning for 2025-2027.*

The Program Administrators continued to work collaboratively with the EEAC, DOER, and the AGO to refine the draft plan, which will be filed with the Department on October 31, 2024.

The PAs engaged in discussions at the EEAC, Equity Working Group, and other meetings with partners and stakeholders about the details of the Plan. The PAs submitted a response to the EEAC Resolution, marking the end of substantive edits to the plan prior to filing with the Department in Q4. Please see the Regulatory Section above for more details.

4. *Continue improvements to data management and sharing.*

The PAs finalized KPIs for data as part of their August updates to the draft Plan, with the workbook to be provided in Q4. The PAs also continued to work with their CFP lead vendor to understand CFP data needs and determine an approach for data sharing that is appropriately protective of customer privacy. This approach was included in the matrix accompanying the August updates.

2022-2024 REPORTING DATA

Please see attached workbook.

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