

# Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan, 2022-2024

PA responses to EEAC Recommendations, May 14, 2021

#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
1	Continue to grow the pipeline of new multi-family (5+ units) Passive House projects by increasing participation and workforce training - Include specific targets and goals - Run demonstrations to address centralized water heating barriers	New Construction	PAs agree with and support at least some of this recommendation	Addressed in Plan	p.65 workforce development strategic intervention, p.76-78 Residential New Buildings program description and Strategic Enhancements	The Plan does not specifically commit to centralized water heating, but PAs monitor barriers and continue to integrate new technologies into the program as they become available.
2	Investigate opportunities for promoting zero-energy modular homes based on DOER's Zero Energy Modular Affordable Housing Initiative (ZE-MAHI)	New Construction	PAs agree with and support this recommendation	Addressed in Plan	starts on p.75, Residential New Buildings program description and Strategic Enhancements	
3	Better characterize the non-energy impacts of fossil-free new construction - Prioritize/accelerate evaluation activities that quantify health and equity-related non-energy impacts of gas stoves and other in-home fossil fuel combustion so that findings are available for review and inclusion in the 2022-2024 Plan.	New Construction	PAs agree with and support this recommendation	Addressed in Plan in part	Appendix B, Strategic Evaluation Plan	Stage 3 plan has been approved. The study is separated into two parts. First part is to identify any secondary sources available which can be used to update current NEI estimates, this would be done in time for 3 yr plan if there is research available which can be leveraged. 2nd part of study is to identify what NEIs we would want/need target and prioritize for a future comprehensive NEI study which would be based on primary research.
4	The PAs should provide tools and training to promote the use of variable refrigerant flow (VRF) and ground-source heat pump HVAC systems	New Construction	PAs agree with and support this recommendation	Addressed in Plan in part	p.65 workforce development strategic intervention, p.73 engaging contractors strategic intervention	
5	Develop one to four unit all-electric program offers. - Develop and implement an education and outreach strategy for all relevant participant segments (customers, builders, developers etc.)	New Construction	PAs agree with and support this recommendation	Addressed in Plan	p. 66-68 Strategic Intervention: Scaling up Residential Electrification	
6	Develop connected home requirements. - Include a broad range of active demand measures and opportunities, including Wi-Fi thermostats, home energy management systems and/or connected equipment such as HVAC and hot water equipment, and electric vehicle charging. - As part of this connected home effort, the PAs should leverage opportunities to actively recruit new homeowners to participate in the PAs' active demand management (ADM) efforts, and more seamlessly integrate already available storage, EV-charger, and PV incentives into the program.	New Construction	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	p.79 in Residential New Buildings, strategic enhancements	The PAs do promote ADR incentives (which include or will shortly include storage and EVs) in design charrettes/discussions with builders, while prioritizing discussions with clients that reduce building load
7	Increase thresholds for participation and increase incentives to push for deeper efficiency, ensuring significant impacts on building energy use through investments in very high efficiency building envelopes and electrification to avoid more costly future deep energy retrofits. - Ensure EUI baselines used for Paths 1 and 2 are stringent enough to drive projects towards the highest efficiency achievable with modern construction practices. - Emphasize Path 1 (ZNE ready) as often as possible – including with smaller buildings that are motivated to achieve ZNE status. Include bonus incentives for electrification and reduced thermal loads by focusing on high-performance building envelope. - Address barriers to and find means for consistently shifting new construction to all electric buildings to avoid more costly deep energy retrofits in the future. - Enhance pathways for smaller buildings to participate in ZNE offerings - Increase use of performance monitoring and monitoring-based commissioning, particularly in Path 2.	New Construction	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Page 133 in Section 3.9.5 under New Construction & Page 142 under Strategic Enhancements and Page 143 in Pathway descriptions	The PAs recently launched this effort, and will adapt the program design, as necessary.
8	Actively promote projects with small or mid-size customers in the less comprehensive new construction Paths 3 & 4 that utilize modern building envelopes and high performance HVAC systems such as Variable Refrigerant Flow or Ground Source Heat Pumps paired with Dedicated Outdoor Air Systems. - Include commissioning and operator training, and actively promote performance monitoring and monitoring-based commissioning - Study project impacts on energy and non-energy benefits including: energy and cost savings, lifetime carbon emissions, indoor air quality and occupant comfort.	New Construction	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Verification incentive addressed on page 142 under Strategic Enhancements	The verification incentive motivates customers to push for commissioning and operator training.  At this time, we do not know of any plans from the EEAC's Evaluation Consultant to conduct any study of project impacts on energy and non-energy benefits.  If a project team is interested in being very advanced, then they would not be participating in Paths 3 or 4 and we would have likely steered them to Path 1 or 2.

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9	Develop Connected Buildings offerings for all four C&I new construction paths that build ADM capabilities into the design of new buildings of all sizes. - Leverage controls for end uses like lighting and HVAC in new buildings, for active demand management (ADM) from early in the design process, tailoring approaches to address sophistication and size of customers. - Expand marketing for ADM and co-market EE and ADM for all customers - The U.S. Department of Energy has coined the term "Grid Interactive Efficient Buildings", which integrates technologies ranging from EE, to ADM, to distributed generation and EV charging. Integrate the themes of this concept into the New Construction programs - Develop an approach that supports campuses in overcoming compatibility issues that otherwise could limit their investment in modern control systems in new buildings	New Construction	PAs agree with and support at least some of this recommendation	Not addressed in Plan		The PAs will work to promote their peak load reduction efforts within the context of the building design process.
10	Direct Load Control (DLC): Increase participation in existing DLC offerings, incorporate new end uses, and increase participation of low income customers. - Increase Wi-Fi thermostat DLC penetration through tactics including bundling wifi thermostats and DLC with heating and cooling system installations including heat pumps, and comarketing and delivery coordination of DLC with in-home audits and Wi-Fi thermostat rebates. Increase enrollment and penetration of Wi-Fi thermostats in DLC, e.g. from 3% of Wi-Fi thermostats to 15% (residential and small business). - Incorporate new end uses by expanding or adding EV charging and pool pumps, and revisit the cost-effectiveness and potential addition of appliance DLC opportunities such as water heaters and dehumidifiers. - Increase the participation of low income customers in the DLC offerings - Include a target date for the implementation of the National Grid EV charging effort.	Active Demand	PAs agree with and support at least some of this recommendation	Addressed in Plan	1.3.1 (Active Demand Reduction Strategies), 2.9.5 (Strategic Intervention: Easing Participation), 2.10.2 (Residential Existing Buildings - Behavior Initiative)	The PAs will increase the number of thermostats enrolled in their ADR offerings through a number of strategies, including more closely promoting ADR offerings in thermostat sales channels and potentially including the ability to sell thermostats pre-enrolled in ADR through the online marketplace. The PAs will consider ways to encourage the installation of a connected thermostat and enrollment in ADR when customers are installing incentivized HVAC measures. Additionally they will work with the implementers of income eligible programs to increase the installation of wi-fi thermostats more broadly. The PAs will also continue to assess the potential for cost-effective programmatic delivery of ADR for other "smart" or connected devices.
11	C&I Load Curtailment: Grow the C&I load curtailment resource through integration with normal program and market sales channels and with the new construction program. Before 2022, assess the eligibility for new CHP/generators to participate in C&I load curtailment for the 2022-2024 Plan, including an assessment of GHG emissions impacts and also consider phasing out existing CHP/generators that are currently enrolled during the 2022-2024 period.	Active Demand	PAs agree with and support at least some of this recommendation	Addressed in Plan	1.3.1 Active Demand Reduction Strategies (pg. 28-29), 3.10.2 C&I Existing Buildings Active Demand Reduction Core initiative (pg. 152-153)	The PAs are committed to enrolling resources that result in incremental curtailment/discharge and create system benefits for ratepayers. While different PAs have differing equipment eligibility requirements, the PAs note that the benefits that result from curtailment/discharge during system peaks are largely independent of the technology used to achieve them.
12	Storage: Significantly expand the program behind-the-meter (BTM) storage targets to contribute to the Commonwealth's overall storage goal of 1,000 MWh by 2025 (or 500 MW with storage duration of 2 hours). Revise the program outreach and integration processes to enable increased and broader participation of customers and storage/inverter providers. Identify and highlight other value streams. Help integrate the storage program offerings into a statewide framework that leverages SMART and the Clean Peak Standard, possibly including through co-delivery.	Active Demand	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	1.3.1 Active Demand Reduction Strategies (pg. 28-29), 2.10.2 (Residential Existing Buildings - Behavior Initiative), 3.10.2 C&I Existing Buildings Active Demand Reduction Core initiative (pg. 152-153)	The PAs will continue to work with developers and manufacturers to increase the number of batteries installed and enrolled in their ADR offerings, both for residential and C&I installations. The PAs have continued to be engaged with their distributed energy resource management system (DERMS) provider and with battery inverter manufacturers and aggregators to increase the number of supported products. The PAs will continue to consider other incentives available to owners of batteries to ensure that ratepayer funds are being used to incentivize incremental activity and benefits. The PAs will also continue to work with solar installers to promote selling solar paired with storage.
13	Electric Vehicle (EV) Charging and Mobility: Increase enrollment and participation of EV chargers in the bring-your-own-device (BYOD) ADM program offering including payment of pay-for-performance incentives. Develop and implement co-marketing and targeted incentives for newer-technology EV chargers, and for EV chargers for some customer segments to provide equitable opportunities to benefit from transportation electrification. Implement co-marketing or co-delivery integration with other state EV and charger programs including potential co-funding sources. Develop and implement a state-wide program for BYOD for EV chargers and/or vehicle-controlled charging if feasible to be implemented by a specific date. - Explore possible co-marketing or program support for other mobility solutions beyond individual automobile approaches.	Active Demand	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	2.10.2 (Residential Existing Buildings Program - Behavior Initiative)	The PAs are committed to providing incentives for enrolling EVs in ADR through vehicle telematics and/or connected chargers. The design of these incentives will be responsive to other available programs which will evolve over time. The PAs will explore all opportunities for co-marketing and co-delivery, including through other utility-funded EV programs.
14	Winter Demand Management: Revisit the performance and cost-effectiveness of winter ADM by mid-2021 after the AESC 2021 study is complete. Consider combining summer and winter efforts into an annual ADM offering. Continue winter ADM efforts in the interim in 2020-2021 by leveraging investments in summer ADM to increase utilization in winter.	Active Demand	PAs do not support this recommendation	Addressed in Plan	1.3.1 Active Demand Reduction Strategies (pg. 28-29)	Consistent with the policy note issued by Synapse Energy Economics, the 2021 AESC study, and the PAs' understanding of likely value streams over the 2022-24 period, the PAs do not anticipate being able to demonstrate ratepayer value from expending funds on winter demand reductions and do not plan to call events or pay incentives in the winter.
15	Gas Demand Management. Assess the potential benefits and costs of gas ADM, building on the preliminary analysis of Eversource and National Grid. Develop and implement a gas ADM program offering that complies with the DPU orders in the Eversource and National Grid gas rate cases that direct the PAs to pursue gas ADM through the EE programs.	Active Demand	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	C&I Active Demand Core Initiative: Gas Demand Response (pg. 152)	The PAs are exploring whether gas demand response can provide reductions in gas consumption that result in quantifiable system benefits for ratepayers, and whether they can propose activities which will not be duplicative to the demonstration already approved in the settlement agreement pursuant to Eversource's acquisition of Columbia Gas of Massachusetts.

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16	Increase cold climate heat pump installations, by identifying and prioritizing cost-effective applications for IES customers, developing protocols to standardize decision-making, identifying and addressing barriers to participation and installation, and working to increase customer education and support for operation and maintenance. - The overall heat pump goal should increase over the three-year term and be broken out to include goals for whole house conversions, partial displacement, and heat pump water heaters. Progress on goals should be reported within the PA quarterly reports. - Provide education to customers on the viability and benefits of electrification, as well as on current market pricing; provide training to operators on maintenance and operations of heat pump systems. - Ensure proper sizing of heat pumps by continuing to complete any necessary air sealing and weatherization work prior to heat pump installation.	Income Eligible	PAs agree with and support at least some of this recommendation	Addressed in Plan	p.98-99 "Increased focus on installing heat pumps" section	PAs agree with almost all of this recommendation. The PAs will not prioritize educating customers about market pricing of heat pumps in the Income Eligible sector, since they have no copy.
17	Develop heat pump expertise to include at least one specialist at each Community Action Program (CAP).	Income Eligible	PAs agree with and support this recommendation	Addressed in Plan	p.64 second to last tactic listed	This recommendation has already been achieved as of 2021 after comprehensive training implemented by LEAN for all CAPs in Q3 and Q4 2020 and Q1 2021, as well as providing CAP agency staff with access to HVAC Retail online training platform.
18	Increase participation in active demand management programs, including developing and implementing protocols for appropriate installation of WiFi thermostats for energy efficiency and demand management. Include follow-up, when necessary, to provide customer support.	Income Eligible	PAs agree with and support this recommendation	Not addressed in Plan		PAs have worked with LEAN and the Income Eligible Best Practices Working Group during the 2019-21 plan to complete development of protocols for wi-fi thermostats for income eligible customers, as well as trialing active demand promotion to income eligible customers. PAs plan numbers reflect continued installation of wi-fi thermostats, recognizing that not all heat pumps pair well with currently supported smart thermostats.
19	Collect and report data on the number, type, and location of barriers including those related to installation (e.g., building code violations) as well as those related to participation. Use this data to inform program delivery.	Income Eligible	PAs do not support this recommendation	Not addressed in Plan		Reporting requirements are not addressed in the plan. PAs have not taken a position on this yet because it still needs to be more thoroughly discussed with Lead Vendors.
20	Ensure that income eligible budgets reflect expected increases in the number of new low-income households due to COVID impacts, and reflect revised measure mixes, including increased installation of heat pumps, and improved protocols. - Collect data on and report to EEAC if and when there are deferrals or delays in service (in whole or in part) due to budget constraints	Income Eligible	PAs agree with and support this recommendation	Addressed in Plan in part	p.45-46	Income Eligible budgets reflect current PA expected estimates of any increase in IE customers over 2022-24 from COVID economic effects and all other factors. There are no deferrals or delays due to budgets based on how our programs are run.
21	Determine if there are differences in service by CAP territory, PA territory, or PA program (gas or electric) that are not warranted by differences in proportions of low-income households. - Develop and implement strategies to correct unwarranted service differences, including additional resources to CAP agencies.	Income Eligible	PAs agree with and support this recommendation	Not addressed in Plan		PAs work with our income eligible vendors to address any issues that come up and work with CAP agencies on an ongoing basis to ensure that all customers are being served. Within a given PAs territory, there are no budget limitations by geography or CAP.
22	Expand efforts to enroll customers newly eligible for IES services as a result of the COVID-19 pandemic, including coordinating with the outreach efforts the PAs have taken, and continue to take, to promote payment plans, arrearage management programs, and discount rates	Income Eligible	PAs agree with and support this recommendation	Not addressed in Plan		The PAs currently coordinate with the relevant parts of the applicable utility on these activities.
23	Increase and improve service to multifamily buildings, including naturally occurring affordable housing (NOAH). Strategies should include: - Collaborate with affordable housing developers and key stakeholders to establish a workable pay-for-savings approach which promotes deep energy retrofit projects	Income Eligible	PAs agree with and support at least some of this recommendation	Addressed in Plan	p.99 "Increased Opportunities for Multifamilies" section	PAs are working with LEAN and multifamily stakeholders on the design and it may not be "pay for savings" because the IE program already covers 100% of the cost for all cost effective measures, but we are working on the custom multifamily all electric path.
24	Develop and implement protocols to combine income eligible and non-income eligible services and streamline delivery of such services to building owners of buildings with a mix of income eligible and market rate units	Income Eligible	PAs agree with and support this recommendation	Addressed in Plan	p.60 second row of "example tactics", p.87 "Streamlined Process for Serving Customers in Mixed-Income Buildings"	
25	Develop and implement protocols to require blower-door testing for air leakage rates of multifamily buildings to ensure health and comfort of residents.	Income Eligible	PAs do not support this recommendation	Not addressed in Plan		There is no national or industry recognized standard to apply regarding blower door testing in multifamily buildings. In addition, any testing performed would add significant cost to the project and in many cases would not result in any additional energy savings for conditioned space in multifamily buildings. The PAs are studying in-unit air sealing through EM&V and adding in-unit air sealing measure as a measure is a way to address air leakage and capture savings that a blower door identifies in single family contexts without incurring the additional significant project cost and inconvenience for tenants of a blower door test.
26	Strengthen regular reporting in order to identify areas of improvement and resources needed to support comprehensive and equitable service to all submarkets. Reporting should provide insight into specific program activities and buildings served, as well as identify where program designs are working well or need modification. Quarterly reporting to the EEAC should allow differentiation of program activities by more granular parameters, including: - PA and CAP territory - Program (gas, electric) - Service type (Appliance Management Program (AMP), weatherization, heating system) - Building size (number of units) - Resident status (owner or renter) - Ownership (public housing, subsidized affordable housing, private)	Income Eligible	PAs agree with and support at least some of this recommendation	Not addressed in Plan		Reporting requirements are not addressed in the plan, but there are some of these that PAs already report such as by PA, by fuel/program, and by building size and PAs are open to further discussion on other data points on this list that would be feasible to include.

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27	Develop and implement a statewide computerized audit tool by the third quarter of 2022 that can provide regular, timely, and consistent information to support identification of best practices and needed continuous improvement as well as reporting to the Council and providing data for EM&V.	Income Eligible	PAs agree with and support at least some of this recommendation	Not addressed in Plan		PAs support regular, timely, and consistent information to support identification of best practices and needed continuous improvement as well as reporting to the Council and providing data for EM&V but do not think that an online audit tool is the only or best way to achieve this and are interested in working with LEAN and DOER to better understand where the existing gaps are related to reporting, data, and EM&V and options for addressing those gaps.
28	End support for non-dimmable TLEDs by the end of 2021 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.	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Not addressed in Plan		The Program Administrators have chosen to put less focus on the "plug and play" TLED products across all pathways in favor of the longer-term benefits of marketing linear LED products where controls savings can be realized.
29	Drive 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.	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Not addressed in Plan		The Program Administrators will continue to promote luminaire-level lighting controls and leverage our more comprehensive pathways in order to assist customers in developing higher energy-saving projects. The streamlined Performance Lighting pathway with the Lighting Designer Incentive provides the option for customers to utilize the services of lighting design professionals.
30	Increase investments 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.	C&I Existing Buildings	PAs agree with and support this recommendation	Not addressed in Plan		The Program Administrators plan to include several trainings to support advanced lighting controls. The Program Administrators have developed courses that train and certify electrical contractors and electricians in the installation, calibration, programming, commissioning, and maintenance of advanced lighting-controls systems. The Program Administrators also continue to partner with Massachusetts Energy Efficiency Partnership (MAEEP) in the development and delivery of Advanced Lighting Controls Systems (ALCS) seminars. These sessions target lighting designers and specifiers, engineers, sales staff, facility managers, major property owners, vendors, and contractors. The training introduces attendees to the newest enhancements to Advanced Lighting Controls Systems, such as Luminaire Level Lighting Control (LLLC).
31	Continue to transition all state and municipal, and company owned streetlights to LEDs incorporating streetlighting controls at the time of conversion	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Not addressed in Plan		The Program Administrators will continue to transition state, municipal, and company owned streetlights to LED. Streetlight controls and control-capable fixtures will be emphasized at the time of conversion where applicable.
32	Increase electric and gas HVAC savings from existing buildings by improving realization rates, increasing participation, streamlining the custom application process, addressing system optimization, including envelope upgrades and commissioning from project concept through operations. - Improve realization rates for implemented HVAC projects by consistently including third party commissioning to ensure the Massachusetts ratepayers and incorporate standardized benchmarking across PAs (using ENERGY STAR Portfolio Manager) as a pre-post component of project implementation. - Increase participation in custom HVAC projects and pursue system optimization to increase savings per project. System optimization includes right-sizing, eliminating pinch-points and by-passes, adding energy and heat recovery, implementing optimal sequences of operations and commissioning. - Consistently prioritize support for building envelope assessments and upgrades including air sealing, insulation and incremental improvements to siding and windows when investments in thermal envelope are planned. - Align timing of interventions with planned infrastructure upgrades to support deeper, more comprehensive upgrades. - Develop a pathway for public buildings that emphasizes HVAC and building envelope measures with enhanced incentives. Conduct a study specific to public buildings to establish baselines for this customer segment. - Explore additional financing opportunities for capital-intensive HVAC projects	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Advancing electrification SI (pg 133), technical assistance and tools SI, and specifically the tactic of promoting electrification when developing HVAC solutions that best suit customer's needs and promoting weatherization as an enabling measure.	The PAs are committed to increasing both the number and scope of HVAC projects undertaken by customers during the next three year plan. The PAs will also promote cost-effective weatherization measures as part of comprehensive HVAC projects.
33	Increase and drive demand for electrification projects, including conversions to variable refrigerant flow (VRF), air source and ground-source heat pump systems paired with Dedicated Outdoor Air Systems (DOAS) and providing operator and occupant training - Establish increasing target for electrification projects by fuel type - Establish target for heat-pump water heating. - Provide training to customers on the viability and benefits of electrification; provide training to operators on maintenance and operations of heat pump systems.	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Advancing electrification SI (pg 133), specifically the tactic of promoting electrification when developing HVAC solutions that best suit customer's needs	The PAs are committed to promoting heating electrification through a number of pathways and will work with customers on specific projects to meet their HVAC requirements.

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34	<p>Undertake a Deep Energy Retrofit Pilot including working with customers to leverage planned replacements to achieve cost-effective deep energy retrofits that result in balanced investment in envelope, HVAC and other improvements. Engage private and public 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. Completed retrofits should reduce energy use by at least 40% to move participants toward ZNE and renewable-ready buildings. Use the pilot to build the supply chain and workforce including identifying existing market actors with the skills best suited to delivering successful projects and training providers. Document project characteristics in promotional materials</p> <ul style="list-style-type: none"> <li>- Work with customers with significant real estate portfolios to identify buildings suitable for inclusion in the pilot with a target of 50 participant buildings. Help customers realize the full benefits of holistic lifecycle cost analysis by working with them to plan how they will replace equipment, systems and envelope components nearing end of life in order to move buildings towards lowest required energy inputs for HVAC operation.</li> <li>- Use an integrated design approach incorporating early retirement of existing equipment, systems, and components to ensure comprehensiveness and to identify the optimal package of integrated energy efficiency measures for the client; consider electrification in every package. Incorporate envelope improvements including assessments of the addition of insulated exterior cladding and upgrading windows to triple glazed units at the time of replacement.</li> <li>- As part of the process assess which service providers are best suited to support customers and the PAs in pursuing Deep Energy Retrofits.</li> <li>- Document project costs, savings, benefits and measured results in case studies and other promotional materials.</li> </ul>	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Continuous Improvement and Portfolio Expansion SI (pg 137), specifically the development of comprehensive energy efficiency projects	<p>The PAs remain committed to working with customers to develop projects which maximize savings subject to their specific goals.</p> <p>The PAs do not propose a pilot at this time, but we would be interested in learning from evaluation of cost-effective projects.</p>
35	<p>Expand delivery of services and savings relating to building automation and energy management information systems including legacy system upgrades and replacements and portfolio optimization. Require the use of and provided incentives for independent third-party commissioning in the existing building sector to improve savings.</p> <ul style="list-style-type: none"> <li>- Work with customers to upgrade legacy systems and optimize HVAC system performance. For customers with significant real estate holdings, work to ensure interoperability and optimization across their portfolio by helping them bring existing systems up to modern standards when new buildings or systems are added.</li> <li>- Require existing building commissioning to use independent third-party commissioning providers who participate in the project from kick-off through Measurement and Verification and include operator training.</li> </ul>	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Workforce development SI (pg 127) regarding "technical proficiency" for both customers and installation contractors.	<p>The PAs plan to provide training to both customers and installation contractors/service providers to increase market understanding and value of building automation/energy management systems. This will help increase awareness of the value that such systems and service can provide for building operators. At the same time, as noted below for recommendation #36, the PAs will develop tools that will streamline customer participation and programmatic assessment of savings from such systems. The PAs will also continue to offer building operator certification (BOC) trainings.</p>
36	<p>Increase support for and participation in Energy Management Information Systems (EMIS) measures and monitoring-based commissioning (MBCx).</p> <ul style="list-style-type: none"> <li>- Include participation rates, estimated savings, achieved savings and project costs in quarterly reports to the Council.</li> <li>- Evaluate EMIS and MBCx to identify market barriers, identify proven programmatic approaches that addressed those barriers in other jurisdictions and assess the market actor competency in delivery EMIS and MBCx services.</li> </ul>	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Technical assistance and tools SI (pg 131) regarding "programmatic ease of use and participation"	<p>The PAs will be working to further define what characteristics of an EMIS system are important for participation in a "continuous" or "monitoring-based" commissioning service contract and how we can cost-effectively claim savings over the term of that contract.</p> <p>Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"</p>
37	<p>Continue to identify and eliminate barriers that are preventing project implementation and savings already identified through the Industrial Initiative.</p> <ul style="list-style-type: none"> <li>- Continuously check back regularly with customers to see if circumstances have changed, or what it would take to move forward. Once a project has been identified, and quantified, the incremental support to cause a project to move forward should be less than the effort and cost to identify a new potential project.</li> <li>- Provide sales training to Industrial Initiative contractors.</li> <li>- Use the Massachusetts Pro Forma tool to provide cash flow analysis, rate of return, and other project financial information to the customer CFO to sell the project.</li> <li>- Report to the EEAC on work being done to reduce barriers for industrial process savings.</li> </ul>	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	Strategic Intervention - Improving Participation Through Greater Awareness, Understanding, and Accessibility P128-130	<p>The PAs have dedicated staff who manage relationships with industrial customers and continuously engage those customers regarding energy efficiency opportunities.</p> <p>As noted in the draft Plan, the PAs intend to address barriers to participation for customers in general, not just industrial customers, in a number of ways including redesign and simplification of incentive applications and processes by reorganizing and consolidating along major end use categories; reorganizing, updating, and expanding content for C&amp;I customers on MssSave.com including information both according to end-use category and business or building type; and developing and deploying segment-specific content for target markets that speaks to customers using relevant peer-to-peer comparisons.</p>

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38	Expand Strategic Energy Management (SEM) to a full program offering for all industrial customers. - Pair SEM with implementation of traditional Industrial Initiative to drive more capital projects. Track any increases in capital projects to assess the impact of SEM participation in Massachusetts. SEM may be the most valuable marketing tool available to target manufacturers. - Reassess the measure life for Strategic Energy Management operational savings. - Support Energy Management Information Systems through financial cost sharing.	C&I Existing Buildings	PAs do not support this recommendation	Not addressed in Plan		Results of Year 1 of the SEM trial offering have thus far been underwhelming in terms of customer interest and has produced relatively modest savings at relatively high cost. The PAs will reassess once Year 2 results are available and decide whether or not the SEM effort should be continued.  The current SEM trial has been paired with our traditional approach so that both capital and O&M projects are being identified and tracked. To date, the SEM effort has not led to an increase in capital projects. The measure lives being used within the SEM initiative are based on the latest EM&V results.  The PAs currently support EMIS by offering incentives for energy savings resulting from the implementation of measures identified through an EMIS. However, EMIS do not themselves save energy and therefore are not incentivized.
39	Identify customer segments where there are still appreciable non-lighting savings opportunities and construct targeted initiatives to address these markets. Examples include: - Smaller/distributed telecom sites, including cabinets and other unoccupied structures. - Cannabis cultivators with substantial process savings from dehumidification	C&I Existing Buildings	PAs agree with and support this recommendation	Addressed in Plan	Strategic Intervention Tech. Assistance and Tools P130-131	The PAs already target specific customer segments both in terms of marketing materials developed as well as organization of staff resources and plan to continue and expand this practice throughout the Plan.
40	Assess incentives for natural gas fueled CHP - Analyze lifetime greenhouse gas impacts of CHP in the context of the Global Warming Solutions Act climate goals - Complete a dedicated CHP impact and net to gross evaluation no later than 2022. Ensure this report differentiates between new CHP systems and retrofit/replacement of existing systems. Cover all eligible CHP technologies including reciprocating engines, turbines, and fuel cells with thermal output.	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Not addressed in Plan		Multiple CHP evaluation studies are being considered for the 2022-2024 timeframe. These include: Impact Evaluation of CHP & Methods Development, Micro-CHP Impact & Process Evaluation, a CHP Net-to-Gross Study and a Market Research Study.
41	For all CHP projects, conduct detailed lifetime emissions analysis using an impartial and agreed upon forecast of ISO New England's emissions intensity. Prioritize and offer enhanced incentives for lower carbon systems such as renewable fuel CHP systems that run on anaerobic digester gas.	C&I Existing Buildings	PAs agree with and support at least some of this recommendation	Not addressed in Plan		Detailed lifetime emissions analysis would add an additional barrier for projects by increasing the timeline and adding costs.
42	Establish separate, higher heat pump unit goals to reflect EEAC priorities and report progress within the PA quarterly reports. Goals should be broken out by all heat pumps, whole house conversions, partial displacement, and heat pump water heaters.	Residential Existing Building	PAs agree with and support this recommendation	Addressed in Plan	BCR Models	The PAs recognize the importance of decarbonizing the building sector, and this Plan represents a necessary and measurable shift to electrification and away from traditional fossil-fuel based heating and cooling measures. Heat pump goals are broken out by all heat pumps, whole house conversions, partial displacement, and heat pump water heaters. Specific reporting commitments are still under discussion.
43	Bolster program support and market promotion of heat pump technologies for primary heating including the addition of incentives and HEAT Loan eligibility for ground-source heat pumps by January 2022: - Enhance HVAC contractor technical competencies for heat pump system selection, design, installation and maintenance - Enhance customer education efforts - Develop program design and incentives to encourage weatherization prior to heat pump installation when feasible and practical - Co-deliver with other energy efficiency and active demand management measures	Residential Existing Building	PAs agree with and support this recommendation	Addressed in Plan	Page 14-15, Electrification Strategies; Pages 89-91, Residential Retail Initiative	The PAs are committed to bolstering program support and market promotion of heat pump technologies for primarily heating. The PAs support all of these recommendations and have included them in the Plan.
44	Recognizing climate goals and the market transformation that has occurred with respect to fossil fuel systems, update current fossil fuel space heating incentives to limit incentives only to technologies and installations where clear cost-effective savings remain. - By January 2022, for market rate customers with existing gas or propane equipment: remove incentives for customers replacing existing condensing systems and maintain incentives for customers replacing non-condensing with condensing systems - For market rate customers, cease incentives and HEAT loans for oil-fired heating equipment as of January 2022; handle as custom measure, especially for multifamily buildings - Study low and moderate income customer impacts and needs to determine appropriateness of the application of A and B for these customer groups.	Residential Existing Building	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	BCR models, 2.1.8 - Easing Participation	The PAs take seriously their obligation to support all cost-effective energy efficiency, while simultaneously influencing and anticipating changes in the market. Changes in cost effectiveness have led to the following changes in measures offered, all of which are reflected in the filed tables: -Elimination of incentives for oil-fired boilers -Only incentivizing natural gas and propane space-heating equipment when upgrading non-condensing equipment
45	Phase out fossil fuel water heating incentives - Cease incentives and HEAT Loans for oil and propane water heating equipment by January 2023, using a phased approach if necessary to support an orderly market transition. - Cease incentives and HEAT Loans for storage and indirect natural gas water heaters as of January 2022, but retain for more efficient tankless and condensing gas systems. - Study low and moderate income customer impacts and needs to determine the appropriateness of the application of A and B for these customer groups	Residential Existing Building	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	BCR models	The PAs take seriously their obligation to support all cost-effective energy efficiency, while simultaneously influencing and anticipating changes in the market. The PAs are reviewing the cost effectiveness of all water heating measures, and may eliminate some measures in the final draft of the Plan.
46	Supplement RCD with new, custom performance-based offer modeled after DOER's Home MVP pilot that incentivizes customers to both weatherize and install heat pumps.	Residential Existing Building	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	2.1.11 - Residential Coordinated Delivery	Based on feedback received from contractors participating in DOER's MVP pilot, the PAs will introduce greater flexibility in the types of weatherization that contractors serving single family and low rise homes may specify through RCD. The PAs are also considering offering a bonus incentive for customers who weatherize their home before installing a heat pump.

# Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan, 2022-2024

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#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
47	Implement state of art communication and data management practices to increase effectiveness of customer interactions, including but not limited to: - Review/refresh Mass Save and PA websites - Carry through updated messaging strategies to customer emails, social media, and other communication channels - Improve the home energy audit report - Improve behavior reports - Enhance use of technology - Enhance sales training to program contractors, including call center staff, who interact with customers	Residential Existing Building	PAs agree with and support at least some of this recommendation	Not addressed in Plan	n/a	The PAs continuously make improvements to processes, marketing materials, technologies, etc. The specifics of these changes sometimes vary by PA, are based on the latest available information, and are too numerous and tactical to list in the Plan.
48	Increase participation and conversion rate in RCD : - Increase savings and participation from weatherization measures - Improve customer access through simplified customer experience such as reduction in number of steps to participate, increased opportunities for immediate action, additional facilitated support, and single point of contact for customers. - Increase data-driven targeted marketing and outreach efforts. - More seamlessly integrate already available storage, EV-charger, and PV incentives into the program. - Reassess Home Performance Contractor compensation models as needed to reflect changes in lighting measures offered during home energy assessments	Residential Existing Building	PAs agree with and support this recommendation	Addressed in Plan in part	2.1.11 - Residential Coordinated Delivery	The PAs maintain that weatherization is a cornerstone of Residential and Income Eligible offerings and will continue to make changes that increase participation, improve conversion rates, reduce customer barriers, and maximize benefits. When evaluating what energy-related measure to promote to customers, the PAs consider what channels are likely to be most cost-effective, how much information a customer can reasonably be expected to digest in a given interaction, and whether there are claimable benefits available. The PAs do not address the specifics of vendor compensation in Three-Year Plans.
49	Expand investment in targeted trainings for field assessment, installation, and commissioning of various heat pump technologies for residential, income eligible, and commercial sectors. - Expand investment in targeted trainings for field assessment, installation, and commissioning of various heat pump technologies for residential, income eligible, and commercial sectors. - Fund efforts that grow the field of qualified building automation system technicians and commissioning specialists in the commercial and multifamily sectors - Expand building operator training for large, complex facilities to ensure that investments made in new technologies deliver on their full savings potential.	Workforce Development	PAs agree with and support this recommendation	Addressed in Plan	2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT & 3.9.2 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	While heat pumps are not called out in particular for training opportunities, it is an area the PAs are looking to robustly support and offer trainings on to help develop the technical expertise regarding assessments, installation, and commissioning of heat pumps. The PAs are leveraging the CEP to train HVAC Technicians, who could end up in a number of different roles, building automation being one of them. Finally, the PAs sponsor the BOC to host 4 trainings in the region, 2 for Eastern MA / RI and 2 for Western MA and CT, which is an expansion over previous years which just had 2 per year. Beyond this the PAs are continuing to offer access to the recorded webinars to our municipal customers to help them develop their skillsets.
50	Complete an independent Mass Save workforce study with a first report to be completed by September 2022. Report on jobs resulting from Mass Save Program investments, statistics on workforce demographics prioritized by the Equity Working Group, and ongoing identification of areas for strategic workforce investments that drive future program success. Coordinate with MassCEC on its annual Clean Energy Industry Report - Assess the overall quality and quantity of the workforce that directly and indirectly deliver the Mass Save program (PA staff, PA contracted vendors, and firms that operate through the PAs open market programs). - Include demographic information on workforce outlined in the recommendations from the Equity Working Group. - Continually identify deficiencies and needs for greater investment for various programs and technologies.	Workforce Development	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	1.1.3 WORKFORCE DEVELOPMENT	The PAs completed a workforce needs assessment survey in late 2019 / early 2020 which drove the development of our WFD efforts directly leading to the creation of the Clean Energy Pathways internship. This survey was done via an independent third party, BW Research, which also conducts the MA DOL workforce surveys. The Evaluation Management Committee is in the early stages of planning an evaluation of the new Workforce Development initiative, which will be conducted by an independent evaluator and will be launched in 2021. Partnering with MassCEC on Workforce Development is a larger goal of the PAs, not only on their Clean Energy Reports, but also on WFD at large. The PAs need to ensure that we are operating in lock step as our WFD efforts may in some cases be overlapping, and need to be cognizant of the actual market need for employees. Specific reporting commitments are still under discussion.
51	Expand investments in workforce development including but not limited to funding apprenticeships and internships, training and upskilling for incumbent workers, and outreach to draw new and diverse workers into the Mass Save ecosystem. Develop a budget to support significant expansion of workforce development efforts based on Equity Working Group Recommendations and Recommendation 10 above. - Encourage significant, steady and sustained ramp-up of spending incrementally throughout the 2022-2024 plan (for example, 0.8% in 2022, 1.6% in 2023, 2% in 2024). - Develop a bottom-up budget that includes workforce development initiatives including trainings and continuing education for existing workers, certification programs, direct investment in trade school and community college programs, stipends for internships, outreach to new/diverse prospective EE workers, support for trade ally diversity, equity and inclusion policy development, and tracking and reporting on EE workforce demographics. - Expand the level of detail included in quarterly reporting to the Council on workforce development spending to ensure investments are effectively delivering on objectives developed by all stakeholders	Workforce Development	PAs agree with and support at least some of this recommendation	Addressed in Plan	2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT & 3.9.2 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	The PAs address multiple ideas on how to develop new business partners, and recruit non-participants to be part of the CEP Internship program. The PAs are currently proposing a workforce development budget of ~1.2% per year which in itself is a very significant increase over the 2018-21 Plan. This is further bolstered by the \$12 Million per year as per the MA Senate Bill S.9 "An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy" workforce development funding that the PAs will be providing to MassCEC to perform WFD activities. In total across the three years, the PAs have proposed spending ~\$35 Million on workforce development. This \$35 million budget was developed from a ground up perspective, including current activity, planned new activities, and budget for future WFD needs and is in addition to the funds dedicated to the MassCEC.  Specific reporting commitments are still under discussion.
52	Ensure incentives and other means of support are adequate to meet partners' needs - Provide guaranteed financial support at the beginning of the program year to support CBO and municipal staff capacity both internally and through their external partners	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	
53	Tie partnership goals specifically to increases in participation by renters, moderate income customers, and language isolated customers, which is not currently the case for the Municipal Partnership Program	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	

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#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
54	Enable more different and innovative pathways that partnerships could follow - Flexible, customized, and targeted approaches to better meet needs of individual communities and priorities within a community	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	
55	Create goal-setting and evaluation mechanisms in collaboration with partners	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		PAs are incorporating more flexibility in goal setting for Partners in the improved design and are working with EM&V PA staff and EM&V EEAC consultants on evaluation of the Municipal and Community Partnership Strategy.
56	Increase the number of participating municipalities and allow municipalities to submit multi-year applications	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	
57	Increase access to, transparency around, and granularity of data by: - Standardizing data collection and reporting across all PAs - Developing data sharing agreements between program partners and PAs - Providing regular trainings to interested stakeholders on the Mass Save Data - Providing support and technical assistance to smaller community based organizations and municipalities as they navigate data	Equity	PAs agree with and support this recommendation	Not addressed in Plan		With the launch of the Residential Customer Profile Study Dashboard on MassSaveData.com and development of maps for Partners using Non-Participant Study data, PAs are working on achieving this recommendation in 2021 and are working with Partners on their data needs. We will continue to incorporate further improvements in 2022-24.
58	Streamline process and give program partners more flexibility to develop marketing materials that will resonate with their community	Equity	PAs agree with and support this recommendation	Addressed in Plan in part	p.62 strategic intervention Municipal and Community Partnership Strategy	The plan references greater flexibility for Partners, and this extends to marketing materials.
59	Expand approach to partnerships to include entities other than municipalities such as, - Community-based and culturally based organizations (see next section of recommendations) - Statewide and regional organizations representing underserved communities and populations - Consider expansions beyond populations Equity Working Group has been focusing on	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	
60	Ensure partnerships go beyond just outreach and lead to program participation - e.g., partners could serve as savings aggregators, project openers or closers, implementers	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	p.62 strategic intervention Municipal and Community Partnership Strategy	The goal of Municipal and Community Partnerships is to increase customer participation. PAs are providing flexibility for Partnership applicants to propose innovative strategies within a certain budget limit, but do not yet know what those innovative proposals will look like until applications are received.
61	Identify and connect with local groups that work within underserved communities	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.64 strategic intervention Workforce Development, p.62 strategic intervention Municipal and Community Partnership Strategy, p. 61 strategic intervention Language Access, p.60 strategic intervention Rental Properties,	
62	Listen to community-identified needs	Equity	PAs agree with and support this recommendation	Not addressed in Plan		PAs make every effort to listen to the community identified needs shared with us throughout the stakeholder engagement processes through the EEAC and Equity Working Group, as well as additional conversations with current and previous Municipal Partners and in additional feedback sessions that we hold and feedback that community members share with us and look to incorporate as much of that feedback as we can to improve program effectiveness.
63	Include leaders in goal-setting and program planning	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		PAs rely on the stakeholder feedback received through EEAC meetings, DOER public comment sessions, and Equity Working Group to inform program design, as well as additional program level stakeholder engagement through the Income Eligible Best Practices and Income Eligible Multifamily group. PAs are also holding listening sessions from stakeholders to inform the Municipal and Community Partnership design for 2022-24.

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#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
64	Identify and work with community leaders, with compensation for their time, experience, and knowledge	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	
65	Provide resources on a sustained basis to achieve mutual energy efficiency objectives	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	PAs are targeting 2 and 3 year relationships with Partners for the 2022-24 plan.
66	Create regular mechanisms for two-way communication between partners and PAs	Equity	PAs agree with and support this recommendation	Not addressed in Plan		PAs plan to continue holding monthly meetings of all Partners, as well as monthly one on one meetings with each Partner team and their PA(s). PAs are available at all times for phone and email exchange with Partners and often exchange multiple calls and emails with Partners on a weekly basis. PAs will continue to look for ways to further streamline and optimize communication with Partners.
67	Use quantitative information where available to determine geographic areas and population groups that should be targeted with partnerships - History of underservice - Income / energy burden - Language - Race or ethnicity - Environmental burdens	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.62 strategic intervention Municipal and Community Partnership Strategy	
68	Assess and revise vendor solicitation processes - Minimize use of invite-only procurements - Include certified DBEs in all RFP, RFQ, and RFI distribution lists - Require bidders to make measurable financial commitments to do business with one or more diverse businesses on all procurement opportunities with a value greater than \$150,000 -- Require lead vendors to partner with DBEs on all Mass Save contracts - Make selection criteria objective and transparent to avoid implicit bias - Host webinars and trainings, and provide technical assistance to help vendors navigate the procurement process	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	
69	Identify and remove barriers to increase Disadvantaged Business Enterprise (DBE) participation - Identify new DBE firms; support eligible vendors to pursue diversity certification or small business certification	Equity	PAs agree with and support this recommendation	Addressed in Plan	2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT & 3.9.2 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	
70	Set minimum standards for formal diversity, equity, and inclusion policies for all Mass Save contracted vendors - Provide detailed technical assistance to vendors as they develop formal diversity, equity, and inclusion policies	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	p.66, 2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	Some vendors have small companies and it is difficult to have a one-size-fits all approach, but PAs do plan on providing some level of guidelines and technical assistance to vendors regarding diversity, equity and inclusion.
71	Create and keep up-to-date a detailed list of all training opportunities available through or supported by Mass Save and make that list easily available to stakeholders and on the Mass Save website - Make a concerted effort to identify key upskilling opportunities for the incumbent workforce and develop new training opportunities where there are gaps - Coordinate with the trade ally network and training providers to ensure that graduates of training programs have direct access to job opportunities with Mass Save contracted vendors - Expand geographic access to training opportunities by providing virtual and in-person trainings throughout the Commonwealth	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.65, 2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	
72	Create targeted support for workforce and contractor development efforts in Environmental Justice communities with historically low participation in Mass Save - Engage with community-based organizations and industry groups / associations that focus on diverse businesses	Equity	PAs agree with and support this recommendation	Addressed in Plan	2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	
73	Expand outreach & education about career opportunities to include stronger partnerships with vocational and technical high schools and community colleges - Create multiple viable career pathways to illustrate career opportunities available to new entrants in the workforce - Establish energy efficiency career days where students can learn firsthand from energy efficiency workers - Make direct connections between careers in energy efficiency and climate and the environment	Equity	PAs agree with and support this recommendation	Addressed in Plan	2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT, pp.58, 64, 102	There is a widely recognized gap in diversity and inclusion at vocational technical high schools statewide that education experts are working to address. However, vocational technical high schools and other public schools are vital to educating the next generation of energy leaders and PAs plan to incorporate more career exploration activities into K-12 education efforts and plan to work with vocational technical high schools that represent large Environmental Justice communities in the Clean Energy Pathways internship.

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#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
74	Fund internships, apprenticeships, pre-apprenticeships, and externships - Partner with employers to offer partial wage subsidies for a limited time for new entrants into the energy efficiency workforce - Include mentorship and networking opportunities as a component of all internship, apprenticeship, pre-apprenticeship, and externship opportunities - Track and report the number of internships, pre-apprenticeships, apprenticeships, and externships that translate into full-time job offers	Equity	PAs agree with and support this recommendation	Addressed in Plan	2.9.3 STRATEGIC INTERVENTION: WORKFORCE DEVELOPMENT	
75	Revise the income verification process to improve ease of access for moderate-income customers - Examples the EWG has discussed, but are not yet in agreement on how to proceed, include: -- Multiple options for income verification, such as automatic qualification in certain EJ communities/geographic areas (community level verification) or using self-verification with audits (household level verification) -- Establishing eligibility through documented participation in other state income-qualified programs	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan	p.59 strategic intervention Moderate Income	
76	Provide no-cost incentives for weatherization, heating system replacements and appliance replacements to moderate-income customers - Increase incentives to support electrification - Prioritize whole-building services to incentivize weatherization at the time of heating system replacement	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan	p.19, p.58-59 strategic intervention Moderate Income, p.91	
77	Increase and allocate sufficient funding for pre-weatherization barrier mitigation for moderate-income customers	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.19, p.58-59 strategic intervention Moderate Income	
78	Target municipalities with high numbers of rentals	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.60, strategic intervention Rental Properties	
79	Use multiple strategies to reach rental property owners and residents - Develop alternative sales and/or delivery models for rental property segment (e.g. landlord association, other third party)	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan	p.60, strategic intervention Rental Properties	
80	Develop compelling case for participation by developing case studies when new program offerings become available	Equity	PAs agree with and support this recommendation	Addressed in Plan in part	p.60, strategic intervention Rental Properties	
81	Collaborate with rental owners on program design	Equity	PAs agree with and support this recommendation	Not addressed in Plan		PAs rely on the stakeholder feedback received through EEAC meetings, DOER public comment sessions, and Equity Working Group to inform program design, as well as additional program level stakeholder engagement with organizations like Mass Landlords Association and other regional landlord groups to inform program design during planning and on a continuous basis.
82	Address pre-weatherization barriers	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.60, strategic intervention Rental Properties	
83	Continue and enhance efforts to provide integrated service delivery with one point of contact for owner	Equity	PAs do not support this recommendation	Not addressed in Plan		The primary point of contact is typically the energy specialist or the sales person for a high rise building. Customers need to have some level of interaction with contractors in order to schedule and discuss upgrades.
84	Enhance incentives for measure bundles and / or for higher savings levels	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.91 Residential Retail	
85	Employ "closers" who get paid to close projects and / or revise Mass Save sales compensation model	Equity	PAs do not support this recommendation	Not addressed in Plan		
86	Provide referral incentives to landlords and tenants who refer their landlords	Equity	PAs do not support this recommendation	Not addressed in Plan		
87	Develop a marketing offer that combines energy efficiency and other building upgrades to attract new program participants	Equity	PAs do not support this recommendation	Not addressed in Plan		PAs are not able to incentivize non-energy efficiency technologies using ratepayer dollars.
88	Commit to prioritizing Main Streets programs in EJ communities in addition to and separate from efforts in business parks	Equity	PAs agree with and support this recommendation	Addressed in Plan	3.9.1 STRATEGIC INTERVENTION: EQUITY	
89	Develop marketing and outreach strategies for commercial landlords to help commercial renters participate	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan	3.9.1 STRATEGIC INTERVENTION: EQUITY Specifically Figure 3-18	PAs agree that commercial renters have their own specific engagement strategy and are striving to work with our property owners on how to reach their tenants and upgrade those facilities.
90	Provide dedicated account managers for a subset of small business customers to allow for more personalized service - Consider grouping small business accounts by industry	Equity	PAs do not support this recommendation	Not addressed in Plan		The PAs leverage Contractors with assigned geographic territories and customers lists to address Small Business customers. There are dedicated PA support staff to manage these contractors.

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91	Allow eligible customers to sign up online for turnkey small business audits	Equity	PAs agree with and support this recommendation	Addressed in Plan	3.9.1 STRATEGIC INTERVENTION: EQUITY Specifically Figure 3-18	
92	Expand pool of small business turnkey vendors that employ diverse staff	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		The PAs leverage a competitively bid RFP process for each plan term to select the SB contracted vendors. The PAs can endeavor to allow more organizations to bid into the programs, but technical competence and historical performance play a significant role in vendor selection. The PAs have committed to reviewing all bid submissions for diversity of staff, and diversity of sub contractor partners.
93	Improve incentives and financing and standardize offering of turnkey services across PAs	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		PAs already offer incentives of roughly 70% of project costs for eligible SB customers. For the Larger PAs (Eversource and National Grid) financing is available directly from the PAs, but the PAs do have a partnership with the Mass Bankers Association to offer project financing.
94	Reduce reliance on upstream programs for small business	Equity				The PAs are not reliant on upstream programs to serve small business customers. However, the upstream pathway has been extremely successful in enabling more and more small business customers to benefit from the PAs programs and offerings. Additionally, small business customers are the only C&I customers who are eligible to participate in all programs and pathways.
95	Enhance opportunities for deeper savings for underserved customers	Equity	PAs agree with and support this recommendation	Addressed in Plan	3.9.1 STRATEGIC INTERVENTION: EQUITY Specifically Figure 3-18	
96	Provide concierge services to guide customers through audit and installation	Equity	PAs do not support this recommendation	Not addressed in Plan		The PAs leverage contractors with assigned geographic territories and customers list to address small business customers. There are dedicated PA support staff to manage these contractors.
97	Bundle lighting and non-lighting measures to deliver comprehensive solutions and deeper savings	Equity	PAs agree with and support this recommendation	Addressed in Plan	3.9.1 STRATEGIC INTERVENTION: EQUITY Specifically Figure 3-18	The PAs will investigate a small business tool to evaluate all applicable measures. This will ensure that energy engineers are reviewing all measures at once and providing a consistent output to customers statewide
98	Deliver more small business weatherization and address pre-weatherization barriers - Incorporate non-energy impacts in measure screening	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan	3.9.1 STRATEGIC INTERVENTION: EQUITY Specifically Figure 3-18	The PAs will investigate a tool to evaluate all measures applicable to small business customers. This will ensure that energy engineers are reviewing all measures at once and providing a consistent output to customers statewide
99	Deliver more custom measures and compress the level of effort required to design a custom measure	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		PAs are working to develop custom express tools to help bolster the required energy engineering competency needed by the small business vendors in addressing custom calculations and projects.
100	Create detailed customer journey maps - Illustrate individual journeys for each program within IES, Residential, and C&I, and for different customer types, including owners, tenants, property owners and managers - Identify all points of contact requiring translation and / or interpretation - Catalog language assets available within the Mass Save program administrators and contractor network - Use customer journey maps to establish appropriate expectations among contractors and customers	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan	Appendix B Strategic Evaluation Plan	The Evaluation Management Committee is in the final stages of planning a study to Map the RCD Journey for Customers with Limited English Proficiency, with a focus on Spanish and Portuguese speaking customers. The study is scheduled to be complete by March 2022.
101	Identify gaps in resources and develop plan to bridge them through program outreach, design, delivery, and workforce development efforts	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan", p.61 2.9.3 Workforce Development Strategic Intervention "Train Diverse Candidates"	

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PA responses to EEAC Recommendations, May 14, 2021

#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
102	Reduce number of steps required to access offers—participation should be seamless	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan" and "Customer Journey" and Appendix B Strategic Evaluation Plan Customer Journey research	
103	Provide immediate pathways to action	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access", p. 62 2.9.2 Municipal and Community Partnership Strategy, p.65 2.9.3 Workforce Development "Contractor Network", p.123 Equity Strategic Intervention	The PAs are taking a variety of steps, identified throughout the Draft Plan, to address the barriers identified that language isolated customers face. Some of these steps are already in process, such as putting the CEP internship into place with one of the priorities being recruitment of interns who are multilingual, as well as the next stage of the Municipal and Community Partnership Strategy that includes direct relationships with CBOs. Others will take some time to complete during 2022 such as the Language Access Plan completion and in-depth language customer journey included in the Strategic Evaluation Plan that will then recommend implementation improvements through the findings from that research. All of these provide pathways to action that are immediate or near immediate.
104	Provide direct connections to services (e.g., utility supplies electrician to remedy issue) and energy concierge services	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	p. 62 2.9.2 Municipal and Community Partnership Strategy, p.65 2.9.3 Workforce Development "Contractor Network"	PAs are building in "Energy Advocate" component in their draft Municipal and Community Partnership design, which will play a similar role to an "energy concierge." This level of detail is not included in the Plan but will be shared with stakeholders for feedback.
105	Collaborate with community-based organizations serving language isolated communities to standardize and socialize common industry terms	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan" and "Community-Based Social Marketing"	
106	Enhance connections with community-based groups - Identify and connect with statewide, regional, and local groups that work within language isolated communities - Create regular mechanisms for two-way communication - Listen to community-identified needs - Identify and work with community leaders, with compensation for their time, experience, and knowledge - Include community leaders in program planning - Provide resources on a sustained basis to achieve mutual energy efficiency objectives including financial incentives for lead generation and conversion	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access", p. 62 2.9.2 Municipal and Community Partnership Strategy	

## Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan, 2022-2024

PA responses to EEAC Recommendations, May 14, 2021

#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
107	Leverage community networks to develop necessary cultural competence and build trust with language isolated communities - Support and use inclusive and multi-lingual media - Provide feedback on cultural aspects of marketing - Help with intersectional approaches	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan" and "Community-Based Social Marketing", p. 62 2.9.2 Municipal and Community Partnership Strategy	
108	Address gaps identified in language cataloging	Equity	PAs agree with and support this recommendation	Addressed in Plan	Appendix B Strategic Evaluation Plan	Language Customer Journey research through EM&V will look at this question.
109	Focus recruitment efforts to develop multilingual workforce for all levels	Equity	PAs agree with and support this recommendation	Addressed in Plan in part	p.64, 2.9.3 Strategic Intervention Workforce Development	To the extent that PAs are supporting contracted vendors directly with recruitment, we are focusing on entry level positions because that is where the most hiring difficulty is and where we are also emphasizing recruitment of more multilingual staff.
110	Recruit through community-based organizations	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.64, 2.9.3 Strategic Intervention Workforce Development	CEP internship is recruiting through CBOs.
111	Create career ladders for multilingual staff; include pay differentials for language / cultural experience	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		To the extent that this recommendation is focused on staff of companies with whom PAs directly contract or subcontract, it is outside of PA purview for PAs to direct lead vendors and subcontracted vendors on how to manage and reward their staff. However, see p.58 of the Draft Plan referencing PA intentions to put goals in place for supplier diversity to encourage collaboration with companies with diverse ownership.
112	Adapt to cultural differences within language groups, based on ethnicity, age, etc.	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan" and "Community Based Social Marketing" and p.162 5.1 Marketing Plan Overview	
113	Establish written language access policy, preferably in common across all PAs and vendors, and provide regular training on language access	Equity	PAs agree with and support this recommendation	Addressed in Plan	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan"	
114	Maintain catalog of language capabilities of workforce, including PA staff and vendors	Equity	PAs agree with and support this recommendation	Addressed in Plan in part	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan"	PA and vendor staff changes on a regular basis, and the Language Access Plan will help assess consistency in technical language use for specific languages, where to go to for what support or questions, and how to address questions of language access more broadly.

# Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan, 2022-2024

PA responses to EEAC Recommendations, May 14, 2021

#	Recommendation	Workshop Topic	PA Agreement/Support	Addressed in Plan	Where in Plan (Section, Page)	Explanation / Notes
115	Create mechanisms for easy and equitable sharing of language support, including an MOU across PAs, lead vendors, subcontractors and regularly updated template for PA and vendor access language support	Equity	PAs agree with and support at least some of this recommendation	Addressed in Plan in part	p.61, 2.9.1 Equity Strategic Intervention "Customer Language Access" see especially "Language Access Plan" and Appendix B Strategic Evaluation Plan	
116	More frequent and detailed reporting of participation by underserved customer groups as described below.	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan	.	Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"
117	Small business - Separate small business from C&I existing building retrofit reporting - Expand reporting on small business participation	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"
118	Language Isolated Populations - Gather, track, and report customer language preference and language of program participants	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"
119	Renters and Landlords - Report renter participation quarterly - Report on program participation in small rental buildings (5-25 units) - Number of property owners/landlords receiving enhanced insulation incentive - Participation, savings, and costs for multifamily program, including # of affected projects and units	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"
120	Moderate Income - Provide regular information on barriers to weatherization - Number of heating equipment installations for moderate income customers, by type	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"
121	Designate PA budget and savings goals for rental properties, with targets for small buildings (5-25 units)	Equity	PAs do not support this recommendation	Not addressed in Plan		Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"
122	Establish numerical goals for increased participation among underserved customer groups such as moderate-income customers, renters and landlords, language isolated customers, and small businesses	Equity	PAs do not support this recommendation	Not addressed in Plan		Specific reporting commitments are still under discussion. The PAs acknowledge the DPU's language on the topic in it's final order in 20-150A: "As stated above, the Department recognizes that there must be a balance between minimizing administrative costs and reporting beneficial data and information"
123	Craft performance incentive mechanism that DPU can approve and that will emphasize equity and serving underserved customer groups	Equity	PAs agree with and support at least some of this recommendation	Not addressed in Plan		As of the April Draft Plan submission and to date, the PAs are continuing to engage with stakeholders and work on a performance incentive mechanism that appropriately aligns the PAs' performance with energy efficiency goals, including addressing equity in a way that is both responsive to stakeholder feedback and compliant with the Energy Efficiency Guidelines and Department precedent.

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