Massachusetts Income Eligible Process Evaluation (MA23R55)

Final Report

Prepared for:

Massachusetts Program Administrators

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Table of Contents

1. Executive Summary 1
1.1 Program Changes 3
1.1.1 Evaluation Approach 4
1.2 Key Findings, Implications, and Recommendations 5
1.2.1 Data Availability and Management 5
1.2.2 New Initiatives 7
1.2.3 Customer Experience 8
1.2.4 Multifamily Pathway 10
1.2.5 Electrification and New Program Measures 10
1.2.6 Evaluation 11
1.2.7 Evaluation and Follow-Up Support and Research Needs 12
1.2.8 Additional Recommendations and Considerations 13
2. IE Program Overview 15
2.1 Program Description 15
2.1.1 Program Implementation 17
2.1.2 LEAN 18
2.1.3 Lead Agencies and Sub-Agencies 19
2.1.4 Three-Year Goals and Budget 20
2.2 Program Changes 23
3. Evaluation Overview 25
3.1 2017 Process Evaluation Recommendations 27
4. Program Ecosystem 30
4.1 Funding Sources for IE Weatherization Services 32
4.1 Additional Program Support for Customers 33
4.2 Related PA-funded Programs and Initiatives 34
4.3 Considerations for the Upcoming Program Cycle 35
5. New Program Initiatives 37
5.1 SCSC 37
5.2 Statewide Production Board 38
5.3 LVI 40
5.4 Recommendations 42
6. Overarching Internal Processes 43
6.1 Application Intake and Processing 43
6.2 Assessment Process 44
6.3 Measure Installation 46
6.4 QA/QC 46

6.5 Data Collection, Tracking, and Reporting 46
6.6 Operational Challenges and Considerations 51
6.6.1 CAP Agency Staffing and Capacity Constraints 51
6.6.2 Background Check Requirements 52
6.6.3 Training Needs 52
6.6.4 Data Collection and Management 52
6.7 Recommendations 53
7. Customer Journey 55
7.1 Program Awareness and Initial Engagement 56
7.1.1 Single-Family 57
7.1.2 Multifamily 61
7.1.3 Recommendations 62
7.2 Scheduling, Assessment and Installation Experiences 63
7.2.1 Single Family 63
7.2.2 Multifamily 72
7.2.3 Recommendations 73
8. Customer Experience – Specific Pathways 75
8.1 Renter Specific Experiences 75
8.1.1 Considerations 77
8.2 Electrification Measure Experiences 77
8.2.1 Single Family 78
8.2.2 Multifamily 80
8.2.3 Recommendations and Considerations 81
9. Looking Forward 83
9.1.1 Proposed Three-Year Plan Budget and Priorities 83
9.2 Additional Measures for Program Consideration 84
9.2.1 Distributed Energy: PV 84
9.2.2 Electrification and Building Decarbonization 84
9.2.3 Building Shell and Weatherization 85
9.2.4 Other Program design and delivery suggestions 85
9.2.5 Recommendations 86
10. Summary of Recommendations, Considerations, and Future Research 87
Appendix A. Study Goals and Objectives 91
A.1 Key Research Area #1: Program Ecosystem 91
A.2 Key Research Area #2: Customer Experience 92
A.3 Key Research Area #3: Program Process 93
A.4 Key Research Area #4: Looking forward 95
Appendix B. Summary of Research Activities 97

B.1 Materials & Data Review 98
B.2 Benchmarking, Secondary Research, & Peer PA Interviews 98
B.3 CAP Agency Interviews and Site Visits 99
B.4 Auditor Interviews and Ride-Alongs 100
B.5 CFP Interviews 100
B.6 PHA Interviews 101
B.7 Participant Survey 101
B.8 Participant Interviews 105
B.9 Property Owner/Manager Survey and Interviews 105
B.9.1 Property Owner/Manager Survey 106
B.9.2 Property Owner/Manager Interviews 107
Appendix C. Participant Survey Results 108
Appendix D. Property Manager Survey Results 162
Appendix E. Detailed List of CAP Agencies Supporting the Program 177
Appendix F. DOE WAP Participant Privacy Guidance 179

List of Tables

Table 1. Recommendations 13
Table 2. Considerations 14
Table 3. SF and MF Program Overview 16
Table 4. 2022-2024 Energy Efficiency and Decarbonization Plan IE Program Budget and Savings Goals A-21
Table 5. Percentage of Incentives and Savings by Measure by SF and MF Buildings (2022), Largest Contributors Only with >10% Highlighted 23
Table 6. New Program Initiatives 24
Table 7. Research Activities 26
Table 8. 2017 Process Evaluation Recommendations and Current Status A-28
Table 9. Data Fields and Systems 49
Table 10. 2022-2024 and Proposed 2025-2027 Energy Efficiency and Decarbonization Plan Values for IE Program 83
Table 11. Recommendations 87
Table 12. Considerations 88
Table 13. Program Landscape Questions and Activities 91
Table 14. Customer Experience Questions and Activities 93
Table 15. Program Process Questions and Activities 94
Table 16. Looking Forward Questions and Activities 95
Table 17. Target and Actual Completes 102
Table 18. Sample Frame by Program Pathway (SF/MF) and PA 103
Table 19. Sampling with Expected Number of Completes 103
Table 20. Participant Completes by PA 104
Table 21. Participant Survey Response Rates 108
Table 22. Participant Survey Screener - Termination Questions 108
Table 23. Participant Survey Screener – Home Screener Questions 109

Table 24. Participant Survey Screener – Awareness and Motivation Questions 110
Table 25. Participant Survey – Enrollment and Scheduling Questions 112
Table 26. Participant Survey – Assessor Experience 112
Table 27. Participant Survey – Installer Experience – Install 1 113
Table 28. Participant Survey – Installer Experience – Install 1 Support 115
Table 29. Participant Survey – Installer Experience – Install 2 116
Table 30. Participant Survey – Installer Experience – Install 2 Support 117
Table 31. Participant Survey – Heat Pump Experience 117
Table 32. Participant Survey – Satisfaction 119
Table 33. Participant Survey – Demographics 119
Table 34. Participant Survey Screener - Termination Questions by PA 122
Table 35. Participant Survey Screener – Home Screener Questions by PA 123
Table 36. Participant Survey Screener – Awareness and Motivation Questions by PA 125
Table 37. Participant Survey – Enrollment and Scheduling Questions by PA 129
Table 38. Participant Survey – Assessor Experience by PA 130
Table 39. Participant Survey – Installer Experience by PA – Install 1 132
Table 40. Participant Survey – Installer Experience by PA – Install 1 Support 134
Table 41. Participant Survey – Installer Experience by PA – Install 2 135
Table 42. Participant Survey – Installer Experience by PA – Install 2 Support 137
Table 43. Participant Survey – Heat Pump Experience by PA 138
Table 44. Participant Survey – Satisfaction by PA 140
Table 45. Participant Survey – Demographics by PA 140
Table 46. Participant Survey Screener - Termination Questions by Owner/Renter Status 143
Table 47. Participant Survey Screener – Home Screener Questions by Owner/Renter Status 143
Table 48. Participant Survey Screener – Awareness and Motivation Questions by Owner/Renter Status 144
Table 49. Participant Survey – Enrollment and Scheduling Questions by Owner/Renter Status 147
Table 50. Participant Survey – Assessor Experience by Owner/Renter Status 148
Table 51. Participant Survey – Installer Experience by Owner/Renter Status – Install 1 150
Table 52. Participant Survey – Installer Experience by Owner/Renter Status – Install 1 Support 152
Table 53. Participant Survey – Installer Experience by Owner/Renter Status – Install 2 153
Table 54. Participant Survey – Installer Experience by Owner/Renter Status – Install 2 Support 155
Table 55. Participant Survey – Heat Pump Experience by Owner/Renter Status 156
Table 56. Participant Survey – Satisfaction by Owner/Renter Status 158
Table 57. Participant Survey – Demographics by Owner/Renter Status 159
Table 58. Property Manager Survey Response Rates 162
Table 59. Property Manager Survey – Screener 162
Table 60. Property Manager Survey – Awareness and Motivation 164
Table 61. Property Manager Survey – Enrollment and Scheduling 166
Table 62. Property Manager Survey – Assessment Experience 168
Table 63. Property Manager Survey – Installer Experience 169
Table 64. Property Manager Survey – Installer Agreement Statements 170
Table 65. Property Manager Survey – Program Satisfaction 170
Table 66. Property Manager Survey – Building Characteristics 172
Table 67. Property Manager Survey – Heating System 172
Table 68. Property Manager Survey – Cooling 174
Table 69. Property Manager Survey – Water Heater 174

Table 70. Property Manager Survey – Firmographics 175
Table 71. Property Manager Survey – Building Size 175
Table 72. Property Manager Survey – Languages 175
Table 73. Participating CAP Agencies 177

List of Figures

Figure 1. Program Landscape 3
Figure 2. Program Implementation Actors 18
Figure 3. Distribution of Agencies Across the State 19
Figure 4. Percentage of 2022 Funding and Savings Allocated to SF and MF Buildings 22
Figure 5. Program Landscape 31
Figure 6. Funding Sources 33
Figure 7. IE Program Referral Sources and Process 37
Figure 8. Monday.com Process 39
Figure 9. Implementing Agency Assignment 41
Figure 10. Internal Process Flow 43
Figure 11. IE Program Referral Sources and Assignment 44
Figure 12. Single-Family Customer Pathway 56
Figure 13. Multifamily Customer Pathway 56
Figure 14. Source of Program Awareness 58
Figure 15. Likeliness to Recommend the Program 64
Figure 16. Length of Time Participants Waited for an Assessment 65
Figure 17. Assessor Recommendations 66
Figure 18. Agreement with Assessment Statements 67
Figure 19. Agreement with Installer Statements 67
Figure 20. Reasons for Participation 68
Figure 21. Issues that Program Did Not Address 69
Figure 22. Communication Issues 70
Figure 23. Home Comfort after Participation 75
Figure 24. Income Eligible Implementation Stakeholder Diagram 178

1. Executive Summary

Massachusetts' Three-Year Energy Efficiency Plan (2022-2024)[1] centered on three key goal areas: electrification (including co-delivery of weatherization and electrification measures), equity, and workforce development. The Income Eligible (IE) Program seeks to address all three of these core goal areas while continuing the program's long-standing objectives to improve the efficiency of homes occupied by IE customers. The draft 2025-2027 Energy Efficiency and Decarbonization Plan2 retains many of these key goal areas, with a focus on: 1) reducing greenhouse gas emissions, 2) enhancing program access for all, 3) delivering an improved customer experience, and 4) strengthening and diversifying the workforce.

The Massachusetts Program Administrators (PAs or Sponsors of Mass Save) and Energy Efficiency Advisory Council (EEAC) consultants enlisted a process and impact evaluation of the IE Program. This report details the results of the process evaluation led by ILLUME Advising as part of the Guidehouse evaluation team. Results of the impact evaluation are covered separately (see MA23R56-B-IESF and MA23R59-B-MFI).

The IE Program seeks to improve eligible customers'[3] homes, reduce customers' energy costs and improve their health and safety. Customers receive an assessment as well as equipment at no cost to them (e.g., lighting, HVAC, water heating, weatherization). The program is available to single-family (SF, 1-4 unit) and multifamily (MF, 5+ unit) buildings, though differences exist between SF and MF pathway program delivery (described in detail in Section 2).

Massachusetts is a recognized national leader in providing comprehensive energy efficiency programs and services to residents.4 The IE Program is long-standing, providing energy efficiency improvements at no cost for IE customers for decades. By statute, the Sponsors of Mass Save contract with the largest Community Action Program (CAP) agency in their service territory to serve as lead agency. These lead agencies oversee CAP agencies in the Sponsors' territories to deliver the IE program to customers. The CAP agencies in Massachusetts, including the lead agencies under contract with the Sponsors of Mass Save are members of the Low Income Energy Affordability Network (LEAN). LEAN provides administrative services and represents the CAP agencies as a collaborative. As the new three-year plan cycle begins, there is an increased emphasis on the program to serve IE communities through new technologies, delivery approaches, and deeper coordination that leverage federal, state, local, and program administrator dollars. Doing so will require new administrative, operational, and reporting processes that LEAN and stakeholders will have to adapt to and manage.

At the outset of this report, it is important to recognize the good work that is being done by the Commonwealth, PAs, LEAN, CAPs, and countless stakeholders who are committed to serving IE customers. As the PAs look to close out this three-year energy efficiency cycle, it appears the program is on track to meet or exceed spending and savings goals and is addressing key metrics such as heat pump installations. And although there are opportunities for process and

[1] Massachusetts Program Administrators, "Massachusetts Joint State Wide Electric and Gas Three-Year Efficiency Plan 2022-2024," November 2021, https://ma-eeac.org/wp-content/uploads/Exhibit-1-Three-Year-Plan-2022-2024-11-1-21-w-App-1.pdf.

[2] Massachusetts Program Administrators, "The Massachusetts 2025-2027 Energy Efficiency and Decarbonization Plan," Draft, September 25, 2024, https://ma-eeac.org/wp-content/uploads/FINAL-MA-2025-2027-Plan-09-25-24-v2.pdf.

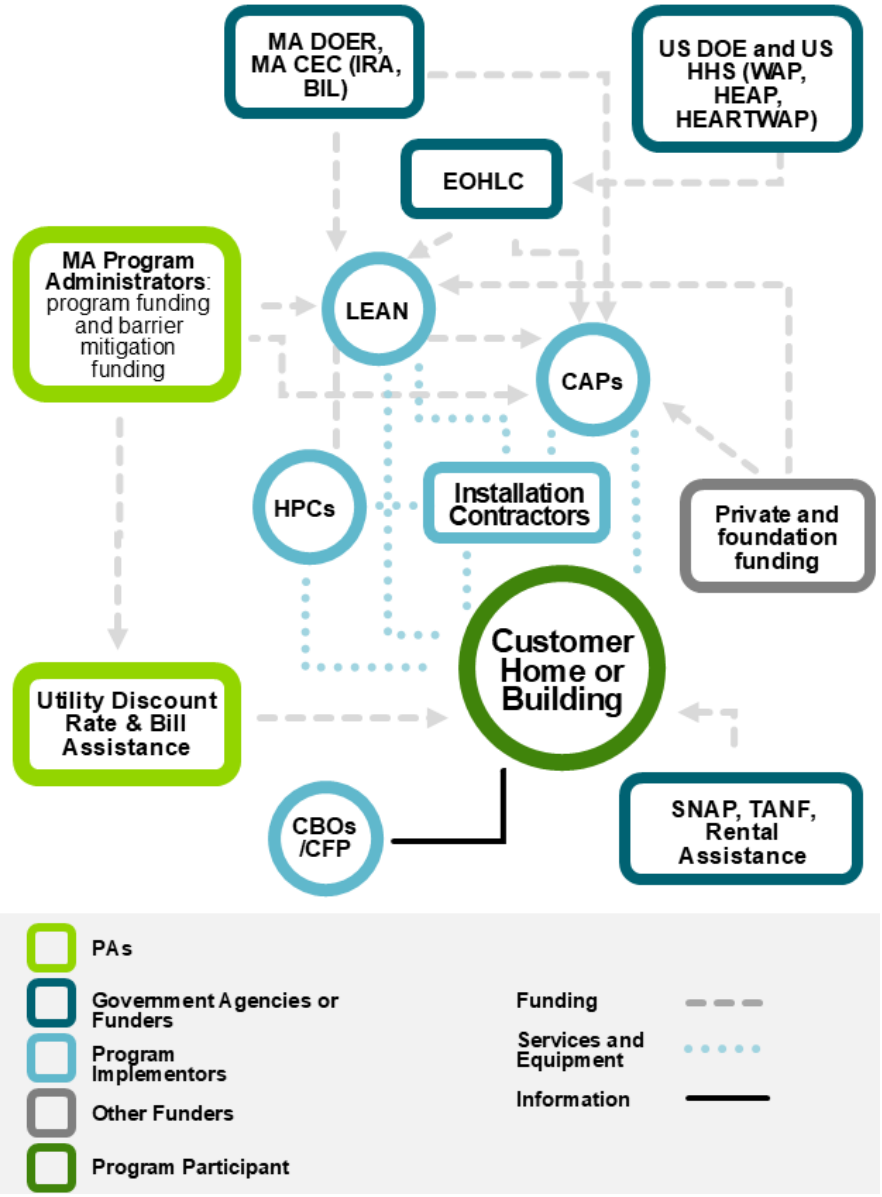
[3] Eligible customers include SF households with incomes at or below 60% of the state median income (SMI) and MF buildings where at least 50% of households have incomes at or below 60% of the area median income (AMI). Eligibility is discussed in more detail in Section 2.

[4] ACEEE, "2022 State Energy Efficiency Scorecard," December 2022, https://www.aceee.org/sites/default/files/pdfs/u2206.pdf.

system improvements in the program (some of which may be addressed by recent initiatives and all of which will take time), most customers voiced how they are positively impacted by and appreciate the services and support they received through the IE Program. Additionally, through the research, the evaluation team observed first-hand the deep commitment LEAN and CAP agency staff have for this program and the customers they serve.

The evaluation team also notes that the IE Program operates within a complex system of programs attempting to serve the same or similar groups of customers to benefit their homes and lives. Figure 1 illustrates the major entities involved in the program and maps the flow of equipment and services, funding, and information. Not shown below is the further complicated relational network between PAs, lead agencies, and CAPs, with each CAP operating somewhat differently as an independent organization. This complex landscape enables multiple programs to serve IE customers in Massachusetts. However, navigating through this complex landscape can be a challenge for program actors and participants alike.

Figure 1. Program Landscape



Source: Evaluation team

1.1 Program Changes

This process evaluation builds upon the previous process evaluation, finalized in 2019. In addition to documenting program processes and CAP agency feedback, that evaluation focused on marketing, customer engagement, and future opportunities for measure offerings. The previous evaluation also sought to assess consistency of customer experiences across implementing agencies (CAPs).[5]

[5] RES-38-Income-Eligible-Evaluation-Report_FINAL_7Feb2019.pdf (ma-eeac.org)

Since then, the local, state, federal, and IE Program landscape has shifted, affecting IE offerings and operations. Major changes include the introduction of the Community First Partnership (CFP) program, formation of the Equity Working Group (EWG), and a concerted effort on electrification. Recent federal initiatives, such as the Inflation Reduction Act (IRA), may also affect the IE market and offerings, although it is too early to know the extent.

LEAN and the PAs initiated substantial process changes in 2023 for the IE SF pathway, which were still in development at the point this evaluation was planned. The initiatives include: 1) forming the Statewide Client Services Center (SCSC), 2) developing and implementing the LEAN Statewide Production Board, and 3) integrating home performance contractors (HPCs) into the program via the Lead Vendor Implementation (LVI) initiative (while the evaluation touched on these initiatives throughout the research to report on in-progress findings, it was not possible to comprehensively assess these efforts and effectiveness of meeting objectives):

- The **SCSC** manages program demand through the intake of leads and customer inquiries from multiple channels (e.g., CFPs, website engagement), streamlines program eligibility verification, and assists customers in navigating program opportunities. In the new process, leads come through the SCSC, which is responsible for intake, qualification, and assignment of leads in Eversource, National Grid, Unitil, and Berkshire Gas Company. This initiative was introduced to address the long wait times some customers experienced and to ensure the program meets the time-to-serve metric of 6 weeks.
- The **Statewide Production Board** centrally houses project data with the goal of providing real-time statewide information on SF projects and improving processes (e.g., ensure assessments are completed within 6 weeks from intake). Previously, CAPs maintained separate project records in-house and there was no mechanism for LEAN to look across the active or completed projects in the state. This initiative, alongside the SCSC, intends to reduce wait times and meet the time-to-serve metric by creating visibility into projects and allowing CAPs and LEAN to redistribute projects to HPCs where CAPs are not able to serve them in a timely fashion.
- The **LVI initiative** expands service by integrating Mass Save HPCs, who provide similar services through the Residential Coordinated Delivery (RCD) program. Action Inc. and Action for Boston Community Development (ABCD) serve as lead agencies and direct HPCs and their work. This initiative, currently offered in select CAP territories, intends to expand the capacity of the program and improve wait times. LEAN reported that nearly half of all SF projects completed in 2023 came through the LVI initiative.

1.1.1 Evaluation Approach

The evaluation included extensive primary and secondary research activities to address evaluation objectives, integrating insights from the full spectrum of market actors engaged with the program including program implementation and delivery staff, CFP agencies, and participating customers (including public housing authorities [PHAs], tenants, and SF and MF property managers and owners). The evaluation used a combination of quantitative analysis (tracking data and surveys) and qualitative research (ride-alongs, listening sessions, and interviews) to represent populations of interest while integrating the depth of insights only possible through qualitative approaches (see Section 3 for the evaluation methodology).

There were a few areas the evaluation team was unable to address adequately due to data limitations: specifically, understanding MF customer experiences and comprehensively

assessing program metrics, such as services provided and time-to-serve. The study was hindered by incomplete information on MF contacts. Additionally, and as discussed further in the report, the provided SF program tracking data was limited to Mass Save-only measures (excluding weatherization assistance program [WAP]-funded measures) and did not include, or included incomplete, data valuable for addressing process-related questions (e.g., CAP agency, intake, and service dates).

1.2 Key Findings, Implications, and Recommendations

Overall, the program is on track to meet goals in this three-year cycle. The evaluation found the program is valued by participants and program implementers alike. CAPs interviewed specifically noted that it is through "wraparound services" that they provide the most value to customers. From braiding funding to connecting customers with additional resources, CAP agencies work to ensure that the customers they serve have access to as many resources as possible.

The recommendations and considerations presented in this report reflect the status of the program in a moment of transition. New organizational improvements (SCSC, Statewide Production Board) and new delivery approaches (LVI initiative) have been introduced in the past year to address concerns related to program delivery. The impact of these initiatives is not yet clear and future research and evaluation needs to be conducted to assess whether and how the initiatives are working (including establishing or assessing metrics and results to date), where there are opportunities to expand the initiatives (such as to the MF pathway), and where there may be opportunities to better meet customer needs.

In addition, the program goals are expanding in the next three-year plan as is the focus on better serving IE customers, particularly those that are not historically engaged in Mass Save programming. Meeting increasing goals and being able to report on critical metrics systemically will require addressing capacity, including labor and staffing constraints at CAP agencies, and addressing data collection and management issues, both of which may impact the program's ability to scale effectively.

Other evaluation findings and recommendations focus on the customer experience and emphasize opportunities to improve that experience, especially around communication and expectation management. At many phases in the journey, customers articulated a desire for clearer and more consistent communication. The evaluation team recommends additional infrastructure (e.g., materials, manuals, processes, and support) to ensure that customer communication happens consistently and effectively. Communication may be particularly critical given the context of new measures, including electrification measures such as heat pumps, that may require different actions from customers than their previous heating and cooling systems.

The following sections highlight key findings of the report, discuss their implications, and detail the evaluation team's recommendations to address them.

1.2.1 Data Availability and Management

Finding 1: As the previous evaluation noted, there is not currently a centralized data management approach across agencies for the IE Program that represents participant details and all measures installed (including those outside of the Mass Save-funded IE Program). CAPs

use multiple systems for data tracking and reporting,[6] both for the PA-funded IE Program and others, such as Department of Energy (DOE) WAP (SF pathway) and other services administered by the CAP agency. The Statewide Production Board is a step in the right direction, as it centrally houses statewide data. However, implementing agencies are required to enter only a select number of fields, and many agencies continue to use other project management platforms. Further, there currently is not connectivity between these other project management systems and the Statewide Production Board. Implementing agencies cannot upload the required data from their current data systems, and instead, enter data into the Statewide Production Board manually. This approach delays the uploading process and limits the number of data fields that are available to the Statewide Production Board.

Implication 1: These multiple systems create confusion and duplication of labor. While the movement toward a system that centrally houses data statewide in the SF pathway intends to address challenges around coordination and visibility to all statewide projects, there are continued opportunities to streamline data collection and management across agencies and PAs and ensure that the data included in a central system is comprehensive. Additionally, these multiple systems inhibit transparency and the program's ability to track against critical metrics, including any statewide equity-related metrics that could be raised in the future. Finally, collecting that data more consistently across PAs would enable future evaluations to understand any regional variations across the state and provide more detailed feedback on where the program is particularly successful or where there are opportunities to improve.

Recommendation 1: Convene organizations involved with administering IE weatherization services (e.g., LEAN, PAs, Executive Office of Housing and Livable Communities [EOHLC]) to identify (or develop) and implement a robust electronic tracking system. The SF IE program is co-delivered with other programs (e.g., DOE WAP). CAP agencies leverage funding from a variety of sources, all with their own reporting and data security requirements. As such, creating a data management system that captures all IE participant details and measures requires coordination with all relevant stakeholders, including EOHLC, to ensure that such a system is usable by all.

Until recent efforts with the Statewide Production Board, there has been little to no traction toward addressing past evaluation recommendations that Massachusetts establish a centralized tracking system. And although the evaluation team has not assessed this initiative, based on the team's current understanding, the Statewide Production Board will not fully address the issues that prompt these recommendations.

The evaluation team recommends the PAs, LEAN, EEAC, and other stakeholders involved in administering IE weatherization services work together to identify central points of responsibility (such as a working group or a lead agency) to drive toward a statewide electronic tracking system. As part of this process, it will be necessary for all parties to identify and understand funding and approval mechanisms, as well as any actual or perceived data confidentiality limitations for investigation.

Establishing this statewide data system will require significant effort and resources. And as documented throughout this report, LEAN and CAP agencies are continually, and increasingly, resource constrained The program, specifically PAs, should work to support the development of this system, relying on additional internal and external expertise as needed. The planning and

[6] PAs have their own reporting systems that integrate with individual organizational financial systems.

resource allocation needs to go beyond the system and account for items such as system testing, CAP agency training, upkeep, and potential integration of past data.

The evaluation team recommends the electronic tracking system be capable of capturing all IE participant details and measures received from all funding sources (including DOE WAP) across all CAP agencies and be functional for federal purposes. The PAs should also align on their internal tracking and reporting needs to avoid additional tracking data formats. Once established, this data should be captured and shared consistently to enhance future program operations and evaluations.

Finding 2: As in the previous evaluation, during ride-alongs, the team observed CAP auditors collecting data by hand on paper, which they then transferred manually to multiple electronic systems and databases depending on the PA or other funder (e.g., DOE). They communicated potential measures onsite with customers, which could change when entered into the electronic audit system.

Implication 2: CAP agency staff are spending time doing data entry (from paper audit forms) that could be avoided through electronic data collection tools at the audit sites. This data entry could create inefficiencies and errors through an additional data entry step and increases CAP agency staff burden. Additionally, where data exists in paper records, or scanned copies of paper records, it is difficult for PAs, evaluators, and others to analyze or draw from this data. Having an electronic data entry system onsite could also foster consistent communication with customers on equipment and services they could receive.

Recommendation 2: Identify and implement an electronic assessment tool for onsite data collection that is compatible with program data tracking systems. The evaluation team recommends that PAs, LEAN, and other stakeholders follow a similar process described in the centralized tracking data recommendation to implement an electronic audit tool. As with the tracking system, adopting an electronic audit tool will require considerable collaboration among LEAN and other stakeholders, as well as and integration, socialization, and training to CAP agencies who all operate within their individual systems. It could also be valuable to collaborate with other states (such as Pennsylvania and Delaware) that are currently considering similar electronic audit systems to support their WAP administration. Here again, the program, specifically PAs, should support the development of this system, relying on additional internal and external expertise as needed. For example, vendors offer DOE-approved audit tools and provide end-to-end integration support that could be leveraged as part of this process.

1.2.2 New Initiatives

Finding 3: The evaluation was unable to determine whether the SCSC and Statewide Production Board have improved the overall management of the IE Program due to the timing of the evaluation. The LVI initiative appears to have the capacity to increase program participation; LEAN reported that the LVI initiative accounted for approximately half of customers through the program in 2023, even though the initiative was only officially rolled out mid-year. However, this evaluation was not able to assess the customer experience with the LVI initiative in a comprehensive way.

Implication 3: This evaluation cannot make claims regarding the efficacy of these initiatives in addressing the challenges they were designed to address, nor can this evaluation provide any insight into how the participation experience might have changed based on these initiatives, or opportunities to improve them.

Recommendation 3: Conduct additional studies into initiatives that could not be effectively explored through this evaluation, including the SCSC and LVI initiative, to understand how these initatives are performing. Given that the program is in a moment of transition as several new initiatives have been introduced in the past year, the evaluation team recommends targeted studies to systematically assess the initiatives. We describe these studies in greater detail in section 1.2.7 below.

Finding 4: The LVI initiative has expanded rapidly since its introduction in 2023 and, as noted previously, the initiative accounted for approximately half of customers served through the program in 2023, even though the initiative was only officially rolled out mid-year. Additionally, around the end of Q3 2023, without program direction, HPCs began prescheduling leads statewide, outside of cities and towns where they had direction to do so. This rapid expansion of the LVI initiative created considerable and unexpected demand resulting in, among other challenges, staffing constraints for the Lead Vendors (LVs). The evaluation was unable to explore what, if any, production controls have been established since this time.

Implication 4: While the strong progress indicates a need, uncontrolled growth can have negative impacts on the program, its contractors, and customers, especially if the program needs to be shut down due to funding. The LVI was designed to address long wait times by expanding the pool of potential auditors beyond CAP agency staff and has successfully done so. However, the program must ensure that this expansion is well managed so that CAP agency clients and HPC clients are able to be served in a timely manner all year.

Recommendation 4: Develop systems to understand the growth of the LVI initiative and determine guardrails to ensure this new program component does not surpass budgetary limitations. The speedy expansion of the number of customers served by the program through the LVI initiative must be balanced with consideration around availability of program funding. The program should ensure that there is clear communication among the program team, the LVs, and the HPCs delivering services regarding how much capacity the program has to expand. The program should develop a means to communicate remaining budget and allocate slots well before the limit is reached. Programs that exceed budgetary limitations can create major challenges for program contractors and impact customer trust in a program. The evaluation team understands that program stakeholders, including the Massachusetts Department of Public Utilities (DPU) and the Massachusetts Department of Energy Resources (DOER) are aware of these challenges and are working to address them.

1.2.3 Customer Experience

Finding 5: Although program satisfaction is high, the open-end responses and interviews suggest that there is significant room for improvement to the customer experience of the program, most notably related to communication and expectation setting**.** Confusion and lack of communication was a consistent theme in the feedback the evaluation team received from

participants. Many customers were not clear why they received the specific measures they did and why they did not receive other measures that were of interest. Several customers were unsure of where to reach out to address questions and concerns about the program, including who might show up at their home to perform work, and had experiences of not being able to get resolution when contacting the number on the Mass Save website or their CAP agency.

Implication 5: Although customers are generally happy to have received the services they did, many expressed ongoing concerns or questions to the evaluation team about why they received the services they did or shared experiences about not knowing who to reach out to when they had questions. This finding suggests that there are substantial opportunities for the program to improve communication about what to expect and where to go to raise concerns or ask questions.

Recommendation 5: Provide clear follow-up procedures for customers, particularly prior to assessments, so that they are aware of where to go when they have questions about the program, and ensure staff have the training and resources needed to address participant questions. Some customers discussed confusion about who provided assessments and installation and how different actors were related to the program or to Mass Save. This confusion led to negative experiences and distrust where program resources were unable to provide clarity. Better communication (perhaps through the SCSC) of who customers can expect at their home might reassure skeptical customers. Other collateral, such as leave-behinds with clear procedures for follow-up, and consistently including program contact information (such as the SCSC phone number) across Mass Save, PA, and CAP websites could help to clarify the process for reaching IE Program representatives.

Finding 6: Over half of survey respondents said that they still had outstanding issues in their home such as drafts or other thermal comfort issues after participating in the program. Many of the issues raised or measures requested are within the purview of the program (e.g., insulation, air sealing), although the evaluation team recognizes there are reasons the issue may not have been addressed. Still, this feedback raises an opportunity for additional customer follow-up post service (also suggested by customers as a process improvement) and communication on why some issues had been resolved or addressed while others persisted. All projects completed through the IE Program receive a final QA/QC inspection to ensure correct and complete installation.

Implication 6: There is an opportunity to establish follow-up procedures to ensure that customers understand what was and was not addressed in their home and why. The program could leverage the QA/QC touchpoint to ensure that customer questions are addressed and that they have the information about why they received or did not receive certain measures.

Recommendation 6: The QA/QC visit is completed for 100% of IE Program jobs. There is an opportunity to expand this visit so that it becomes a meaningful touchpoint with customers, offering an opportunity to discuss the measures they received and address any outstanding concerns. These customer requests suggest an opportunity to close the gap in customer expectations and what they will receive at the end of the assessment. This gap could be bridged with clearer explanations of how and why participants qualify for different measures, both before and after the assessment and measures are identified. The program could also consider gathering information from customers up-front on their concerns (perhaps

as part of the application process or initial audit discussion) to be able to more directly address this gap in expectation and service if one exists.

1.2.4 Multifamily Pathway

Finding 7: MF participants reported long wait times for application processing and project delivery. Delays throughout the program participation process, but particularly in the early process stages, coupled with inconsistent communication, created frustration for participating MF property owners. Several interviewed MF participants highlighted delays throughout the early stages of the participation process. These interviewees noted that the sign-up process took a long time, with one noting that it took about a month to even start the process because they were unable to get in touch with the correct program representative.

Implication 7: PAs and other stakeholders report that MF property owners and managers, including PHAs, are generally difficult to engage. To better serve them, the program streamlined the application for the IE and Deep Energy Retrofit (DER) program so that participants can submit a single application for both programs. However, this streamlining does not extend to the experience for participants, which was characterized by delays and lack of communication, making it even harder to engage this critical group.

Recommendation 7: Explore new program initiatives for the MF pathway to address the challenges identified by MF customers, including long wait times. MF customers identified challenges that new SF pathway initiatives were designed in part to address, including ensuring a consistent point of contact and speedier program entry. MF customers discussed challenges later in the customer journey (discussed in detail in Section 7.2.2) including delays throughout the early participation process (e.g., the application timeline) and delays in installing equipment and addressing project issues. Given these challenges throughout the participation process, there is an opportunity for the program to innovate around all stages of program delivery for MF customers. For example, one PHA suggested the creation of a centralized hotline to help all housing authorities connect to the right providers more quickly.

1.2.5 Electrification and New Program Measures

Finding 8: The next three-year cycle includes ambitious goals and outlines substantial investment in the IE program, including expanding the number of heat pumps installed and increasing the number of homes served.

Implication 8: Given the emphasis on installing heat pumps in the next cycle, ensuring communication and operational instructions are clear will be important. A wide range of stakeholders (auditors, CFPs, PHAs, property owner/managers) pointed to cost and knowledge barriers that make electrification challenging for IE populations. Regardless of these challenges, some stakeholders underscored the importance and urgency of electrification for IE populations.

Recommendation 8: Provide additional education to building occupants and property owners and managers about electrified equipment, including what to expect in terms of operating cost and how to operate the equipment. Ensure that this information is provided to all SF and MF pathway participants and is provided in the most salient way. As the program shifts toward decarbonization goals with a focus on electrifying space and water

heating, it will be important to ensure that customers have the information they need to operate this new equipment effectively and efficiently. The MF pathway currently has collateral for customers outlining how to "get the most out of [their] heat pump," which includes operational information. However, information on cost impacts is not highlighted. Further, there may be more salient ways to provide this information to customers. Additional research may be required to determine how best to provide electrification education to customers.

Finding 9: PHAs are an important target group for the multifamily program. When we spoke with them, they both acknowledge the value of the IE program but also noted that they have other needs and considerations that go beyond what the program can offer them. They frequently participate in other programs that can operate on a larger scale or at a portfolio level, including the DER program which is also funded by the Sponsors of Mass Save and implemented through LEAN. They are actively braiding funding and financing from different sources to enable them to enhance their portfolios. In some cases, their needs and decision-making are going beyond what the IE program can provide. For example, PHAs noted that even in the DER pathway, the documentation provided by LEAN may not always include the design documents for the new HVAC systems to be installed. This level of documentation was often a requirement for certain financing (green loans) or certification. The PAs and LEAN have made process improvements to accommodate these scenarios, such as allowing building owners to bring their own contractor and design to the program

Implication 9: PHAs may be driving forward more quickly and aggressively toward decarbonization and electrification than other multifamily building owners, and this may lead to some misalignment between what larger PHAs are looking for and what the program can provide, given cost effectiveness requirements and other program processes. This could have implications for future program participation of PHAs in the IE program.

Consideration: As the PAs work with PHAs, the PAs may want to examine whether and how there are opportunities to support PHAs in their efforts toward decarbonization to ensure that the program continues to be of value to them. As with the process accommodations that the PAs have made to the DER pathway, the complex nature of DER projects and the capital refinance process for PHAs may continue to necessitate the evolution of the IE DER pathway and the IE program to meet the needs of its participants.

1.2.6 Evaluation

Finding 10: Data limitations and recruitment challenges affected the evaluation's ability to meet a few evaluation objectives and assess some customer experiences. The evaluation team experienced data-related challenges that limited the ability to reach and speak with MF customers (landlords, owners, and tenants). Specifically:

- The MF participant data did not clearly indicate the key program contact (generally landlord/property manager), which limited the team's ability to reach those individuals. The evaluation team worked with the PAs to obtain updated contact information for a subset of MF program contacts and received 67 additional names as a result. Unfortunately, even with multiple attempts, response rates were low and reaching these

cases was not fruitful. As a result, the evaluation team was able to speak with only nine property owners or managers (in addition to the PHA representatives).

- Few (4%) of participant survey respondents lived in MF buildings (5+ units). The tracking data did not characterize the buildings to understand a realistic tenant target for larger buildings. Additionally, a considerable percentage of MF participants are members of condominium associations and reside in 1-4 unit homes. Their experiences align better with SF participants and did not provide the intended insights of MF customer experiences.

- The most recent participant data available to the evaluation team was from 2022, a group that participated prior to the new initiatives discussed in this report. The evaluation team obtained 2023 participant data from one vendor; however, there was not sufficient participants to provide statistically significant or reliable results for those customers.

- The evaluation team obtained data only for measures installed using IE Program funding. EOHLC noted data confidentiality limitations as the reason for not being able to provide information outside of measures installed through Mass Save. While more of a challenge for the impact evaluation (as documented in that study), not having access to the full list of measures affected the team's ability to verify customers' reports of what they received and concerns over not receiving measures they expected.

In addition, the evaluation would have been strengthened by having the following data fields: audit and service provider (specific CAP agency, HPC), building characteristics (e.g., number of units in building), and data to inform time-to-serve/time-to-assess metrics (e.g., date applied, date of assessment, date of installations, date of QA/QC).

1.2.7 Evaluation and Follow-Up Support and Research Needs

In some cases, this process evaluation raised more questions than answers for reasons documented in this summary (e.g., not having data, recency of new initiatives). In addition, research interests, priorities, and areas for further investigation continued to emerge throughout the entire study period. The continued discussion of study needs was in part due to the expansive and invested stakeholder group participating in the evaluation process but also the desire for the evaluation to capture all issues given the historically considerable time gap between studies (the prior evaluation was completed 5 years ago). The following recommendations address these gaps and program and evaluation needs:

- **Conduct additional studies to assess the effectiveness of new initiatives.** The studies should focus on 1) identifying intended outcomes and how to measure progress toward those outcomes; 2) assessing progress toward outcomes, 3) determining how customers and agencies experience the process, and 4) highlighting preliminary results (intended and unintended) as well as opportunities for expansion or improvement.

- **Reserve funding for and establish priorities for targeted IE Program studies in each program cycle.** As noted, considerable time elapsed between evaluation studies. The IE Program and related state priorities will continue to evolve to achieve state goals and priorities around equity and decarbonization, among others. It would behoove the PAs and LEAN to intentionally reserve funding for IE evaluations and approach those

evaluations with a forward-looking perspective toward improvement, advancement, and more real-time, program supportive assessments. Ideally these studies will be targeted and as such could be structured as quick-hit or embedded research. The evaluation team and PAs may also want to consider a framework for ensuring the research and evaluation activities meet comprehensive program evaluation needs within each three-year cycle, such as culminating all reports into a brief, comprehensive report documenting program progress, activities, findings, and recommendations for the next cycle.

- **Investigate how other states approach challenging but critical data infrastructure needs.** Two areas arose in this and prior evaluations: the need for centralized data collection and reporting system and electronic audit capabilities. As with all prior impact evaluations, the evaluation was also hindered by the inability to gather WAP-related program data due to DOE-issued guidance (dated February 1, 2010, see Appendix F. The evaluation team recommends facilitation of a targeted peer review study, reaching out to state agencies across the country to share, for example, information on their experiences addressing these issues, solutions considerations, experiences throughout the system transitions, (e.g., auditor experience moving to an electric system, system-specific experiences), and resources and timeline expectations.

- **Conduct follow-up studies to more comprehensively assess research questions.** Feedback in this reporting identified some IE program areas that were not comprehensively assessed and could warrant follow-up research if of interest. Example areas include the MF pathway and QA/QC processes.

1.2.8 Additional Recommendations and Considerations

Table 1 and Table 2**Error! Reference source not found.** provide additional recommendations and considerations included throughout the report. While they are important and their adoption would improve the program operations, they are not as urgent as the recommendations enumerated above.

Table 1. Recommendations

Report Section	Recommendation
Internal Processes	Provide additional support for CAP agencies, both technical and financial, to alleviate administrative burden and improve service delivery.
Customer Journey	Create consistent communication protocols for customers about both what to expect during their participation in the program and what measures will be installed and why. This should include identifying customers' expectations and concerns and provide additional information on why measures of interest were not provided.
Customer Experience - Electrification	Provide additional support for auditors and installers, including training in customer education and effective communication related to electrification measures.

Source: Evaluation team

Table 2. Considerations

Report Section	Considerations
Customer Journey	Explore the outreach mechanisms used by HPCs to determine whether there are broad learnings for the program.
Customer Journey	Establish guidelines for what to communicate with customers at each touchpoint to provide consistency in customer experience.
Customer Experience - Renters	Develop materials or leave-behinds for tenants who receive AMP assessments to inform them of other additional measures they may be eligible for.
Customer Experience - Renters	Identify additional mechanisms to connect with private property owners and property managers, such as leveraging other program participation (e.g., lead abatement or Residential Assistance for Families in Transition [RAFT] applications) and professional organizations for landlords and property managers.
Customer Experience - Electrification	As the PAs work with PHAs, the PAs may want to examine whether and how there are opportunities to support PHAs in their efforts toward decarbonization to ensure that the program continues to be of value to them.
Customer Experience - Electrification	Support the exploration of alternative mechanisms to mitigate the cost impact of electrification on customer bills, including changes to rates and payment structures.
Customer Experience - Electrification	Develop tools to estimate cost impacts of electrification and ways of communicating these long- and short-term cost impacts as well as benefits.
Looking Forward	Include more frequent process evaluations and quick-hit studies in future years to allow for more timely feedback given the dynamic nature of the IE program.
Looking Forward	Consider alternatives to costly electric panel upgrades and other new measures such as modular heat pumps for multifamily.
Looking Forward	Continue to expand program offerings to include additional measures related to electrification and building decarbonization. Program participants, peer PAs, and some program actors identified measures that the program should consider incorporating into the program, including expanding opportunities for windows and deeper energy retrofits.

Source: Evaluation team

2. IE Program Overview

Massachusetts' Three-Year Energy Efficiency Plan (2022-2024) centers on three key goal areas: electrification (including co-delivery of weatherization and electrification measures), equity, and workforce development. The IE Program seeks to address all three of these core goal areas while continuing the program's long-standing objectives to improve the efficiency of homes occupied by IE customers.

The Massachusetts PAs (Sponsors of Mass Save) and EEAC consultants enlisted a process and impact evaluation of the IE Program.[7] This report details the results of the process evaluation led by ILLUME Advising as part of the Guidehouse evaluation team. Results of the impact evaluation are covered separately (see MA23R56-B-IESF and MA23R59-B-MFI). The remainder of this section describes the program and recent changes to program implementation.

2.1 Program Description

The IE Program is a statewide initiative of the Sponsors of Mass Save, offered by the Massachusetts PAs in collaboration with the program vendors (LEAN and CAPs). The program has provided weatherization and energy efficiency improvements to IE customers for nearly three decades. Since 2010, the program has invested over $1.1 billion in improvements and has worked with more than 470,000 IE customers. In addition to helping customers save energy and energy-related costs, participation in the IE Program can yield health and safety benefits for participants and their families (e.g., improved indoor air quality). Further, the program's focus on the Commonwealth's IE building stock means it can address equitable access to PA efficiency programming while lowering greenhouse gas emissions (through decarbonization and electrification).

The IE Program serves both SF and MF buildings. SF customers are homeowners and renters living in buildings with 1-4 units. MF customers are renters (or owners of condos in some cases) living in buildings with 5+ units. The program also targets property owners and managers (or landlords) of MF buildings. Income eligibility varies somewhat for SF and MF customers; the program currently targets SF households with incomes at or below 60% of the state median income (SMI)[8] and MF buildings where at least 50% of households have incomes at or below 60% of the area median income (AMI).[9][10]

[7] Massachusetts Program Administrators, "Massachusetts Joint State Wide Electric and Gas Three-Year Efficiency Plan 2022-2024," November 2021, https://ma-eeac.org/wp-content/uploads/Exhibit-1-Three-Year-Plan-2022-2024-11-1-21-w-App-1.pdf.

[8] The PAs are committed to expanding the SF eligibility criteria to include AMI or SMI, whichever is better for the customer.

[9] The MF pathway will serve all units in a building as long as 50% of the units are at or below 60% AMI.

[10] The 60% SMI eligibility criteria described is the ultimate indicator for determining customers' income eligibility for participation in the IE Program. Of note, customers that participate in the Low-Income Heating and Energy Assistance Program (LIHEAP) are eligible. The Mass Save website provides a description of program eligibility followed by a list of other Massachusetts social service programs with similar income eligibility criteria. Example programs include food stamps (SNAP), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Mass Health, and the National School Lunch Program. As an introduction to this list, the website states, "If you are receiving assistance from one of the other programs listed below, you are likely eligible to receive the Utility Discount Rate and the energy efficiency services described above" (see https://www.masssave.com/en/saving/income-based-offers/income-eligible-programs/).

The SF pathway provides home energy assessments to identify customers' weatherization (home energy audit), electric appliance (Appliance Management Program [AMP] assessment), and heating system (heating system assessment) needs. Not every customer who goes through the program gets all three assessments, and in many territories, these assessments are completed independently.[11] For the MF pathway, there are two types of evaluations, one electric/appliance audit that is specific to electrical upgrades and a comprehensive building assessment that looks at the building wholistically to evaluate opportunities for cost-effective space heating, water heating, and ventilation measures. These assessments are typically completed in multiple visits by different assessors.

Based on the results of these assessments, the program provides free home upgrades including cost-effective insulation and weatherization, air sealing, HVAC and water heating (including heat pumps and heat pump water heaters), appliance upgrades, and other energy efficiency measures to IE families residing in SF and MF homes. The program also directly installs low-cost measures including low-flow showerheads, pipe wrap, and lighting.[12] Where needed, the program remediates pre-weatherization barriers such as roof repairs and replacement, asbestos and vermiculite removal, and mold remediation. Table 3 summarizes the SF and MF program offerings.

Table 3. SF and MF Program Overview

Program Component	SF	MF
Building type	1-4-unit building	5+ unit buildings
Participants	Renters and homeowners	Property managers and owners; tenants
Income eligibility	Household incomes at or below 60% SMI	At least 50% of households in the building have incomes at or below 60% of AMI
Customer intake process	Customers are qualified for the program through the SCSC or by a local CAP agency, depending on the PA	MF customer completes online intake and LEAN MF team reviews application and verification
Audit types	• Weatherization • Appliance • Heating system	• Electric/appliance • Comprehensive building assessment

Source: Evaluation team analysis of Mass Save program materials

[11] The goal for many program stakeholders is for all assessments to occur in one appointment, and the upcoming 2025-2027 Efficiency Plan calls for assessments to take place during a single appointment where possible.

[12] Lighting will not be offered in the 2025-2027 program cycle due to the standards put in place through EISA, which in effect made most LED bulbs market baseline.

For the SF pathway, the Mass Save IE Program is co-delivered with DOE WAP where possible. Although DOE WAP funding is significantly less than PA funding, CAP agencies administering both programs try to pull from both funding sources whenever possible. Leveraging DOE WAP infrastructure allows Mass Save to more cost-effectively service customers—as well as broaden and deepen their reach—than if implemented internally by the PAs. DOE guidelines generally take precedence in CAPs' administration of the IE Program. For example, the evaluation team observed CAP auditors collecting data onsite using DOE paper forms and following DOE audit procedures. CAP auditors noted that they default to these forms as they are more extensive and DOE audit processes as they are more prescriptive than the PA forms and processes, respectively.

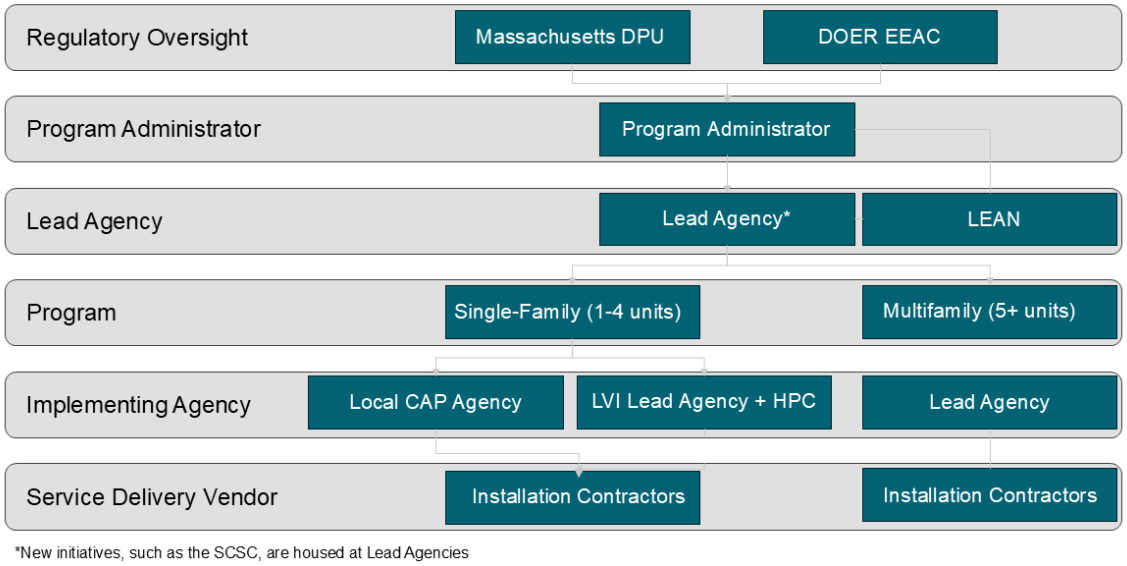
2.1.1 Program Implementation

The program is implemented by 18 CAPs. LEAN administers the program and coordinates the CAPs' activities. At the time of this evaluation, all CAP agencies serviced SF buildings and six CAPs, all of them lead agencies, serviced MF customers. In total, eight CAP agencies operated as lead agencies. Lead Agencies liaise with other CAPs in their region to manage the distribution of program funds and provide technical support with program implementation. Sub-agencies deliver the program within their specific communities. In mid-2023 the program formally began the LVI initiative with select HPCs. This initiative allows HPCs to work under the direction of Lead Agencies, Action Inc. and ABCD in specific CAP territories to deliver the program. The LVI initiative is described in more detail in Section 5.3. The following sections describe the roles of LEAN and the lead agencies and sub-agencies.[13] Throughout, the report uses the term CAPs to refer to both lead and sub-agencies.

Figure 2 outlines the relationship between the PAs, LVs, and other CAP agencies within the program. The relationships and interactions within the program are complex due in part to the large number of implementing agencies (lead agencies, local CAP agencies, HPCs through the LVI model). Implementing agencies operate as independent organizations. They vary in service offerings, staffing and resource levels, and subgroups of IE customers they serve. Further, the interrelationships between lead agencies and implementing agencies is complex. The previous evaluation depicted the relationships between these agencies (shown in Figure 24 in 10.Appendix E). These connection points have only become more complex with the introduction of the LVI initiatives and others. Additionally, the program interacts with various actors outside of the program. Figure 5 depicting the broader program landscape is included in Section 4.

[13] Navigant Consulting, 2017 Income Eligible Process Evaluation Findings (RES 38), February 7, 2019.

Figure 2. Program Implementation Actors



Source: Figure modified based on LEAN CAP Training deck, June 2023

2.1.2 LEAN

LEAN was established in 1998 by the lead agencies of the IE weatherization and fuel assistance program network. The PAs coordinate program efforts through LEAN to (1) ensure consistency throughout the state, and (2) provide services required for implementing the coordination requirements of the Massachusetts Green Communities Act of 2008. This approach retains the advantages of central coordination while avoiding the creation of a new or central entity.

LEAN provides the following essential services:

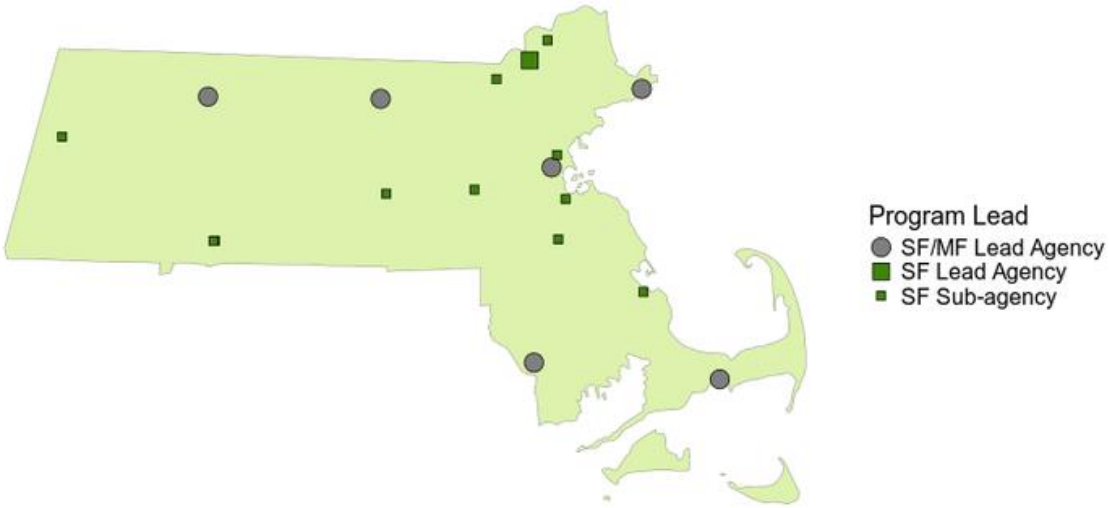
- Coordinates with the electric and gas PAs, the EEAC consultants, and the EOHLC and is administrator of US DOE and Health and Human Services weatherization programs with the objective of standardizing implementation.
- Coordinates the IE weatherization and fuel assistance program network, including among lead agencies and between lead agencies and sub-agencies.
- Coordinates potential vendors outside the IE weatherization and fuel assistance program network for certain segments of the IE residential market, e.g., large MF buildings.
- Assesses and establishes program processes to improve cost-effectiveness and develop new program features. This encompasses coordinating with evaluators, synthesizing statewide lessons from program evaluations, and coordinating a best practices effort.
- Supports the training of the IE weatherization and fuel assistance program network with the objectives of quality, cost-effectiveness, and consistency.
- Provides regulatory support in negotiations with and proceedings before DPU and DOER.

2.1.3 Lead Agencies and Sub-Agencies

PAs with large service territories commonly work with a lead agency to streamline management of numerous sub-agencies. In addition to implementing the program directly to clients within the region they serve, lead agencies contract with local sub-agencies to coordinate reporting, invoicing, budgets, and goals for the regions that they serve. The lead agencies are responsible for reporting all necessary information from sub-agencies to their respective PAs, thus streamlining program implementation and communication among numerous agencies.

Sub-agencies are responsible for implementing the program in their region. IE Program participants engage with agencies in their local community for all aspects of the program, whether the agency is a lead agency or a sub-agency. Figure 3 illustrates the distribution of agencies across the state.

Figure 3. Distribution of Agencies Across the State



Source: Evaluation team

In Massachusetts, the agencies typically employ their own energy audit staff and manage a network of third-party installation contractors. Agencies provide the following services:

- Managing multiple funding sources (including the PA and DOE funding)
- Determining participant eligibility[14]
- Scheduling and conducting audits
- Arranging for installation of energy efficiency measures
- Reporting progress and invoicing funding sources
- Conducting QC processes

[14] In 2023, the SCSC began leading the intake and verification process for all IE Program participation in Eversource, National Grid, Unitil, and Berkshire Gas Company territories. Other PAs remain responsible for their own lead intake and verification processes.

Beginning in 2023, HPCs began to engage directly with participants under the direction of the LVs (i.e., CAP agencies) through the LVI initiative. This initiative is discussed in more detail later in this section.

2.1.4 Three-Year Goals and Budget

The Three-Year Energy Efficiency Plan establishes budget and energy saving goals for PA initiatives, including the IE Program. Table 4 details the annual and three-year targets.[15]

The program is on track to meet or exceed its 2022-2024 cycle budget and savings goals. Although 2022 was slower to ramp up, 2023 exceeded budget and goals. Program data was not available as of this reporting to forecast 2024. In 2023, the program served over 17,000 customers through the IE program.

[15] Massachusetts Energy Efficiency Advisory Council, 2023 Annual Results, Electric Statewide Summary and Gas Statewide Summary (Statewide-Electric-V1.xlsx (live.com), Statewide-Gas-V1.xlsx (live.com)). Downloaded 7/31/2024 representing data through 6/1/2024.

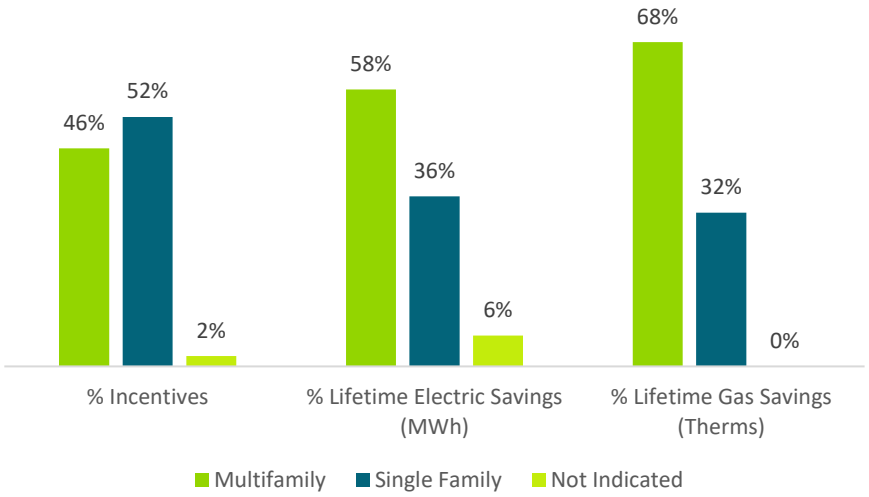
Table 4. 2022-2024 Energy Efficiency and Decarbonization Plan IE Program Budget and Savings Goals

Planned / Actual Values	Planned				Actual Spend / Preliminary Savings		% Achieved	
	2022	2023	2024	2022-2024	2022	2023	2022	2023
Electric Budget	$100,606,380	$107,006,501	$115,806,990	$323,419,870	$80,193,119	$132,923,654	80%	124%
Gas Budget	$73,875,930	$80,555,303	$88,638,449	$243,069,682	$66,255,084	$103,923,250	90%	129%
Total Budget	$174,482,310	$187,561,804	$204,445,439	$566,489,552	$146,448,203	$236,846,904	84%	126%
Net Lifetime Electric Savings (MWh)	253,382	262,344	266,711	782,437	282,804	388,383	112%	148%
Net Lifetime Gas Savings (therms)	56,149,852	57,967,488	60,850,933	174,968,273	50,275,835	67,011,988	90%	116%

Source: https://ma-eeac.org/wp-content/uploads/Exhibit-1-Three-Year-Plan-2022-2024-11-1-21-w-App-1.pdf

In 2022, LEDs contributed a considerable portion of Mass Save-claimed electric savings for both SF and MF buildings followed by refrigerator replacement for SF and thermostats and air sealing for MF buildings.[16] Weatherization measures (e.g., insulation, air sealing) contributed the majority of natural gas savings (Table 5). And although spending was fairly evenly split between SF and MF buildings, the majority of the program's claimed savings resulted from MF installations (Figure 4). Note that this analysis reflects Mass Save-funded measure installations only and does not reflect improvements provided through DOE WAP.

Figure 4. Percentage of 2022 Funding and Savings Allocated to SF and MF Buildings



Source: MassSaveData.com, 2022 Plan Year Report.

[16] MassSaveData.com, 2022 Plan Year Report. Although overall data for 2023 is available, it is not separated into single-family and multifamily. 2022 is the most current year with information available to identify program performance and process for the single-family and multifamily pathway. As shown below, 2023 data does include measure counts, but does not include savings or investment information.

Table 5. Percentage of Incentives and Savings by Measure by SF and MF Buildings (2022), Largest Contributors Only with >10% Highlighted

Measure	All Installations (SF and MF)		SF		MF	
	% Annual MWh	% Annual therms	% Annual MWh	% Annual therms	% Annual MWh	% Annual therms
Heating System Retrofit: Boiler	0%	25%	0%	19%	0%	28%
LED	28%	0%	37%	0%	27%	0%
Refrigerator Replacement	10%	0%	20%	0%	4%	0%
Thermostat	6%	5%	1%	3%	12%	6%
Water Heater (Indirect, On-demand, Stand-alone, Heat Pump)	1%	14%	1%	0%	0%	20%
Weatherization: General	3%	9%	7%	30%	0%	0%
Weatherization: Insulation	6%	11%	6%	21%	8%	7%
Weatherization: Air Sealing	9%	23%	0%	13%	17%	27%
Total of High Investment / Saving Measures	**63%**	**87%**	**72%**	**86%**	**68%**	**88%**

Source: MassSaveData.com, 2022 Plan Year Report.

Data within the PAs' quarterly reports shows a shift in measure installations from 2022 to 2023,[17] which could alter the makeup of the highest investment and savings measures shown above in future years. The most notable changes being:

- LED installations decreased in SF homes from 100,000 installed in 2022 to 59,000 in 2023
- Heat pump displacements increased threefold for both SF and MF customers, rising from approximately 1,000 in 2022 to nearly 3,100 in 2023
- Heat pump water heaters installed in SF homes increased substantially, from about 150 in 2022 to 515 in 2023
- Windows gained traction in 2023 with about 4,300 installed (compared with fewer than 20 in 2022)

2.2 Program Changes

Since the previous evaluation of the MA IE Program in 2019, the program experienced and instituted several changes. These changes were designed to streamline the participant experience through the program and enable the program to expand services to more households. The changes were also made to expand access and ensure that the program is accessible to all eligible customers.

First, the institution of the CFP program created new pathways into the program at a community and municipality level. The IE Program has increasingly integrated with and received referrals

[17] Based on Q4 Quarterly Reports, 2022 and 2023, KPI 2 "Provide Quantities for All Measures in the Residential and Income Eligible Sectors" (Quarterly Reports – MA Energy Efficiency Advisory Council (ma-eeac.org).

for the SF pathway[18] through the CFP. As outlined later in the report in Section 5.1, Figure 7, SF CFP referrals are routed through the SCSC for most PAs.[19] Please see Section 6 for more discussion on the interaction of the CFP and IE programs.

Second, in 2023, the program launched several new initiatives to improve and expand services to customers as well as attempt to centralize and streamline operations. These new initiatives are still evolving as of this report. Table 6 highlights new program initiatives.

Table 6. New Program Initiatives

Initiative	Year Implemented	Responsible Agency	Impact on IE Program
SCSC	2023	LEAN, operated by ABCD	Offers a consolidated entry point into the program and creates a central referral intake for IE project leads. Note that not all PAs participate in this.
Statewide Production Boards (Monday.com)	2023	LEAN	Provides streamlined coordination between the SCSC, LEAN, and implementing CAPs and HPCs
LVI	2023	LEAN	Enables HPCs to conduct home energy assessments under the supervision of LVs to create additional opportunities and pathways to serve customers more quickly.

Source: Evaluation team based on LEAN provided program documentation

Section 5 provides additional overview and preliminary feedback on these new initiatives. It is important to note that due to the timing of the rollout (2023), the evaluation was not able to evaluate the efficacy of these systems; they were newly implemented during the evaluation and adjusting to early feedback. This report describes preliminary responses to the changes; however, future studies will need to take a concerted look at these efforts and their impact on customers experiences, data availability, efficiencies gained, and CAPs and other stakeholder processes. The evaluation team recommends follow-up research on these initiatives in 2025.

[18] The CFP program has a single-family (1-4 unit) focus, and although there is limited interaction with the MF pathway, an occasional referral to the MF pathway may be made through the CFP program.

[19] Not all PAs use SCSC services; intake of leads and customer inquiries for PAs not listed are not routed through the SCSC. Rather, PAs and the CAP agencies in their service territories retain responsibility for lead intake, qualification of assignment. This process is described in more detail in Section 5.1.

3. Evaluation Overview

This section provides an overview of the goals of the evaluation and the study activities. Given the complexity of the program delivery, number of stakeholders, goals related to equity and electrification, and evolving program and market needs (including anticipated funding through the federal Inflation Reduction Act [IRA]), the team determined early stakeholder engagement was imperative to a successful evaluation. The team, therefore, held initial interviews with PA implementation and evaluation staff, EEAC consultants, and LEAN leadership in 2022 and 2023. The evaluation team also hosted an in-person collaborative planning workshop to better understand and prioritize research needs based on current program design, implementation changes, and stakeholders' areas of interest or concern.

Based on these discussions and the in-person meeting, the team identified four primary study topic areas and related goals for the IE process evaluation:

1. **Program ecosystem:** Understand where the program fits within a broader landscape of interventions, programs, and funding streams.

2. **Program processes:** Understand the current service delivery and QC processes. Understand the strategic approach for providing weatherization and electrification to IE households throughout the state.

3. **Customer experience:** Understand the customer experience of the IE Program for SF and MF participants.

4. **Looking forward:** Understand opportunities for the program to expand and broaden its reach by looking to new technologies/measures, opportunities to deepen building treatments, and opportunities to integrate new funding sources and delivery partners.

The team developed a set of research questions for each study topic area. These key research questions are discussed in detail in 10.Appendix A

The evaluation included extensive primary and secondary research activities to address these research needs, integrating insights from the full spectrum of market actors engaged with the program including program implementation and delivery staff, CFP agencies, and participating customers (including PHAs, tenants, and MF property managers and owners). The evaluation used a combination of quantitative analysis (tracking data and surveys) and qualitative research (ride-alongs, listening sessions, and interviews) to represent populations of interest while integrating the depth of insights only possible through qualitative approaches.

Table 7 summarizes the research activities completed to address the key research questions described in detail in 10.Appendix A. 10.Appendix B provides a more detailed description of these activities.

Table 7. Research Activities

Research Task	Completed
Benchmarking Review	• Completed four interviews with peer PAs running IE programs • Reviewed 44 documents related to electrification, workforce development, and equity
CAP Agency Interviews & Site Visits	• Conducted 10 in-person and phone interviews with CAP Energy Directors
Auditor/Inspector Interviews & Ride-Alongs	• Conducted seven interviews with seven CAP auditors and two interviews with HPC staff involved in the LVI model • Completed five ride-alongs, three with CAPs and two with HPCs
CFP Partner Interviews	• Conducted five interviews with CFP organizations
PHA Interviews	• Conducted two listening sessions with six PHAs from across the state, five larger and one smaller
Participant Survey & Interviews	• Completed 400 participant surveys • Completed 19 participant interviews
Property Owner Survey & Interviews	• Completed nine property owner surveys • Completed 10 property owner interviews

Source: Evaluation team

The evaluation team experienced challenges surveying MF property owners through this research. The team was only able to obtain responses from ten property owners or managers in addition to the PHA representatives interviewed. Similarly, just 4% of participant survey respondents lived in MF buildings (5+ units). This small number of responses limits the team's ability to draw conclusions about the MF pathway, particularly the customer experience. Included findings about the MF pathway are qualitative in nature. The evaluation team understands that the PAs are aware of these challenges and are exploring ways to connect with MF property owners, managers, and participants.

The evaluation activities were developed and completed alongside the introduction of several new initiatives being implemented by LEAN, most notably the rollout of the SCSC, Statewide Production Board, and the LVI initiative. Where possible, the evaluation team incorporated questions related to the new initiatives into evaluation activities to provide real-time feedback on the rollout and the experiences of those involved in the initiatives.

However, the timing of the evaluation did not enable a comprehensive assessment of these new initiatives. Much of the feedback received pertained to the rollout and, in many cases, captured early growing pains associated with the initiatives. Further, as noted previously, the majority of the participants surveyed and interviewed were 2022 participants, who participated prior to the introduction of any new initiatives. For this reason, the timing of the study did not enable the team to assess the effectiveness of these program changes. The evaluation team provides recommendations throughout this report where additional research would be needed to assess the new initiatives.

3.1 2017 Process Evaluation Recommendations

While the research areas identified intended to be forward-looking, they were also informed by past evaluation research and recommendations. The most recent evaluation took place in 2017 and focused on program structure and internal processes. This 2023-2024 process evaluation followed up on the recommendations posed in the prior report to determine program response and changes as a result. Table 8 outlines the recommendations of the 2017 process evaluation as well as the status of those recommendations.

Table 8. 2017 Process Evaluation Recommendations and Current Status

Number	Recommendation	Status	Status Description
1	Explore strategies for identifying and reaching smaller MF property owners.	Addressed with Ongoing Focus	Smaller MF properties have been a group of interest for the PAs and EEAC in this current cycle, with several studies attempting to intentionally speak with that group. The CFP program has a goal of increasing participation among hard-to-reach customer segments, including renters and owners of rental properties. Though not called out explicitly, smaller MF property owners are included in this group. The Massachusetts Strategic Renter Plan[20] highlights barriers for small MF building owners and directs PAs to work with LEAN to remove barriers specific to this group. There is some evidence of better reaching renters, with 2023 doubling the number of rental units in low rise buildings compared with 2022 (3,110 and 1,465, respectively)[21]. The 2025-2027 program cycle will continue to focus on better understanding this group.
2	Identify crucial participant data points needed to quantitatively assess effectiveness of program implementation processes.	In Progress	At the time of the evaluation, there was no central data source to allow specific metrics to be measured and reported related to customer experience, such as time from intake to assessment or time of assessment to install. The Statewide Production Board (Monday.com boards) were developed in part to provide real-time statewide project pipeline data to allow the program to quantitatively assess effectiveness of program implementation.
3	In accordance with DOE requirements and schedules, utilize an electronic audit tool approved by DOE to collect and store participant and performance measure data, including key data	Not Addressed	The Mass Save Program Administrators Quarterly Report for Q4 2023[22] notes that efforts to digitize audit and field tools are ongoing. However, the Guidehouse team observed during audits and CAP agency and auditor interviewees noted that

[20] https://ma-eeac.org/wp-content/uploads/Final-MA-Strategic-Renters-Plan-9-15-22-.pdf
[21] 2023-Q4-KPI-EWG-Reporting-to-Filing, Renters tab. Downloaded August 7, 2024
[22] https://ma-eeac.org/wp-content/uploads/Mass-Save-Program-Administrators-Quarterly-Report-Q4-2023-2.16.24.pdf

Number	Recommendation	Status	Status Description
	points needed to quantitatively assess the effectiveness of program implementation processes. Note that other data (e.g., data required to meet DOE paper requirements) may still be collected and stored using paper.		most information is collected by hand during audits then entered into an electronic system. However, an auditor for one LV was testing electronic auditing tools at the time of site visits. Additionally, auditors for one HPC participating through the LVI model used FastField for some data collection.
4	Explore how statewide Mass Save marketing resources can be better used at the local level, especially among agencies and PAs with fewer marketing resources.	In Progress	There are some local and community-focused initiatives to engage eligible customers, most notably the CFP, which provides resources, including co-branded multilingual marketing materials, to participating municipalities and local community-based organizations to implement outreach campaigns in their communities.
5	Investigate the viability of establishing a thorough, statewide assessment of marketing effectiveness with ongoing tracking and monitoring of marketing material performance metrics.	In Progress	The statewide marketing team review digital statistics to evaluate program reach and adjusts marketing as needed. However, the evaluation team is unaware of a more thorough assessment of marketing effectiveness that includes ongoing tracking and monitoring of marketing material performance metrics.
6	Review the measure list identified as part of this study and determine whether there is value in conducting additional research to develop Massachusetts- and low-income-specific applicability factors, costs, and savings.	Addressed	The program began offering some measures identified through the 2017 evaluation, including ductless heat pumps, for additional HVAC systems and fuel types. Additionally, SF and MF IE customers were considered separately as part of the recently completed potential study. Peer PA and customer research conducted as part of this evaluation identified additional measures for consideration. Discussion of those opportunities is included in the Looking Forward section.

4. Program Ecosystem

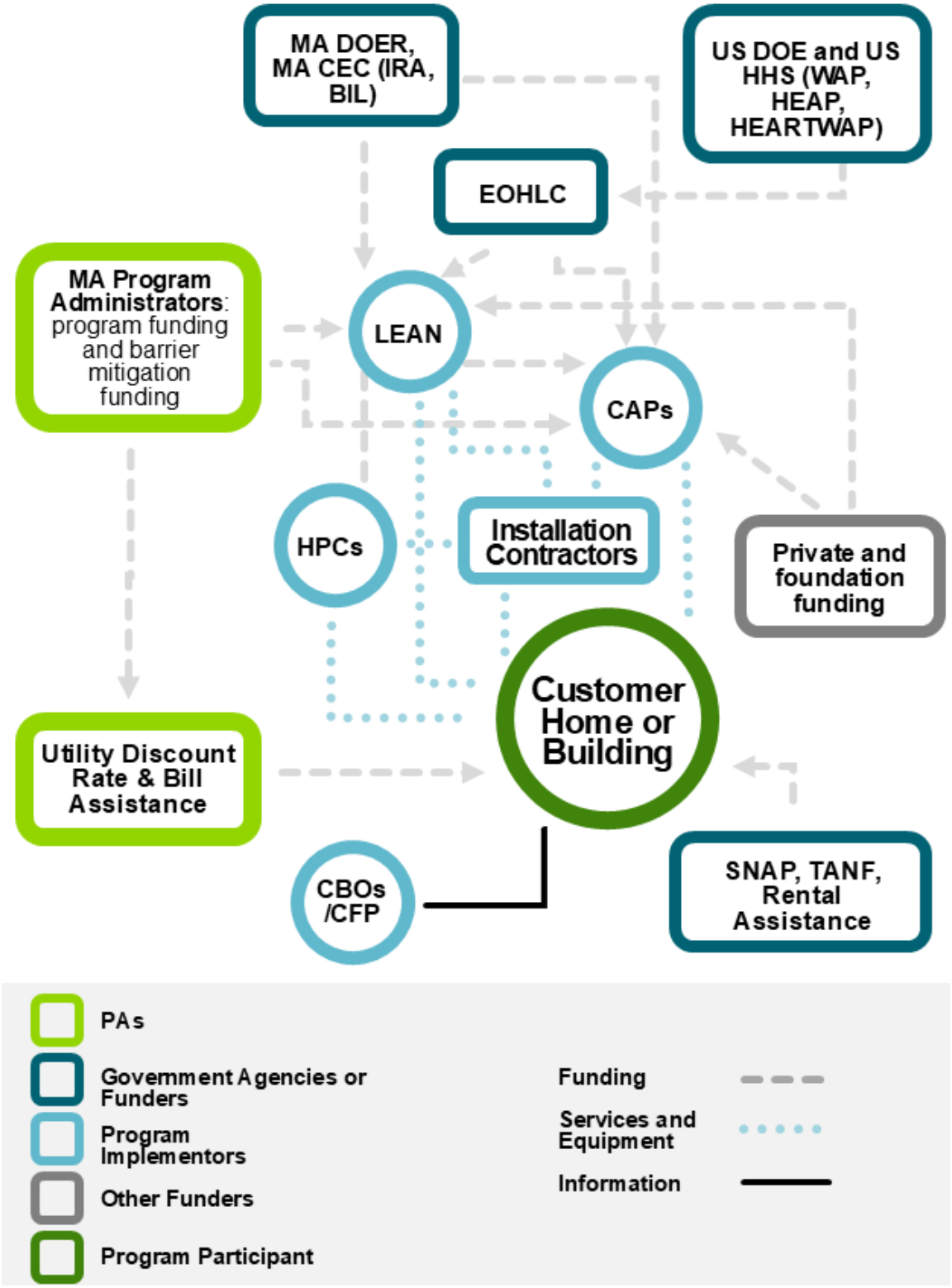
The IE Program operates within a complex system of programs attempting to serve the same or similar groups of customers to benefit their homes and lives. This programmatic system supplements and supports the IE Program and its participants; however, it can also create challenges and confusion for customers and complexity for those administering the programs.

Interviews with program stakeholders also raise the important point that there is a “halo effect” from customers’ experiences in all areas of the ecosystem. That is, customers’ interest in participating in the IE Program can be affected by factors outside of the IE Program specifically, including others’ experiences with the Mass Save brand, community organizations, and other government and assistance programs. While these experiences are not within the IE Program’s locus of control, when seeking to serve customers who may naturally have less trust (and agency), this is a factor to recognize.

This section describes the various programs and initiatives that interact with and are co-delivered with the IE Program. Note that the reports draws out the most notable programs and initiatives referenced by stakeholders; there are undoubtedly additional programs offered to IE customers not recognized within this section. This section serves to illustrate the complexity of the landscape in which the program operates and program actors and customers navigate. Generally, customers are shielded from some of this complexity by design—the CAP agency or HPC implementing the program provides services without detailing the specific source of funding. As described in the Customer Journey section, however, the lack of clarity between different program actors and the Mass Save brand sometimes causes confusion for customers.

From an implementation perspective, specifically within the SF program, the program has historically operated to maximize the opportunity for funding for a given home by first working to confirm customers are enrolled in LIHEAP or sign them up for LIHEAP, which unlocks not only PA program funding but also DOE WAP funding. And second, to conduct assessments and audits according to the more stringent restrictions of the DOE WAP program guidelines rather than the IE Program guidelines. That is, CAP agencies typically perform an audit consistent with DOE WAP requirements on all homes, even if they do not receive funding through the DOE WAP program. The rationale for this is to maximize the potential funding that a given building is eligible for. Figure 5 illustrates the major entities involved in the program and maps the flows of equipment and services, funding, and information.

Figure 5. Program Landscape



Source: Evaluation team

4.1 Funding Sources for IE Weatherization Services

The PAs, through the IE Program, fund a vast majority of weatherization services provided to IE customers in the state. As noted, multiple funding sources contribute to weatherization and improving IE customers' homes, although Mass Save and DOE contribute the majority of those funds. DOE funding is appropriated annually. In 2023, Massachusetts received approximately $7.7M from DOE to serve approximately 694 1-4 family units.[23] These DOE funds represent a small proportion of dollars compared with Mass Save's contributions ($187.6M budgeted and $236.8M spent in 2023, over 17,000 customers served).[24]

There may be a slight disconnect between these figures and the perception of CAP agencies. However, it is notable that the DOE funding highlighted above does not include other federal funding (e.g., HEARTWAP) or other sources of funded mentioned by CAPs (e.g., municipal, private/foundation funding). When the evaluation team interviewed CAP agencies, the agencies emphasized the importance of additional funding sources. Most estimated that between 10% and 20% of funding for weatherization came from sources external to the MA PAs (one CAP agency put this figure at 5% and one 25%). Although all CAP Agencies confirmed that the IE Program funds the majority of their projects and noted that the portion of project funding from the IE Program have increased in recent years.

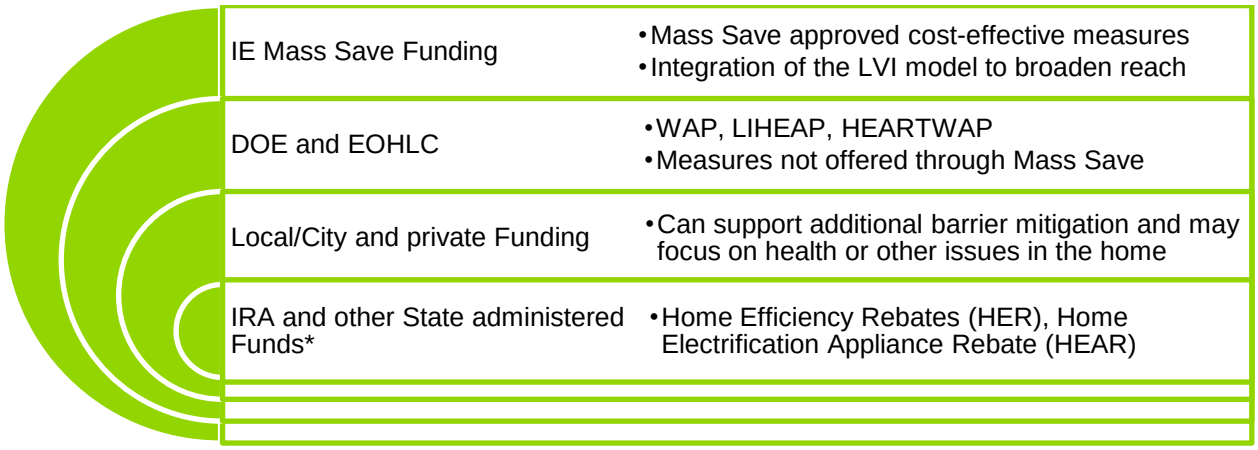
Furthermore, while the bulk of the weatherization projects are funded primarily using program dollars, it is also true that the CAP Agencies try to enable customers to access as much potential funding as possible. While DOE funds only a small amount of total projects, in order to maximize the opportunity for DOE funding to be used in any given job, the general practice across CAP Agency energy assessors is to operate according to the restrictions and guidelines of the DOE WAP program, which has different assessment criteria. In this way, although the PA funding dwarfs the federal funding, the program processes are largely guided by the restrictions of the federal program.

These braided efforts enable customers to access funding from multiple funding sources in a streamlined and seamless fashion and allow CAP agencies and HPCs to maximize the services that can be provided beyond what the IE Program funding alone could provide given restrictions on what they can do with ratepayer dollars. Interviews with peer PAs and secondary research on best practices in IE Program delivery suggest that the IE Program design, in how it considers and supports CAPs in braiding funding sources, is indeed best practice to serve homes more comprehensively. Figure 6 illustrates funding streams that CAP agencies leverage to serve homes through the program.

[23] Source: mass.gov/doc/fy2023-draft-wap-annual-file-worksheet/download#:~:text=(DHCD issued the Program Year,%24819%2C701 in weatherization readiness funds.

[24] Source: mass.gov/doc/fy2023-draft-wap-annual-file-worksheet/download#:~:text=(DHCD issued the Program Year,%24819%2C701 in weatherization readiness funds.

Figure 6. Funding Sources



*HER and HEAR programs are not yet active at the time of this study for Massachusetts.

Source: Evaluation team

One area where the access to additional funding streams is of particular benefit is around pre-weatherization support. CAPs leverage multiple sources of funding to address pre-weatherization barriers including pre-weatherization barrier mitigation funds specific to the IE Program, WAP Readiness funding, and other federal funding (e.g., USDA funding). Some CAPs noted that if a home's needs are too substantial, they may refer the home to a housing rehab program, which they run in some jurisdictions. A LEAN representative noted that on average, homes need $10,000 in pre-weatherization barrier mitigation, but that this can go up to $50,000; one CAP noted that the most they have spent on pre-weatherization barrier mitigation is $85,000. Here again, Mass Save IE Program funding comprises the biggest portion and other sources, including additional funds available through Low-Income Heating and Energy Assistance Program (LIHEAP) and ARPA funding submitted through the municipality, are used to fill in the gaps. A LEAN representative acknowledged how the Sponsors of Mass Save have strong "belief in the mission" of equitable service delivery for IE customers and understanding of the role of pre-weatherization barrier mitigation funding in achieving that mission.

4.1 Additional Program Support for Customers

Program implementors draw from various funding sources, and connect participants to program opportunities outside of the PA-funded program, to wholistically serve IE Program participants. Resources available to IE customers include other PA-specific programs such as bill assistance, federal energy bill assistance (LIHEAP), and other social assistance programs (e.g., SNAP, TANF, or rental assistance). This network of services is outlined previously in Figure 5.

Given this complex program landscape, one of the key roles of the CAP agencies is to support customers in navigating these programs. They do this in two ways, first, through supporting customers to access resources they are eligible for. For example, the program supports individuals in walking through the fuel assistance program (LIHEAP) application, and once customers have qualified for LIHEAP, they are eligible for both DOE WAP and the IE Program services provided by the PAs.

Second, the CAP agencies leverage available funding from multiple programs or funding streams to meet customer needs comprehensively wherever possible in as streamlined a fashion as is possible. CAP agencies work to braid funding from other programs, such as state

and federal programs (e.g., DOE WAP), and will look for new funding sources to address an individual home's specific needs, for instance local, city, or private funding to support barrier mitigation or address other issues in the home.

It is in what CAPs call "wraparound services" that agencies interviewed found they provided the most value to customers, and IE Program participants specifically. From braiding funding to connecting customers with additional resources, CAP agencies work to ensure that the customers they serve have access to as many resources as possible. Discussions with CAP agencies as well as CFPs suggest that these end-to-end services are valuable for IE customers in reducing the burden and barriers associated with obtaining necessary aid from different sources.

The opportunity to provide cross-program referrals doesn't stop at the intake stage. During interviews, auditors discussed how they direct customers to other programs and funding sources offered by their CAP agency, such as funding to install a grab bar in a bathroom for an older adult with mobility issues or connecting customers to benefits like Supplemental Nutrition Assistance Program (SNAP). And in ride-alongs, the evaluation team observed CAP agency auditors connecting customers to additional services, such as nearby senior centers or LIHEAP.

4.2 Related PA-funded Programs and Initiatives

In addition to the programs funded through other entities, e.g., the DOE, the Massachusetts PAs continue to expand initiatives and services to meet the needs of IE customers. Initiatives that the PAs, EEAC, and stakeholders have undertaken in recent years include:

- **Equity targets:** The EEAC, EWG, and Sponsors of Mass Save have made significant efforts to broaden the reach of energy efficiency programs to those who have historically participated at lower rates including geographic areas with the lowest participation rates, renters and landlords, moderate-income customers, and English-isolated families. While not exclusive to the IE Program or IE Program eligible customers, many of these underserved groups would be eligible to participate in the IE Program, thus these equity goals are relevant to the IE Program, and likely expand the number of customers engaging with the IE Program.[25]

- **CFP program:** Through the CFP program, the Sponsors of Mass Save partner with organizations and local communities to help customers engage with Mass Save energy efficiency programs.[26] The community partners are typically non-profit organizations or municipalities who use program funding to support an energy specialist to conduct outreach and education about the programs offered under the Mass Save brand, including the IE Program but with no specific program focus or metric. The CFP program does seek to increase awareness within renters, moderate income households, and those who speak LOTE. As these key groups of interest often overlap with those who are eligible for the IE Program, the CFP partners the team spoke with were familiar with the IE Program. Feedback from CFPs is included throughout the report.

[25] MA EEAC Equity Working Group. 2021. "Three-Year Plan: Attachment B. Equity Targets Framework." *Massachusetts Energy Efficiency Advisory Council.* Accessed 2023. https://ma-eeac.org/wp-content/uploads/Attachment-B-Equity-Targets-Framework-Final.pdf.

[26] Massachusetts Program Administrators, Community First Partnership, https://www.masssave.com/en/trade-partners/community-partnership.

- **LEAN DER Pathway:** A program administered by LEAN, but client-managed (i.e., client designed and scoped), where MF retrofit projects that meet a 40% reduction in site energy use intensity (EUI) are eligible to receive incentives. This program pathway is distinct from the IE Program but shares an application.[27] PHAs discussed experiences with the DER pathway in addition to the IE Program. Engaged PHAs saw considerable value in the DER program as they identified the need for more comprehensive building retrofits than could be accommodated through the IE program. However, they noted limitations such as the lack of design documentation provided by LEAN that sometimes was a requirement to specific funding sources or loans, or to be granted some certifications.

4.3 Considerations for the Upcoming Program Cycle

Going into the 2025-2027 program cycle, there are federal and state initiatives rolling out to support residential decarbonization through weatherization, pre-electrification barrier mitigation, and electrification equipment upgrades. According to the Final Draft 2025-2027 Three-Year Plan, "the state's ambitious [Green House Gas (GHG)] goals are infeasible using customer funds alone".[28] As such, the PAs pursue other private and public funds for Massachusetts and consider how the services made possible through these funds will affect customers, programs, and broader decarbonization goals. In several cases, the PAs strategically supported other agencies like the MA DOER and MA Clean Energy Center, Generac Grid Services, and the City of Everett in their applications for funding from initiatives including the IRA Home Electrification Application Rebates (HEAR) and Home Efficiency Rebate Program (HOMES) funds, Bipartisan Infrastructure Law (BIL) Grid Resilience and Innovation Partnerships (GRIP) funds, and others. The evaluation team provide additional details on several of these initiatives.

- **Generac Grid Services** will bring funds from the Grid Resilience and Innovation Partnerships (GRID) program made available through the BIL. While the exact dollar amount is unclear, these funds will support Mass Save programs with some 2,000 home electric batteries paired with heat pumps and other electric efficiency measures.

- The **City of Everett** will bring $400,000 of DOE Buildings Upgrade Prize funds to the city to support work with community-based organizations to overcome linguistic and cultural barriers to electrification. This aligns with the PAs strategic goal of serving more customers representing historically underserved populations such as LOTE speakers.

- The use of federal funding such as IRA resources must comply with the **Justice40 Initiative** that requires at least 40% of funds to be used for "select communities" that meet criteria for underserved populations like low and moderate income households. This initiative will impact where and how federal funding can be distributed. While many IE households are within those identified communities, not all are, and implementers will need to track where funds are being spent to comply with this initiative.

Initiatives like those above may expand the reach of the program, but also may create impacts for the implementation teams in terms of data management, administrative workload, and application support for customers. With the increase in dollars coming into the state, there will be a rise in administrative and technical workloads for implementers. CAP agencies, HPCs, and other implementers may need to expand their own workforces or adapt existing processes to

[27] https://leanmultifamily.org/der/

[28] https://ma-eeac.org/wp-content/uploads/Final-Draft-MA-2025-2027-Plan.pdf; p. 70; accessed 8/2/2024

take on the additional service delivery. As these new initiatives are being launched, the PAs do not yet know the impacts these resources may have on the IE Program. The evaluation team notes them here as insights to inform potential program implications including how several IE Program implementers, both CAPs and LVI-model HPCs, offer market rate program services and serve both IE and moderate income customers.

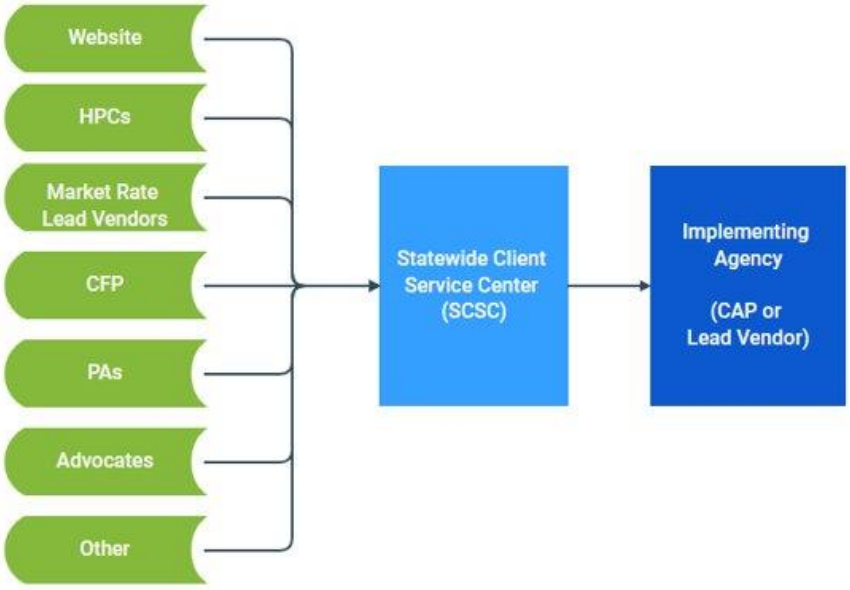
5. New Program Initiatives

This section provides an overview of three new initiatives being implemented by LEAN: the SCSC, Statewide Production Board, and LVI. These three initiatives pertain to the SF pathway of the IE Program; the MF pathway does not rely on these new initiatives. Throughout, this section provides early feedback and learnings from these new initiatives. As noted previously, these findings reflect a snapshot in time during early initiative rollout and do not represent a comprehensive evaluation of these new program initiatives. Given that these new initiatives remain in various stages of rollout and implementation, the evaluation team recommends additional follow-up research to assess their efficacy in achieving the intended outcomes (e.g., more effectively delivering services to customers) and impacts on cost efficiencies as well as staff capacity to deliver services.

5.1 SCSC

LEAN established the SCSC to increase program demand through the intake of leads and customer inquiries from multiple channels (e.g., CFPs, website engagement), streamline program eligibility verification, and assist customers in navigating program opportunities. In the new process (Figure 8), leads come through the SCSC, which is responsible for intake, qualification, and assignment of leads in Eversource, National Grid, Unitil, and Berkshire Gas Company territories.[29] Though CAP agencies may receive calls directly from customers (Figure 7), these leads should still be routed through the SCSC via Statewide Production Board.

Figure 7. IE Program Referral Sources and Process



[29] Not all PAs use SCSC services; intake of leads and customer inquiries for PAs not listed are not routed through the SCSC. Rather, PAs and the CAP agencies in their service territories retain responsibility for lead intake, qualification of assignment. The Massachusetts Energy Efficiency Administrators Quarterly Report for Q4 2023 notes that Liberty continues to evaluate whether to engage with the LEAN SCSC, in collaboration with relevant stakeholders (its CAP agency and CFP partners). Cape Light Compact maintains its own call center to assist customers with navigating programs and incentives, and provides in-house eligibility verification services.

Source: LEAN[30]

The SCSC is housed at ABCD. SCSC staff (a manager, assistant manager, and six to eight client service associates) track project leads on the SCSC Leads & Referrals Board and refer them to the program by adding them to the Statewide Production Board on Monday.com (discussed in more detail later in this section). Project leads not received by the SCSC directly (e.g., through calls to the CAPs directly from customers) are submitted by CAP agencies through intake forms or on an ad hoc basis. SCSC staff assign project referrals to CAPs or HPCs depending on an agency's estimated time to serve, activity from CFP referrals, overflow of project leads in the CAP territory, and other factors. The SCSC also has the capability to serve customers in 10 languages.[31]

CAP agencies note that the influx of referrals through the SCSC created additional work for their administrative staff. However, CAPs see benefits to the SCSC, such as helping them receive and track referrals. One CAP views the SCSC as a benefit because it gives them a "safety net" to make sure all their customers can get served even if they do not have a contractor available. Additionally, it is important to note that the extra work that CAP agencies are experiencing due to SCSC referrals may be evidence of the initiative functioning as designed, reaching additional customers beyond those who would have previously engaged with the program and streamlining the intake experience. Follow-up research and analysis would be beneficial to understand: 1) customer experience working through SCSC for weatherization assistance services, 2) SCSC effectiveness at achieving intended outcomes (and articulation of those specific outcomes), and 3) any unintended consequences as well as opportunities the SCSC poses.

5.2 Statewide Production Board

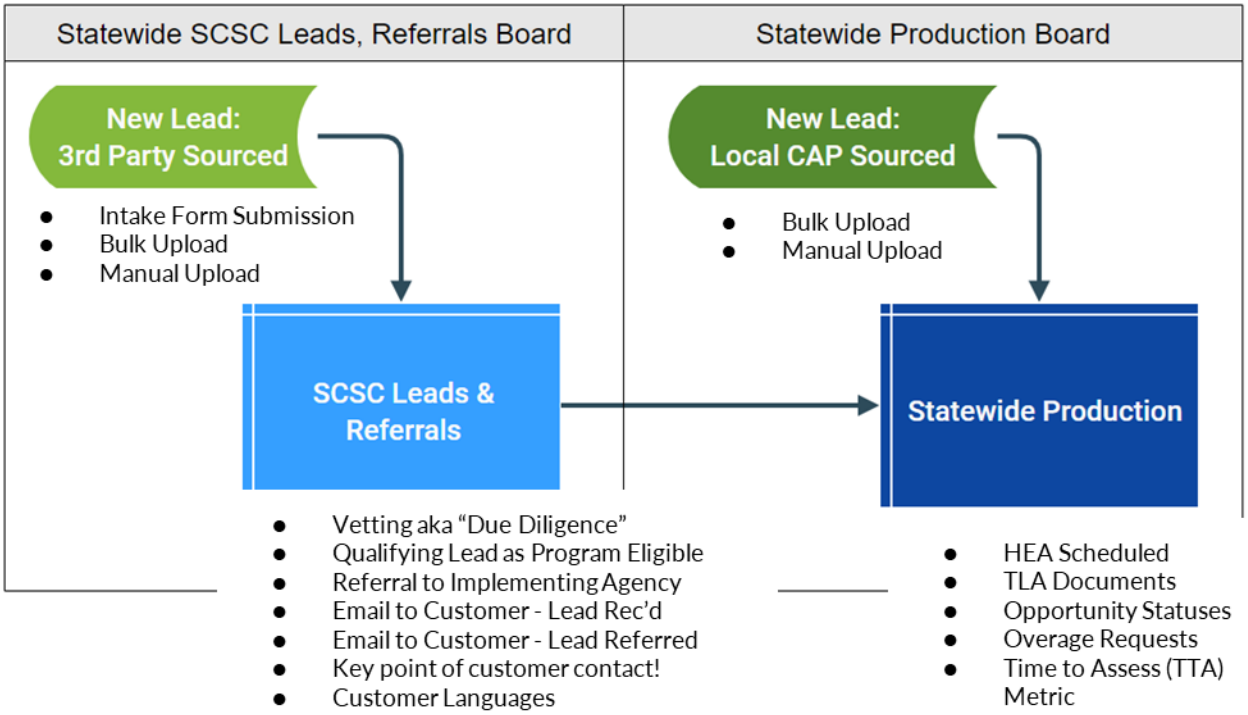
LEAN developed the Statewide Production Board to ensure assessments are completed within 6 weeks from intake and to provide real-time statewide project pipeline data. Previously, CAPs maintained separate project records in-house and there was no mechanism for LEAN to look across the active or completed projects in the state. The Statewide Production Board requires implementing agencies to provide project information, giving LEAN statewide program visibility. CAPs are required to enter basic project information about their customer projects including information about project costs, barriers, and timeframes. CAP agencies are only required to provide basic information about the status of each project, but some agencies (namely ABCD and HPCs through the LVI initiative) are using the board to completely manage projects from start to finish; the board includes fields that allow for this capability. Figure 8 illustrates the Monday.com process.

LEAN provided Monday.com training and user guides as resources for participating CAPs. They travel to CAP agencies to deliver in-person training. Additionally, they continue to offer regular office hours to troubleshoot Monday.com-related issues and questions.

[30] LEAN, "LEAN Statewide Solutions: Leads, Referrals & Production Tracking, CAP Training," June 21, 2023.

[31] The LEAN SCSC has language capabilities in English, Spanish, Portuguese, French, Haitian Creole, Cantonese, Mandarin, Japanese, Korean, and Vietnamese.

Figure 8. Monday.com Process



Source: LEAN[32]

CAPs see the Statewide Production Board as offering long-term value to the program. Half of the interviewees (four out of eight sub-agencies) had positive comments on the initiative overall, emphasizing that they understand why it is useful to track projects across the state.

However, in practice, CAP staff have struggled with the additional step in data entry. CAPs provide a variety of services to their customers and navigate paperwork and databases for many different programs. Those services have their own reporting requirements, some of which change year-over-year. Perhaps unsurprising, the CAP agencies interviewed who worked with the Statewide Production Board mentioned the administrative time it takes to enter data into another system.

> *"I get what they're trying to do with Monday.com. It makes sense for a lot of things, but it's so cumbersome. It's another [database]." —CAP Agency staff person*

In addition to the statewide tracking systems, CAPs report that different PAs use their own unique database platforms for reporting. They manually input the same information into different software for each funder. In addition, if they use DOE funding on a house, they also need to enter information into a unique DOE platform. With the new statewide process, CAPs are required to put job information into the Statewide Production Board as well, creating more work and "added steps" for administrative staff. Staff need to "dedicate major time" to work with the Statewide Production Board and other Monday.com boards.

[32] LEAN, "LEAN Statewide Solutions: Leads, Referrals & Production Tracking, CAP Training," June 21, 2023.

> *"One of the frustrations is the administrative task of tracking the same job across three or four different software platforms." —CAP Agency staff person*

Some CAPs also use other software for their own internal systems of data tracking. As noted previously, CAPs are required to input basic project information into the Statewide Production Board but are not required to use the board for end-to-end project management. One interviewed CAP sees how the Statewide Production Board could be "a good production tracker" but already uses their own system for tracking. For their staff, the Statewide Production Board has become yet another system they enter data into. Additionally, the Statewide Production Board does not support reporting; as noted previously, CAP agencies enter project data into unique database reporting platforms for each PA. One interviewee suggests that CAP staff would benefit from having an integrated database for data tracking and reporting instead of having "one more thing" required of them with the statewide boards.

Many of the above-mentioned challenges with the Statewide Production Board, including additional administrative time spent learning about this new system, are likely due to the rollout of the initiative. The timing of this evaluation coincided with the rollout of new initiatives, and because of this many challenges observed are likely more akin to "growing pains" or represent the additional time needed to become familiar with new systems. Additionally, some of the issues discussed by CAP agencies, such as CAP agencies needing to enter data into multiple systems for reporting data to the PAs and EOHLC, pre-date the Statewide Production Board. However, without efforts to streamline data entry and ensure communication across data entry and management platforms, challenges associated with data tracking redundancy are likely to persist.

5.3 LVI

Historically, only CAPs that contract with LEAN delivered the IE Program to customers in their service areas. The LVI initiative expands providers by integrating Mass Save HPCs, who are experienced in providing similar services as those offered by IE through the RCD program.

HPCs and their work are directed by Lead Agencies, Action Inc. and ABCD in specific CAP territories.[33] The LVI initiative began with select HPCs in 2022 who were working with municipalities who participate in the CFP program as preferred vendors to partner on marketing, outreach, and customer engagement efforts. The initiative formally began in mid-2023 with additional HPCs to provide capacity where time-to-serve metrics at local CAP agencies exceeded 6 weeks, to support CFP use of preferred vendors and to support service of IE customers in mixed-income buildings.[34]

In general, CAP agencies are more likely to be referred qualified leads (i.e., receive priority) where they have an established relationship with a customer.[35] Interviewed CAP agencies highlighted the importance of the holistic support they provide as anti-poverty agencies. Assigning priority to CAP agencies where an existing relationship exists helps CAP agencies to

[33] Action Inc. and ABCD are the only two Lead Agencies for the LVI initiative, however as outlined previously in Section 2 - IE Program Overview, there are additional Lead Agencies for the IE program broadly.

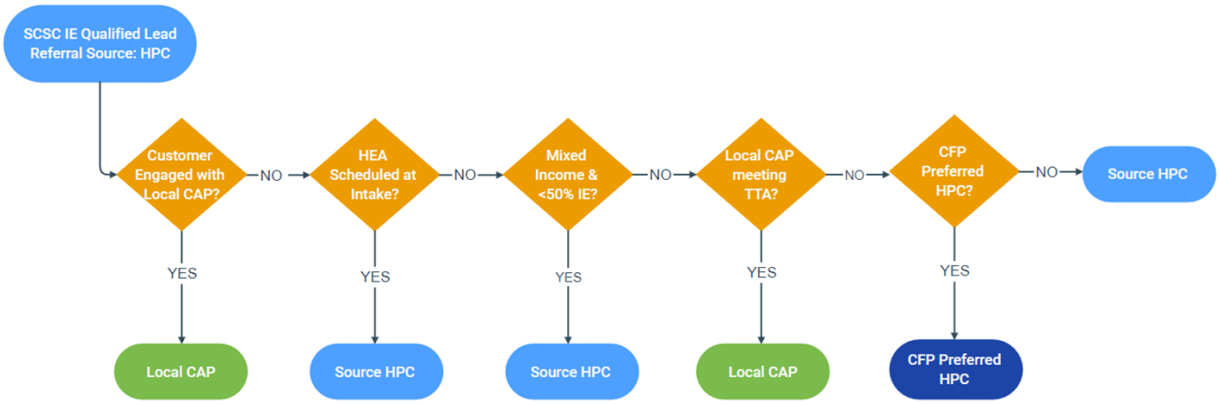
[34] PAs participating in LVI include Eversource, National Grid, Unitil, and Berkshire Gas. Participating lead agencies include Action and ABCD.

[35] LEAN is currently working with EOHLC to allow for LIHEAP data sharing with the SCSC to more easily (and automatically) route LIHEAP customers to CAP agencies to help maintain this established relationship and optimize the use of federal funding.

maintain these established relationships and continue to provide customers with necessary wraparound services. Whether an HPC is assigned an IE Program lead depends on a variety of factors including the lead source (e.g., CFP, HPC) and whether a customer is already engaged with their local CAP (prioritizing that established relationship). CAP waitlist time is also a factor; SCSC staff may refer leads to HPCs if the CAP does not have the capacity to meet the 4-6-week time-to-assess metric.

Finally, HPCs can bring their own leads and submit those leads to the SCSCs, in which case the HPC owns that project (assuming no prior CAP relationship and availability). Figure 9 shows how the SCSC team refers leads generated by HPCs.

Figure 9. Implementing Agency Assignment



Source: LEAN[36]

This initiative enables HPCs to perform assessments for the IE Program, expanding the number of customers served by the program. Notably, approximately half of 2023 projects were delivered through the LVI initiative. However, CAP agencies expressed concerns about the initiative in terms of the level of services provided by HPCs (as they do not have access to the same external resources as CAP agencies). For example, CAP agencies discussed the work they do connecting participants to relevant programs and wraparound services, as well as the additional funding they are able to leverage for more extensive projects. CAPs also discussed concerns with the LVI model impacting their ability to meet DOE program goals in future years if HPCs complete jobs that CAPs need to achieve those goals. Some of these concerns, such as the impact of the LVI initiative on DOE program goals, are unknowns that may not end up impacting CAP agencies and may be naturally alleviated over time. Additionally, as this is a new initiative, it is likely that program processes need to be clarified further with CAP agencies to help them better understand how and when HPCs are engaged. Parallel initiatives such as the SCSC and Statewide Production Board could also be utilized further to provide transparency into LVI projects.

Many CFPs partner with HPCs and have positive feedback about their experiences. Three CFPs mention working with HPCs and discuss positive experiences related to these HPCs' ability to help with marketing and outreach, including their willingness to proactively support the growth of key initiatives. One CFP noted that the HPC they often work with has helped with tabling, canvassers, and sending out letters. However, one interviewed HPC discussed administrative hiccups that need to be addressed to continue to expand the reach of the IE

[36] LEAN, "HPC Training: Intro to SCSC Intake, Leads, Referrals", August 31, 2023.

Program through the LVI initiative, including delays in several key points in the work approval process (eligibility checks, project approval, and job processing) due to CAP agency administrative challenges. LVI lead agencies also discussed challenges with the LVI work approval process, noting that most work scopes submitted by HPCs require revision and underscoring that staffing shortages and the administrative responsibility of the LVI model on LVs are contributing to HPC discussed delays.

To better understand the LVI model, including the above-mentioned challenges, the evaluation team recommends additional research to better understand:

- Customer experience of the LVI initiative and how it differs (if at all) from the CAP agency experience (including any differences in the quality of service)
- The referral, communication, and funding pathways between LVI and CAP service and how that translates to customers' experiences
- Any differences in measures or services provided to customers who participate in the LVI versus CAP pathway
- Capacity of the LVI model and growth/future opportunities

5.4 Recommendations

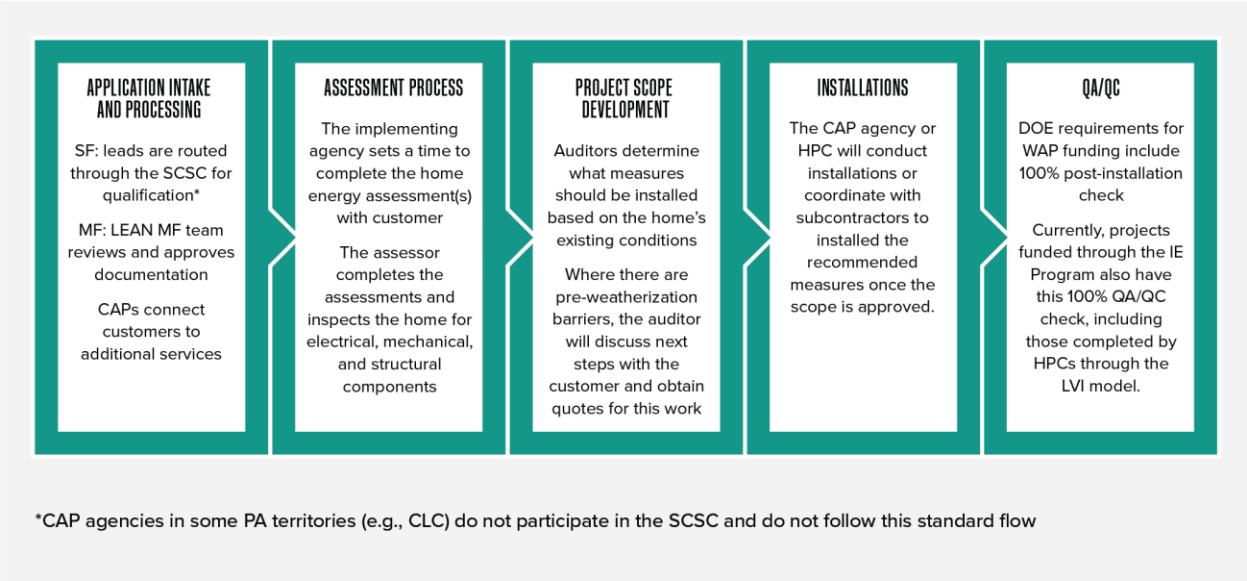
Recommendation 3: Conduct additional studies into initiatives that could not be effectively explored through this evaluation, including the SCSC and LVI initiative, to understand how these initatives are performing.. Given that the program is in a moment of transition as several new initiatives have been introduced in the past year, the evaluation team recommends targeted studies to systematically assess the initiatives. The studies should focus on 1) identifying intended outcomes and how to measure progress toward those outcomes; 2) assessing progress toward outcomes, 3) determining how customers and agencies experience the process, and 4) highlighting preliminary results (intended and unintended) as well as opportunities for expansion or improvement.

Recommendation 4: Develop systems to understand the growth of the LVI initiative and determine guardrails to ensure this new program component does not surpass budgetary limitations. The speedy expansion of the number of customers served by the program through the LVI initiative must be balanced with consideration around availability of program funding. The program should ensure that there is clear communication among the program team, the LVs, and the HPCs delivering services regarding how much capacity the program has to expand. The program should develop a means to communicate remaining budget and allocate slots well before the limit is reached. Programs that exceed budgetary limitations can create major challenges for program contractors and impact customer trust in a program. The evaluation team understands that program stakeholders, including the Massachusetts Department of Public Utilities (DPU) and the Massachusetts Department of Energy Resources (DOER) are aware of these challenges and are working to address them.

6. Overarching Internal Processes

A key objective of this evaluation was to understand the current service delivery process and how it aligns with the program's overall goals of increasing weatherization and electrification. Many of the related findings tie closely to the customer experience and are embedded within Section 87 - Customer Journey. This section briefly summarizes internal program processes and operations. Specifically, this section provides additional details related to project application intake and processing, scheduling, assessments and QA/QC, and data collection, tracking and reporting. Section 8 focuses on the customer experience of these same stages in the journey. Figure 10 provides an overview of the internal program process.

Figure 10. Internal Process Flow



Source: Evaluation team

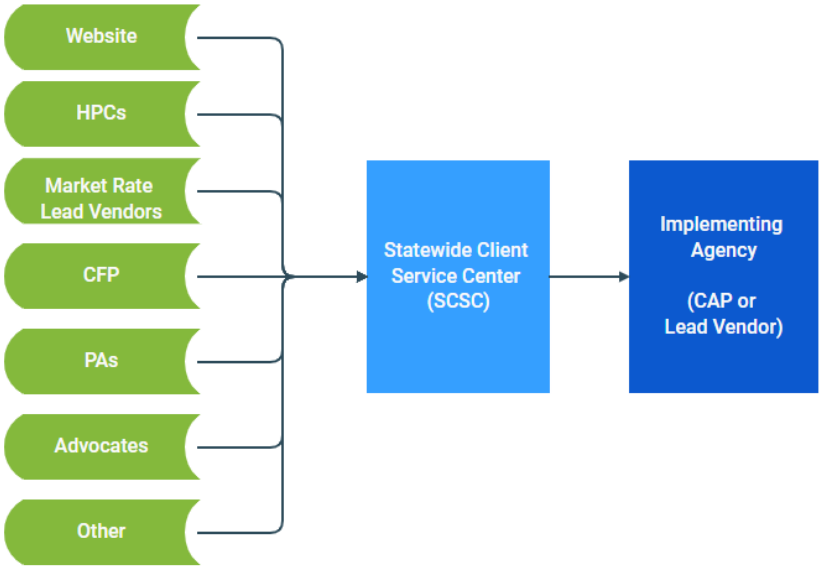
6.1 Application Intake and Processing

With the introduction of the SCSC, most SF customer leads are routed through the SCSC. As noted previously, not all PAs (Liberty, Cape Light Compact) contract with the SCSC for services and instead maintain their own systems. Customers initially engage with the program in a variety of ways (described in more detail in Section 8 - Customer Journey). If customer leads are first received by CAP agencies, they are responsible for providing customer contact information to the SCSC for qualification. The SCSC qualifies customers for services[37] and, if qualified, directs their case to the appropriate CAP or HPC contractor who contacts the customer to schedule an assessment. As noted earlier, customers who have a pre-existing relationship with a CAP will be routed that direction. HPC contractors will be engaged if the CAP agency waitlist is lengthy (greater than six weeks) or if the individual learned of the program through the HPC contractor. Prior to the SCSC, customer qualification happened in house at the

[37] The SCSC validates qualification for program eligibility typically through confirming customers are on the Massachusetts Low Income Discount Rate, are an existing fuel assistance recipient, or receive another qualifying categorical benefit. According to LEAN, the SCSC currently takes an average of 10 business days to qualify a customer a refer a lead to the relevant party.

relevant CAP agency. Figure 11 shows the various program referral sources and the process by which they are routed to the implementing agency (i.e., through the SCSC).

Figure 11. IE Program Referral Sources and Assignment



Source: LEAN[38]

MF customers (generally property manager/owners) submit applications online. The leads are automatically added to a separate Monday.com board (i.e., not the Statewide Production Board), for review by the LEAN MF team. Once the lead is created, participants submit required documents[39], which the LEAN MF team reviews and approves, and once approved, the lead is referred to the lead agency.

For both programs, the responsible CAP agency takes on management of the project lead once it is qualified and approved either by the SCSC or LEAN MF team through final project completion.

6.2 Assessment Process

In the SF pathway, after the SCSC assigns a lead to an implementing agency, that agency, whether CAP agency or HPC under the direction of the LV in the LVI initiative, owns that lead from assessment through project delivery and inspection. This process is similar for the MF pathway; however the LEAN MF team assigns a lead to a lead agency that then manages the project through this same lifecycle.

Auditors from the implementing agency (CAP agency or HPC) conduct home energy assessments (i.e., AMP, weatherization, and/or heating system assessments). The implementing agency sets up a time to complete the assessment, which may span several

[38] LEAN, “HPC Training: Intro to SCSC Intake, Leads, Referrals”, August 31, 2023.

[39] Property owners are required to submit documentation that demonstrates that the project meets affordability requirements. Documentation can include a deed restriction outlining unit reserved for IE tenants, a recent income survey, Low-Income Housing Tax Credit (LIHTC) or Section 8 documentation, or other documentation that is reviewed and considered on a case by case basis.

days. The auditor systematically inspects the home, including the mechanical, electrical, and structural components. During the ride-alongs, the evaluation team noted the meticulous process auditors use as they reviewed and recorded the conditions of the homes. The evaluation team observed that auditors typically entered data into paper forms required for DOE WAP; in ride-alongs and interviews auditors noted that these forms capture everything needed for the PA-funded IE Program as well. The evaluation team also observed auditors from one HPC participating through the LVI model. These auditors captured some information by hand (e.g., bulb count, home layout and configuration) but also used an assessment app called FastField and entered some information directly into an excel spreadsheet onsite.

Auditors determine which measures should be installed in each home based on a home's existing conditions. During ride-alongs, the evaluation team observed auditors checking the performance of existing heating systems, checking the performance of refrigerators and other appliances, and checking for existing insulation (including drilling small holes to observe insulation in walls), among other checks throughout the assessment. Auditors develop a work scope based on these existing conditions (e.g., auditors will recommend additional attic insulation if a home has existing insulation, but it is below a given depth).

Auditors typically begin to develop a work scope within a home, and at the end of the assessment will review which measures they plan to recommend with the homeowner or tenant. The evaluation team observed these conversations occurring at the end of an assessment. Where there were significant pre-weatherization barriers that needed to be addressed, the evaluation team observed auditors discussing the next steps (i.e., which barriers needed to be investigated further and how this would happen) instead of discussing work scopes. The evaluation team did not observe other touch points during which work scopes are discussed with customers prior to installation beyond the assessment. However, at the time of the assessment the work scope is not final and approved for installation. If work scopes are changed without explanation for the customer, it is possible that this could create confusion. Evaluation findings suggest that a lack of communication about what measures will and will not be installed is creating confusion for customers. This is discussed in more detail in Section 7.

CAP agencies noted in interviews that typically auditors finalize a work scope back at the office after a site visit, and once it is reviewed and approved, assign the work to contractors and vendors for the completion of recommended work. Auditors discussed using both networks of local contractors to complete the work as well as large HPCs (some of whom participate through the LVI model).

Early in the assessment process, auditors consider whether a home's condition is suitable for weatherization, and/or safe to service. CAP agency staff noted that most homes (around 70%) require that health and safety barriers be addressed prior to weatherization, with an average of $10,000 in pre-weatherization funding needed per home. CAP agencies will attempt to identify funding to remediate the homes where possible, although availability of that funding can be specific to CAP agencies. As noted previously, CAP agencies draw on a variety of sources for this pre-weatherization barrier mitigation work, with the level of funding needed varying greatly; one CAP agency mentioned that the largest job they completed required $85,000 in pre-weatherization barrier mitigation. The evaluation team did not request access to pre-weatherization barrier mitigation and deferral data to confirm the number of deferred homes, although likely would not have been able to gain access to application data to determine deferral rates given inability to obtain non-PA data (see Section 6.5 for more detail).

6.3 Measure Installation

After CAP agencies (SF) or LVs (MF) develop work scopes, these implementing agencies coordinate with installation contractors to schedule and complete the work with customers. In the MF pathway, measures are approved once PAs review the cost-effectiveness analysis for each project and provide approval.

In the LVI initiative, HPCs complete the work in house, and coordination with an outside contractor is not required (with the exception of some work to address pre-weatherization barriers). The evaluation team did not observe measure installations during ride-alongs, only assessments. In interviews, CAP agencies and HPCs discussed some challenges related to installation contractors. These are described in detail in Section 6.6.

6.4 QA/QC

DOE requirements for WAP funding include a 100% post-installation check. Currently, projects funded through the IE Program also have this 100% QA/QC check, including those jobs performed by HPCs through the LVI model. This 100% QA/QC check is intended in part to ensure IE customer satisfaction and reduce heat emergencies. This requirement may contribute to the demands on CAP agency staff, who are already stretched thin.

In surveys and interviews, participants did not mention the QA/QC inspection, and many did request additional follow-up from the program (see Section 8). This may suggest that there is an opportunity for additional engagement with customers during these QA/QC visits.

The scope of this evaluation did not assess the QA/QC process, common issues or concerns identified through QA/QC, or the process for documenting and responding to QA/QC results. The one notable area identified through the research for this evaluation that is worth following up on is the gap between customers' expectations for measure installations and services and what they received, as well as the few instances where a customer self-reported not receiving a measure that was indicated within the tracking data. As noted within Section 8 - Customer Journey, the difference in customers' perceptions of what they should receive compared with what they did receive may very well point to the need for expectation setting and communication. However, the feedback could also be indicative of customers not receiving measures they should qualify for (for whatever reason), and/or data entry and reporting errors. All this said, QA/QC may be an issue for deeper investigation in future evaluations if a concern.

6.5 Data Collection, Tracking, and Reporting

As noted previously, CAP agencies are often responsible for data collection, tracking and reporting for multiple programs and funding sources for a given home they serve through the IE Program. This reality, coupled with processes specific to the PA-funded program, create challenges both for the CAPs administering the program and program evaluators.

CAP agency staff currently use multiple systems to track and report required program data, including the new Statewide Production Board.

CAP agency staff use multiple systems to capture required program data for SF and MF projects. The new Statewide Production Board is used to manage PA-funded SF projects from start to finish and collect required data for project oversight including customer contact data,

whether a customer is income qualified and the date qualified, and information on the PA, local CAP and implementing agency, among others. These fields and others, including status and work scope information, are updated as a customer moves through the program process. All SF CAP jobs, regardless of the funding source are added to the Statewide Production Board. As discussed previously, CAPs use multiple additional systems for data tracking and reporting, both for the PA-funded IE Program and others, such as DOE WAP. Some interviewed CAP agencies mentioned using three or four different software platforms on a regular basis for project tracking. CAPs report that different PAs use their own unique reporting database platforms and that they manually input the same information into different software for each funder. If they use DOE funding on a house, they also need to enter information into a unique DOE platform (i.e., eAssist). Some CAPs also use other software for their own internal systems of data tracking. Taken together, these different data reporting systems result in a duplication of labor and effort for many CAP agencies.

Note that there are at least two issues of concern. First, given that most audits are still being conducted using paper and pencil, that data must be entered to a digital platform by either the auditor or another CAP agency staff person. During ride-alongs, all observed CAP agency assessments were conducted using paper and pencil; observed HPC auditors used an electronic assessment tool to collect some data. One CAP agency was testing an electronic tool at the time of ride-alongs, but the evaluation team did not observe this tool being used in the field. At the time of CAP agency interviews, only one CAP agency was exploring using an electronic assessment tool. Second, the multiple systems of data tracking and reporting are not always consistent, meaning that CAP agency staff may have to enter the same data multiple times to comply with reporting requirements (see

Table 9).

Table 9. Data Fields and Systems

Data Fields	Captured During Assessment (paper)	Input to CAP-Specific System*	Included in Monday.com Boards*	Reported to PAs	Reported to DOE /EOHLC (if relevant)
Participant contact information		X			
Implementing agency and local CAP agency		X	X		
Address: location	X	X	X	X	X
Qualification status and date		X	X		
HEA date	X	X	X	X	
Project Information: Status; funding source, job total		X	X		
Assessment information (e.g., Pre-Wx R values)	X				
Heating fuel (s)	X	X	X	X	X
Installed measures funded by PAs		X	X	X	
Installed measures funded by DOE WAP		X	X		X
Installed measures funded by other sources (e.g., private foundations; municipal)		X	X		

* ABCD and HPCs moving through the LVI use the Monday.com board as their project tracking software.

Source: Evaluation team

Data availability limitations impact the ability of both the evaluation team and program team to understand the status of statewide customer service, hindering opportunities for further program insights.

The statewide Monday.com boards provide the first opportunity for LEAN and other program actors to have visibility into program performance statewide. LEAN and CAP agencies agreed that this development is positive for the program despite existing growing pains.

However, data availability limitations remain that hinder the ability of evaluation teams and others to provide deeper insight into program performance. The evaluation team was only able to obtain data this evaluation cycle for measures installed using IE Program funding. The team requested data on measures covered by WAP or other program funding but was not able to obtain these records. Similarly, the evaluation team did not receive data detailing pre-weatherization barrier mitigation and the data the teams did receive did not indicate which CAP agency or HPC served a customer, only the relevant PA. Some of these data (e.g., CAP agency or HPC serving a customer) are captured in the new Statewide Production Board for all projects that CAP agencies deliver, while others (e.g., details on pre-weatherization barrier mitigation) may exist within the Statewide Production Board as fields but are not required data entry points for all CAP agencies.

Lack of access to a complete database hindered the ability for this evaluation to look across the program and will make it challenging for future evaluation teams to thoughtfully evaluate the program. These data limitations could also limit the ability of the program to measure progress toward goals, including the program's contribution toward achieving equity targets.

CFPs also highlighted limited data access as a major barrier to marketing the program and enrolling participants. Three organizations mention having limited access to customer data for the IE program.[40] According to the CFP LV, although dashboards show customer status to HPCs when they provide services for market rate programs, this view is absent for IE customers due to regulatory data requirements. These gaps in data availability are challenging for CFPs as they limit their visibility into levels of customer engagement by priority customer groups and Environmental Justice Communities, impacting their ability to increase participation among these groups, a key goal of the CFP program. Additionally, CFPs do not have access to project data once they refer customers to other organizations like CAPs or HPCs for enrollment. Community Partners, who hold relationships with some participating customers, have no idea if those customers are experiencing issues delaying service delivery unless the customers directly reach out for support.

> "*I just mainly tell them the information and talk [to them] about the program. . . do the referral, and then somebody from [HPC] will follow [up]*"

In future evaluation years, specific data points are needed to allow for effective evaluation.

For future evaluation teams to thoughtfully evaluate the program, particularly as the Sponsors of Mass Save aim to evaluate the program's contribution toward achieving equity targets, additional data are needed. At a minimum program data should include the below to support the process evaluation. Additional detail on specific customer and measure information that PAs should require CAPs store electronically for reporting and future evaluations is outlined in the IE impact evaluations (see MA23R56-B-IESF and MA23R59-B-MFI):The below list is in addition to that identified within through the IE impact evaluations.

- Contact information for the decision-maker (property owner/manager) for MF projects. Much of the data the evaluation team received this cycle was for MF tenants.
- Comprehensive measure level data, including measures installed in a home across all funding sources.

[40] CFPs currently receive aggregated customer data for the IE program.

- Information on the CAP agency that served a customer (and/or HPC if a customer is served through the LVI model)
- Data to inform time to serve / time to assess metrics (e.g., date applied, date of assessment, date of installations, date of QA/QC)
- Data on pre-weatherization barrier mitigation, including work completed and cost
- For MF buildings, data on the percent of the building that is IE, where known
- Any household characteristic data collected as part of the application process (e.g., income classification, homeownership, family composition)

Other qualitative data, though not essential, would allow for a more nuanced evaluation of customer experience. For example, if the evaluation team was able to understand what, if any pre-weatherization barriers were unable to be addressed, or understand other reasons why customers do not receive a particular measure through audit reports or similar data. Providing this data may be cumbersome but could result in deeper analysis.

6.6 Operational Challenges and Considerations

The majority of internal operational findings result from review of program materials and discussions with and observations of CAP agencies in their day-to-day work. CAP agencies spoke positively about the services they provide, impact they have on customers, and the support they receive from LEAN and lead agencies. However, there are a number of topics that agencies raised as consistent challenges in their day-to-day operations. These are similar to issues identified in the 2019 evaluation and recognized by all as continued challenges.

6.6.1 CAP Agency Staffing and Capacity Constraints

CAP agencies administering the IE Program manage both administrative and technical aspects and have a mix of administrative and field or more technical staff. Staff sizes varied greatly based on the scope of a given CAP agency's work, but regardless CAP agencies consistently discussed challenges related to staffing and training.

In both the SF and MF pathways, after a lead is verified, a local CAP agency, lead agency, or HPC through the LVI initiative manages a project throughout the implementation process. However, in the LVI model, much of the administrative responsibility remains with the LVI LVs, who discussed staffing constraints due to LVI initiative growth.

Staff retention is a challenge that many CAPs, CFP organizations, and HPCs shared. CAP agency staff specifically highlighted a need for funding to hire additional administrative staff, with three mentioning salaries limiting their ability to hire or retain administrative staff. .[41]

> "[Our] *biggest challenge is staffing; we have a lot of requirements in terms of reporting, [*but*] it doesn't pay well." —CAP Agency staff person*

[41] Since conducting CAP agency interviews LEAN began working with the Sponsors of Mass Save to fund an additional administrative position to alleviate burden. Feedback from the PAs provided in in June 2024 emphasized that they are aware of these challenges and working to address them in the plan for the next cycle.

> *"If you want me to continue to hire people, we will need to pay them more than $19/hour." —CAP Agency staff person*

The SCSC should take some of the administrative labor off of the CAPs at the initial stages of project delivery, as the eligibility screening will be handled by the SCSC. However, that transition had not fully occurred at the time of the research for this evaluation. Additionally, CAP agencies are still responsible for some project intake, as CAP agencies receive some leads directly, and submit them to the SCSC through intake forms.

6.6.2 Background Check Requirements

HPCs and CAPs discussed challenges with finding qualified contractors, especially those who can meet program requirements related to background checks. Both CAP agencies and HPCs discussed concerns around labor shortages specifically for contractors specializing in pre weatherization barrier mitigation.

The Sponsors of Mass Save noted that in 2022 drug testing standards for vendors and contractors moved to 4-panel criteria, which excludes screening for cannabis, allowing some individuals who may have previously failed this screen to now be accepted. Additionally, Sponsors noted that if a background investigation failure is elevated to them, they have been receptive to reviewing it on a case-by-case basis. However, CAPs and HPCs did not discuss this possibility for case-by-case review in highlighting background checks as a challenge. The Lead Agencies mentioned that they ask CAPs to communicate about any barriers "to find a way to move forward," but CAPs may not prioritize these conversations given their other responsibilities with the program.

The evaluation team includes this in the report as an important issue that the CAPs raised in discussions. Given how this is being addressed or has been addressed through changes to the drug testing standards, the team does not include a specific recommendation here.

6.6.3 Training Needs

CAP agencies also described additional training needs for existing staff including additional guidance around electrification (n=5), assistance vetting and training contractors (n=3), and weatherization training for administrative staff (n=2). Specific guidance needs around electrification are discussed in more detail in Section 8.2. The evaluation team recommends that the PAs support these training needs in the next three-year cycle.

> *"Having training for contractors on expectations of the program would make it better . . . We don't know what makes a good contractor except after working with them, we need some support in helping vet contractors."*

> *"Training for admin staff would be huge on general concepts of weatherization. A 1-2 hr. course, [teaching] this is what spray foam is, the difference between a boiler and furnace, etc."*

6.6.4 Data Collection and Management

CAP agency staff find program data collection and management processes to be cumbersome, which is exacerbated by required data collection and management procedures for programs outside of the Mass Save IE Program (as discussed in more detail in Section 6.5 above).

Both CAP agency administrative staff and auditors described challenges related to data collection and management procedures, including reporting tracking data to the Sponsors of Mass Save. One CAP described how using three different databases for each PA they work with is a "*tracking nightmare, with double data entry*." He said just having "*one statewide system for data entry would make it a lot easier.*" CAPs have also struggled with data management redundancy when updating the Statewide Production Board; data entry into these statewide boards is a new requirement for which CAP agencies are responsible in addition to data entry into databases used for reporting to the Sponsors of Mass Save.

As discussed previously, in 2023, a statewide board was added to respond to increased program demand, provide real-time statewide pipeline data, and improve the overall customer experience by leveraging resources across the state. Though CAPs expressed understanding of the benefits of this statewide visibility, in practice they have struggled with the additional redundancy in data tracking that this new system creates. Though the Statewide Production Board was not primarily designed to eliminate redundancy in data collection, it is true that now all program data is captured in a centralized place. The IE Program could build upon this centralization and make efforts to eliminate additional redundancy in data tracking and reporting.

6.7 Recommendations

Recommendation 1: Convene organizations involved with administering IE weatherization services (e.g., LEAN, PAs, Executive Office of Housing and Livable Communities [EOHLC]) to identify (or develop) and implement a robust electronic tracking system. The SF IE program is co-delivered with other programs (e.g., DOE WAP). CAP agencies leverage funding from a variety of sources, all with their own reporting and data security requirements. As such, creating a data management system that captures all IE participant details and measures requires coordination with all relevant stakeholders, including EOHLC, to ensure that such a system is usable by all.

Recommendation 2: Identify and implement an electronic assessment tool for onsite data collection that is compatible with program data tracking systems. The evaluation team recommends that PAs, LEAN, and other stakeholders follow a similar process described in the centralized tracking data recommendation to implement an electronic audit tool. As with the tracking system, adopting an electronic audit tool will require considerable collaboration among LEAN and other stakeholders, as well as and integration, socialization, and training to CAP agencies who all operate within their individual systems. It could also be valuable to collaborate with other states (such as Pennsylvania and Delaware) that are currently considering similar electronic audit systems to support their WAP administration. Here again, the program, specifically PAs, should support the development of this system, relying on additional internal and external expertise as needed. For example, vendors offer DOE-approved audit tools and provide end-to-end integration support that could be leveraged as part of this process.

Recommendation: Provide additional support for CAP agencies, both technical and financial, to alleviate administrative responsibility and address operational challenges. CAP agencies and/or the SCSC would benefit from additional staff support or more streamlined systems to ease the slowdowns in processing customers. Although HPCs can serve customers through the LVI initiative, the administrative responsibility is still on the SCSC and CAPs to process eligibility, approve work scopes, complete QAQC and process payments. If these requirements are to remain in place, the PAs may want to consider additional staffing support

for the CAPs and the SCSC to enable them to serve customers at scale. Alternatively, the PAs may want to consider whether there are other opportunities to streamline these processes. Providing additional support and funding could help to alleviate the staff retention challenges discussed by CAP agencies. CAP agencies also highlighted additional training needs for existing staff including additional guidance around electrification and weatherization training for administrative staff. PAs should support the development of this guidance to ensure CAP agencies have the resources they need and trainings are delivered consistently across the state.

Consideration: Investigate how other states approach challenging but critical data infrastructure needs. Two areas arose in this and prior evaluations: the need for centralized data collection and reporting system and electronic audit capabilities. As with all prior impact evaluations, the evaluation was also hindered by the inability to gather WAP-related program data due to DOE-issued guidance (dated February 1, 2010, see Appendix F. The evaluation team recommends facilitation of a targeted peer review study, reaching out to state agencies across the country to share, for example, information on their experiences addressing these issues, solutions considerations, experiences throughout the system transitions, (e.g., auditor experience moving to an electric system, system-specific experiences), and resources and timeline expectations.

Consideration: Conduct follow-up studies to more comprehensively assess research questions. Feedback in this reporting identified some IE program areas that were not comprehensively assessed and could warrant follow-up research if of interest. Example areas include the MF pathway and QA/QC processes.

7. Customer Journey

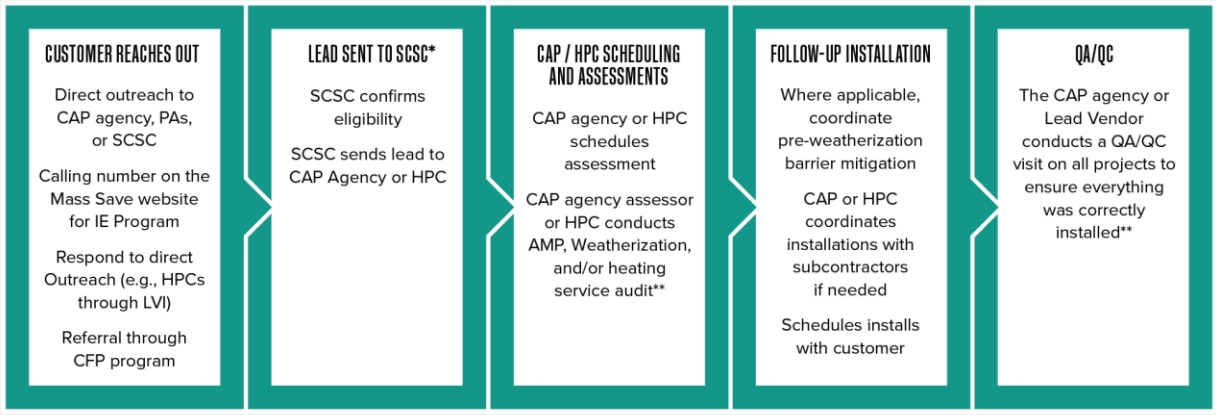
The IE Program is flexible by design, with no “universal” process, though the process of service delivery has some consistency. Customers’ experiences vary by their unique situations, including their homeownership status (rent or own), type of building they reside in (e.g., SF, 2-4 unit, high rise, condominium association), how they enter the program (e.g., referral through other assistance programs, CFPs, direct engagement from an HPC), among other factors. However, at a very simplified level, the customer completes the application or provides IE program staff with necessary intake information (e.g., via phone), is notified of approval, schedules and receives an assessment to validate home eligibility and measures to include, and schedules and receives follow-up visit(s) to install equipment. Once equipment is installed, a final QAQC visit will be conducted. As noted in the prior section, the CAP may provide end-to-end services, but the customer will likely work with different individuals and sometimes different organizations throughout this process. The evaluation investigated customers’ experiences from application to delivery of the SF and MF pathway.

The MF pathway participation process differs in several key ways from the SF process. MF pathway applications are typically submitted through the LEAN MF website, are reviewed by the LEAN MF team, and then are referred to a lead agency for management. New SF program initiatives meant to streamline intake (i.e., the SCSC and Statewide Production Board) do not apply to the MF pathway projects. Additionally, MF pathway projects have additional cost-effectiveness screening that takes place prior to project completion. MF pathway projects typically differ from SF in the primary point of contact (property managers versus occupants) and include a somewhat different measure mix; the MF pathway includes both common area and dwelling unit measures.

The majority of participants whose experience is reflected here participated in 2022 or previous years and only a small subset received services through an HPC in the LVI model. The evaluation team recommends additional research be conducted in 2025 to understand the participant experience through the LVI model and contrast that with the experience through the CAP agency model.

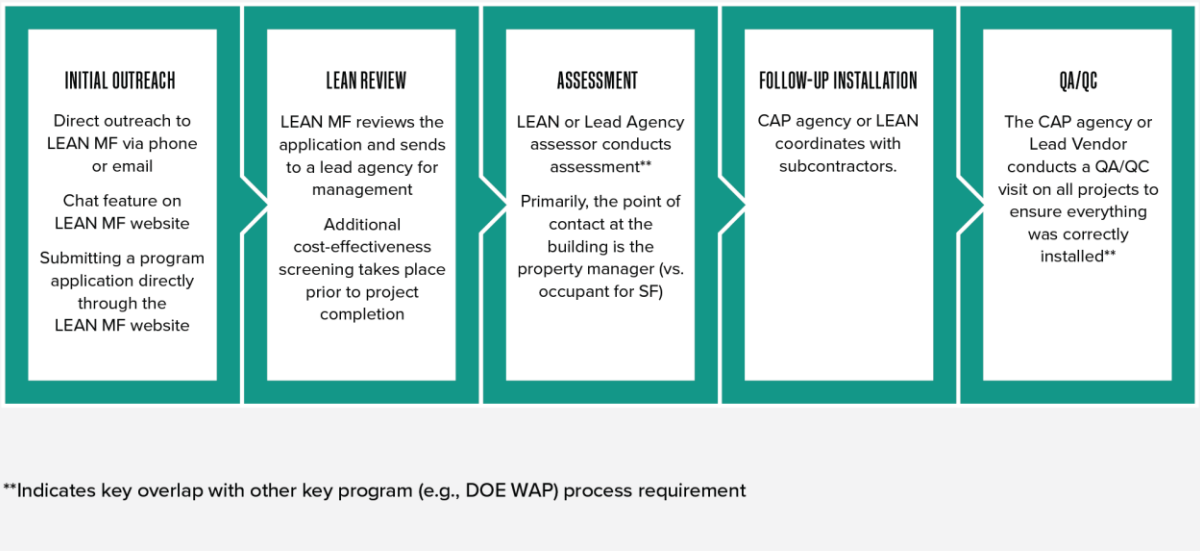
This section begins with a brief overview of each element of the program process then summarizes the key findings identified from research completed to date. The remainder of this section presents findings for the SF and MF pathways for each step in the participation process. Figure 12 and Figure 13 outline the customer journey for the SF and MF pathway.

Figure 12. Single-Family Customer Pathway



Source: Evaluation team

Figure 13. Multifamily Customer Pathway



Source: Evaluation team

7.1 Program Awareness and Initial Engagement

Customers initially engage with the IE Program in a variety of ways. The process can vary for SF and MF customers. Customers learn about the IE program through a variety of channels, including word of mouth and through their local CAP agency. This is described in more detail in Section 7.1.1 and Section 7.1.2.

Single Family customers reach out and engage with the IE Program through multiple avenues:

- Direct outreach to a CAP agency or PA
- By calling the number on the Mass Save website for the IE Program
- Respond to direct outreach (e.g., HPCs through the LVI initiative)
- Direct outreach to an HPC or Mass Save program representative for other RCD programs

As noted previously, regardless of the way in which customers engage, all leads in PA territories contracted for SCSC services are routed through the SCSC, though this system was not fully up and running at the time of this research.

Multifamily (MF) customers reach out and engage with the IE Program through multiple avenues, however these mostly tie back to the LEAN MF website:

- Direct outreach to LEAN MF via phone or email
- The chat feature on the LEAN MF website
- Submitting a program application directly through the LEAN MF website

As noted previously, for the MF pathway, intake and qualification is completed by the LEAN MF team.

For both programs, the responsible CAP agency takes on management of the project lead once it is qualified and approved either by the SCSC or LEAN MF team through final project completion.

As the evaluation team received participant data from 2022, the team does not have direct feedback from customers on the SCSC, as that was not in place when they went through the program. The participants whose experiences are included in this evaluation came into the program through word of mouth, from direct outreach by CAP agencies or CFPs, or referral from other programs.

7.1.1 Single-Family

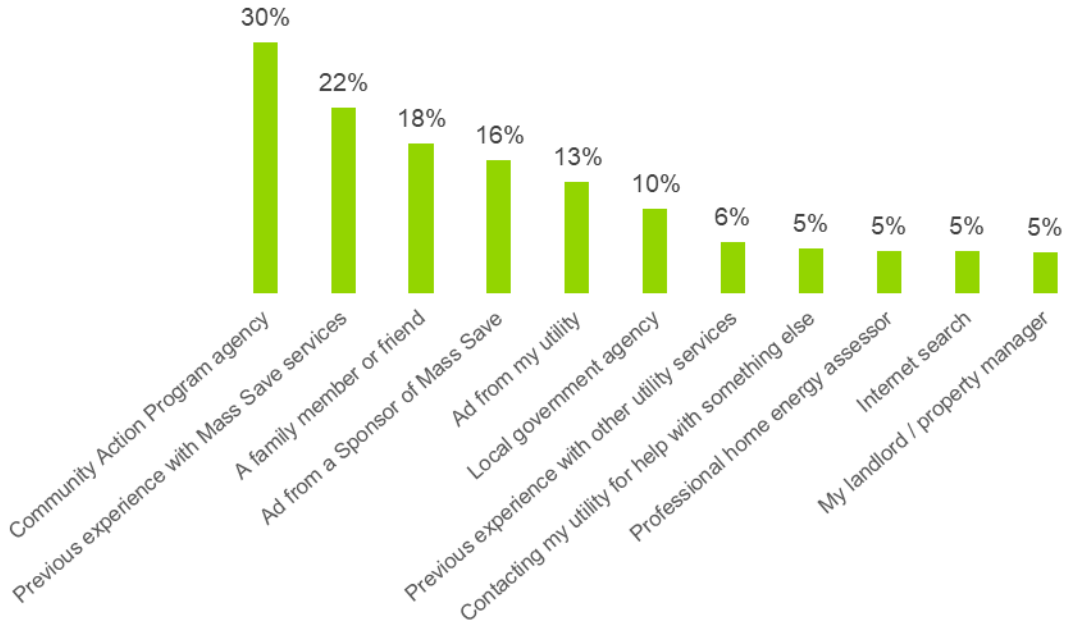
IE participation generally begins with community and personal relationships, although that on-ramp is limited by barriers of awareness.

As shown in Figure 14, this research suggests that local organizations were the strongest referral source for the MA IE Program in the evaluation period, with 30% of survey respondents saying they learned of the program through their CAP agency and another 10% mentioning their local government. Past experiences with a Mass Save program, either as a participant or via word of mouth from others, also drive awareness, mentioned by another third of respondents. IE customers surveyed for the 2019 Nonparticipant Market Barriers and Characteristics study[42] (Nonparticipant Study) also ranked their personal connections and CAP agencies as their most

[42] https://ma-eeac.org/wp-content/uploads/MA19R04-A-NP-Nonpart-MarketBarriersStudy_Final.pdf

trusted sources to obtain information on energy efficiency offerings, followed by their local utility (54%, 51%, and 47%, respectively).

Figure 14. Source of Program Awareness



Source: Participant survey question C1: *"How did you learn about the program? Select all that apply.", n=394.*

The participant interviews probed more into source of awareness and opportunities for the IE Program to further engage customers. The interviews strongly supported the power of direct referrals from trusted individuals as well as their own knowledge. In fact, one interviewee underscored that they were initially unaware they were eligible for the program and said they only learned about it "because of proximity" through a coworker at their job. Six of nineteen interviewees also mentioned previous backgrounds in energy, weatherization, or housing assistance, which likely made it easier for them to discover the program.

Previous research underscores that there are additional opportunities to engage customers with the program, here and/or within the ecosystem of assistance offerings in general. As identified in the Nonparticipant Study, most (73%) of customers whose self-reported incomes were IE said that they have not participated in a Mass Save program in their current home. While 60% of IE customers were aware of Mass Save in general, that rate is significantly lower than those with higher incomes (85%).

This IE Program evaluation further reinforced that lack of awareness, or understanding of the program, could inhibit participation. CFPs, who operate directly within their communities, specifically underscored that lack of awareness is a barrier, noting that few customers are aware of the program prior to participation. Additionally, several participants interviewed offered the suggestion to identify ways to improve awareness as well as better publicizing eligibility requirements as it is otherwise hard to "learn about and know about all of the options" for programs.

Particularly with future goals increasing, these awareness barriers suggest that there may be a need for more concerted efforts to increase program awareness among target populations. New models that were not fully established prior to the evaluation period, including the CFP program, are designed in part to increase awareness among hard-to-reach populations, many of which overlap with the IE customer base. This model appears to be successful in expanding access and participation in the program and should be continued. Additionally, there is some evidence that the LVI model has been successful at increasing program awareness through HPC proactive outreach efforts. As noted previously, due to the timing of this evaluation, the evaluation team was unable to evaluate the impact of these new, dynamic initiatives. Additional research is needed to fully understand the impact of the LVI model on program awareness and engagement.

Program stakeholders emphasized that trust and experiences shared via word of mouth can be a barrier to engaging customers in IE programs and are a consideration for reaching and serving IE customers.

Trust as a barrier is widely known and recognized by the PAs and reported in recent nonparticipant research[43]. Through this evaluation, CFP organizations also shared their experiences working within their communities to engage customers in Mass Save programs in general, which includes IE customers. They noted that negative publicity and feedback on Mass Save programs (e.g., long wait-times for rebate processing, poor service, and other experiences of friends, family and neighbors) affect trust among their community members. They also emphasized that customers were wary of scams or offers that seem too good to be true, which IE programs offered at no-cost, can appear to be.

A lack of awareness or clarity about organizations delivering the IE Program can create confusion and trust issues among some participants, negatively impacting their participation experience.

In follow-up interviews, some participants were unsure of the role of various program actors in the IE Program. Some participants have received multiple assessments or services over the years and are unsure which were through the program. Four interviewees mentioned that they "thought" or "believed" that services they received were through Mass Save, but they were not certain. For example, one participant received free heat pumps after someone at their PA informed them that they would be eligible but wasn't sure who completed the related audit, saying "maybe it [was] Mass Save, I don't know how it works" when asked. Another participant expressed frustration that they have not yet received all of their promised upgrades and criticized their PA for the delay, with no mention of Mass Save or their local CAP agency. In discussing assessments and upgrades received other interviewees mentioned or recalled only Mass Save (n=5), only their local CAP agency (n=4), or only the HPC who installed specific measures (n=2).

This lack of clarity about who is responsible for the upgrades IE customers receive is in part by design. As discussed previously, CAP agencies often rely on multiple funding sources when serving IE customers. However, this research suggests that a lack of clarity about who is providing program services and coming into participant homes may contribute to the lack of trust between the program and the IE community, particularly where customers have issues communicating with program representatives.

[43] https://ma-eeac.org/wp-content/uploads/MA19R04-A-NP-Nonpart-MarketBarriersStudy_Final.pdf

Some interviewed customers who were confused about who they would work with during the program did not always receive clear answers from program representatives. One participant put off scheduling their assessment because the auditor who reached out to come into their home after they scheduled the assessment was not directly affiliated with Mass Save. They thought this was "sketchy" and said that they contacted Mass Save to confirm legitimacy. However, the representative they spoke with was unable to tell them where the assessor came from. With various organizations and assessors working through the program, it is even more important to provide clarity on the implementing agency and their connection to the program throughout the entire process to increase trust in the program.

Given that word of mouth is an important mechanism for program awareness hearing about confusing experiences could lead to uncertainty for potential future participants. The evaluation team notes this to highlight the importance of embedding strong communication and alignment throughout the customer journey.

A review of secondary research highlighted several best practices for meeting customers where they are and building relationships within communities, many of which the IE Program currently employs.

Across peer PA interviews, program teams highlighted the work they were doing to improve the onboarding process for participants and enhance their engagement strategies and overall customer satisfaction. Overall, these can be summarized as meeting customers where they are and building relationships with communities. Below are key insights from these interviews and secondary research.

Leverage community networks: Successful community engagement practices leverage the reach and relationships held by partnering community organizations to connect customers to what they need. Programs in Northeast and Midwest areas of the country work directly with communities by partnering with community-based organizations, including but going beyond CAPs, to recruit for the program and build trust, especially in historically underserved communities. In one case, the program was able to leverage contacts from a successful lead abatement effort coordinated by the municipality to bring additional MF landlords into the program. Their positive experiences with the lead abatement work made them more open to participating in the energy efficiency program than they might have been previously.

Elsewhere, programs have found success in building trust with customers through hosting live community engagement meetings and guided tours through neighborhoods to help program staff meet community members and understand community needs. Research on community engagement highlights that community meetings and listening sessions are effective in building trust by hearing community concerns and assessing community needs. The evaluation team notes that the CFP is a new initiative that seeks to provide more local and community grounding for program participation.

Enhance language access: Consistent with findings from the MA Limited English Proficient and English Isolated Customer Journey Mapping and Barriers Study[44], offering multilingual services is a best practice to ensure that eligible customers are able to access the program. Comprehensive in-language services may include hiring bilingual and multilingual staff, as well as using external translation services where auditors are not able to speak with customers in their preferred language. In secondary research, the team found that some programs use an

[44] https://ma-eeac.org/wp-content/uploads/MA21R37-B-LEPJM-Report_FINAL_25Oct2023.pdf

external translation service during home energy audits to connect virtually to customers during assessments and provide real-time translation for customers.

The PAs have initiated and are in the process of implementing the Language Access Plan which will train and guide the LVs and program staff on translating and transcreating[45] documents in 5 languages: Haitian/Kreole, Mandarin, Cantonese, Portuguese, and Spanish. Similarly, one CAP agency auditor, as a fluent Portuguese/Spanish speaker, explained he saw tremendous opportunities to provide program benefits to LOTE speakers and their communities. He said this happens not just through translation, but by meeting with people and letting them see he is "one of them," representing himself as a "piece of home."

Ease the burden and time required to apply: Peer PAs are increasingly recognizing how application processes impact a customer's decision to participate in programs. They are seeking ways to minimize the customer burden (i.e., information needed to apply, complex income verification, time to move through processing), without creating potential gaps that ineligible customers may slip through to participate. Some programs shifted to a self-attestation model for income eligibility, subject to a later audit. Other programs shifted to automatically qualify customers within specific geographic areas with high concentrations of likely eligible customers or those who qualify for other benefits or programs.

Programs that do not rely on the federal DOE WAP structure and requirements have more flexibility to test this approach to verify eligibility. The Massachusetts PAs are considering some strategies outlined here. For example, the next three-year plan includes adopting self-attestation as a qualification method for moderate-income households receiving no-cost weatherization services. Additionally, the PAs and LEAN are working together to implement new mechanisms for income verification, including potentially allowing AMI to be used as an additional qualifier for participation through the SF.[46]

7.1.2 Multifamily

Interviewed multifamily participants (property owners, managers, and PHAs) have varying levels of program awareness and interact with the program in myriad ways.

The program serves a great variety of building types and varied ownership structures (PHAs, naturally occurring affordable housing, subsidized housing) which require flexibility from program actors. The team must be able to support independent owners of one or a few small MF buildings while also supporting large apartment complexes and PHAs.

The evaluation team spoke with a wide variety of MF property owners across the spectrum of ownership structures (PHAs, naturally occurring affordable housing, subsidized housing) including large management company representatives (responsible for at least 5 properties), with smaller management company representatives who were responsible for 4 or fewer properties, as well as owners or managers of properties that house exclusively vulnerable

[45] "Transcreation" is a term used to describe a more nuanced translation process, where you ensure that a message maintains the same emotions/implications of the original language (in addition to intent/tone/style/context/etc. that are part of standard translation). It also include adapting all parts of a document for a target audience (e.g., ensuring that images used in marketing material appropriate and relevant for the specific target group.)

[46] In June 2024, the evaluation team received feedback from the PAs that ABCD is working on an SOW for the Discount Rate Income Verification Eligible Services (DRIVES) program that will allow more participants to be income verified and screen for the income-eligible program outside of Fuel Assistance. This will allow for increased participation and minimize the wait for customers.

populations or specific segments, such as older adults, survivors of domestic violence, or people with substance use disorders. These tenants received various forms of assistance such as discount electric rates, fuel assistance, discount rents, and Section 8 vouchers. MF participants heard about the program through a variety of sources, including word of mouth (similar to the SF pathway) and referrals from other PHAs and CAP agencies.

As part of the evaluation, the team interviewed PHAs separately in addition to the survey and interviews conducted more broadly with MF participants. Based on a recommendation from the EOHLC, the team spoke with a group of larger housing authority representatives to understand their experiences. These PHAs all participated regularly across their portfolio of buildings in both the IE Program and the DER program (also funded by the PAs and administered by LEAN). While some housing authorities have close and regularly contact with the program, the program pathway for a PHA is the same as any other MF property.

Interviewed large PHAs generally had high program awareness. However, one interviewed large PHA noted that “not every housing authority even knows about these opportunities”, stating that if you “know the right person” at the LVs you can easily get the work done, but that this is not the case for every housing authority, particularly those smaller housing authorities who might come across the program less frequently. Another large PHA underscored this, noting that the current process may be unintentionally creating inequities. This PHA noted that some PHAs know that if you get the right person on the phone, you can be served more quickly. Their current process is typically to proactively reach out to their contacts at the lead agencies to expedite the participation process; they noted that applications may languish for PHAs who are not aware of this as their applications are stuck in the website queue. This PHA also noted that they have asked if a centralized hotline could be created to help all housing authorities be connected to the right providers more quickly. This discrepancy in awareness and outreach mechanisms across PHAs has the potential to create significant equity issues if it results in smaller PHAs having few program participation opportunities.

Taken together, the variety of multifamly pathway actors and the myriad of ways in which actors engage with the program suggests tailored communication strategies based on property management structures and scales of operation could increase effectiveness of recruitment efforts and satisfaction for MF owners and managers. This could include relying on existing community networks, as discussed previously in the SF pathway section, that are specific to MF actors and their needs. It could also include creating resources similar to those developed for the SF pathway, such as the SCSC, or leveraging these existing resources to streamline the MF pathway intake process.

7.1.3 Recommendations

Recommendation 5: Provide clear follow-up procedures for customers, particularly prior to assessments, so that they are aware of where to go when they have questions about the program, and ensure staff have the training and resources needed to address participant questions. Some customers discussed confusion about who provided assessments and installation and how different actors were related to the program or to Mass Save. This confusion led to negative experiences and distrust where program resources were unable to provide clarity. Better communication (perhaps through the SCSC) of who customers can expect at their home might reassure skeptical customers. Other collateral, such as leave-behinds with clear procedures for follow-up, and consistently including program contact information (such as the SCSC phone number) across Mass Save, PA, and CAP websites could help to clarify the process for reaching IE Program representatives.

Recommendation 7: Explore new program initiatives for the MF pathway to address the challenges identified by MF customers, including long wait times. MF customers identified challenges that new SF pathway initiatives were designed in part to address, including ensuring a consistent point of contact and speedier program entry. MF customers discussed challenges later in the customer journey (discussed in detail in Section 7.2.2) including delays throughout the early participation process (e.g., the application timeline) and delays in installing equipment and addressing project issues. Given these challenges throughout the participation process, there is an opportunity for the program to innovate around all stages of program delivery for MF customers. For example, one PHA suggested the creation of a centralized hotline to help all housing authorities connect to the right providers more quickly.

Consideration: Explore the outreach mechanisms used by HPCs to see if there are learnings for the program more broadly. Given the rapid increase in homes being served once the program opened up to HPCs, the program may want to consider identifying what tactics and sales strategies the HPCs are using, how they differ from what CAPs may have been doing, and if there are opportunities for CAPs and other program actors to adopt successful strategies to expand the reach of the program.

7.2 Scheduling, Assessment and Installation Experiences

In the SF pathway, the implementing agency (CAP or HPC) coordinates all work, including assessments, installation and follow-up inspections, with residents and property owners. In the MF pathway, this process is coordinated by the LVs, and as noted previously are primarily coordinating with property owners and managers. The program has instituted a time to assess goal of four to six weeks for this part of the participation process. Many participants surveyed (who participated in 2022) experienced long wait times before assessment, or between assessment and receipt of equipment; 32% of SF respondents waited longer than two months for their home energy assessments (additional detail in Section **Error! Reference source not found.**). It is possible that these have improved since the institution of the SCSC and LVI, but the evaluation team does not have data to demonstrate that.

Home energy assessments can be completed in one day, although some CAP agencies schedule assessments across multiple days at their discretion. The evaluation team observed both approaches during auditor ride-alongs; some auditors completed all three assessments: the weatherization assessment, the AMP assessment, and the heating system assessment, while others completed only the AMP and weatherization assessments.

In both the SF and MF pathways, tenants are able to receive an AMP audit without a landlord's signoff. However, landlord approval is required before other audits (weatherization and heating service) are completed and owner/landlord signoff is required to install any energy efficiency measures.

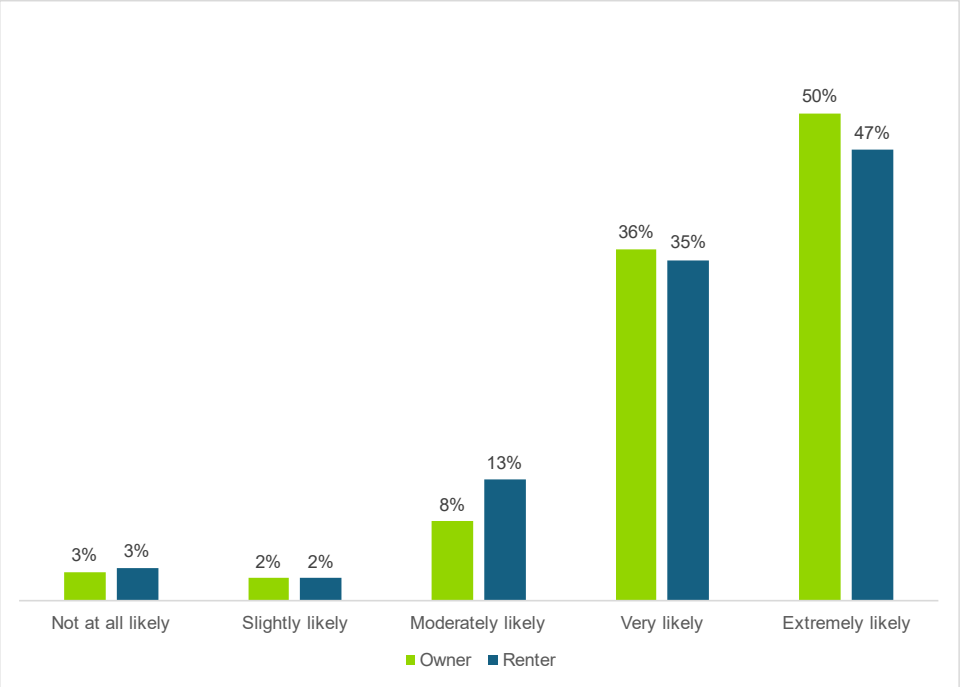
7.2.1 Single Family

Customers are satisfied with the program, particularly with critical experiences with assessors and the assessment process.

In general, customers expressed satisfaction with the IE Program; 83% of participant survey respondents said they were likely to recommend the program to others. Survey respondents were particularly satisfied with their assessment and installation experience and the information they received during the assessment. Satisfaction ratings across the board from SF

respondents were slightly higher among homeowners compared to renters, although both expressed positive experiences (see Figure 15). Overall, most customers feel more comfortable in their homes after participating. In follow-up interviews, most customers spoke positively about the program, especially those who had larger energy efficiency measures installed through the program. Five customers received heat pumps and were very pleased with the new systems and home comfort.

Figure 15. Likeliness to Recommend the Program



Source: Participant survey question F1: "How likely are you to recommend the program to a friend, family, or neighbor?", owner n=306, renter n=85.

Though overall program satisfaction is high, customers did face obstacles when moving through the program. Customers may be less likely to complain despite obstacles because they are receiving support for free, or because they do not fully understand what the program provides.

Almost all of the participants who were interviewed expressed their gratitude for the program and how it has helped them. However, some of these participants discussed major program challenges. For example, one participant never received some of the measures they were told would be installed but still recommends the program to others because of the help they did receive, including getting a new refrigerator and washing machine. Another participant never received new light bulbs, even after trying to follow up with program representatives, but still described the program as "a good program." These more nuanced descriptions of the program experience, though anecdotal, suggest there are opportunities to improve the program experience.

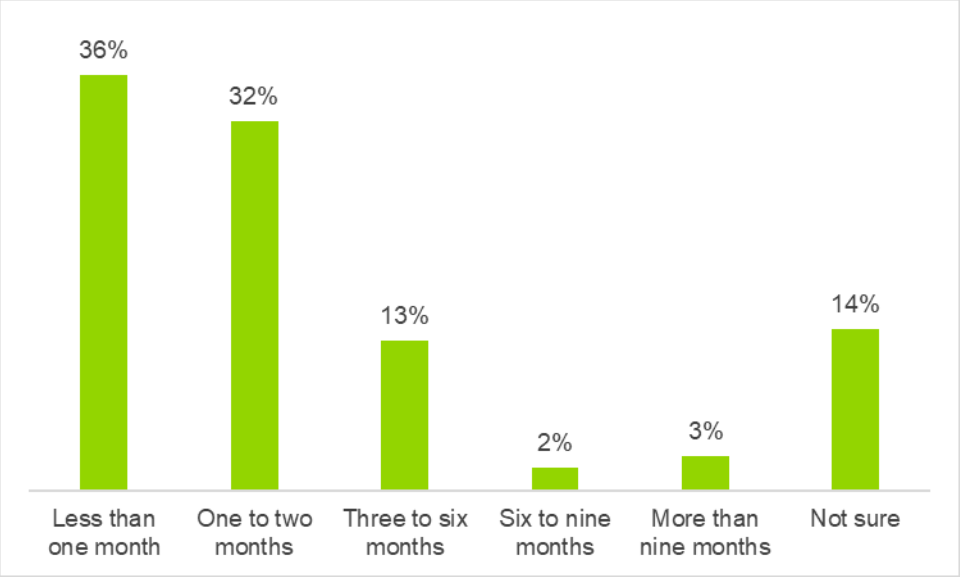
Assessment and Installation Experiences

The following sections summarize customers' experiences with the assessment and installation process specifically.

Scheduling Experience

Most survey respondents (75%) said that it was easy or very easy to schedule the energy assessment. Most (68%) participants said they were able to schedule the assessment within two months, with 36% saying they had to wait less than a month, 32% saying they were able to schedule the assessment within 1-2 months, and 13% saying that it took three to six months to schedule an assessment. Around 6% of respondents said they had to wait more than 6 months to schedule the assessment; the remaining 14% could not recall how long it took to schedule their assessment (see Figure 16).

Figure 16. Length of Time Participants Waited for an Assessment



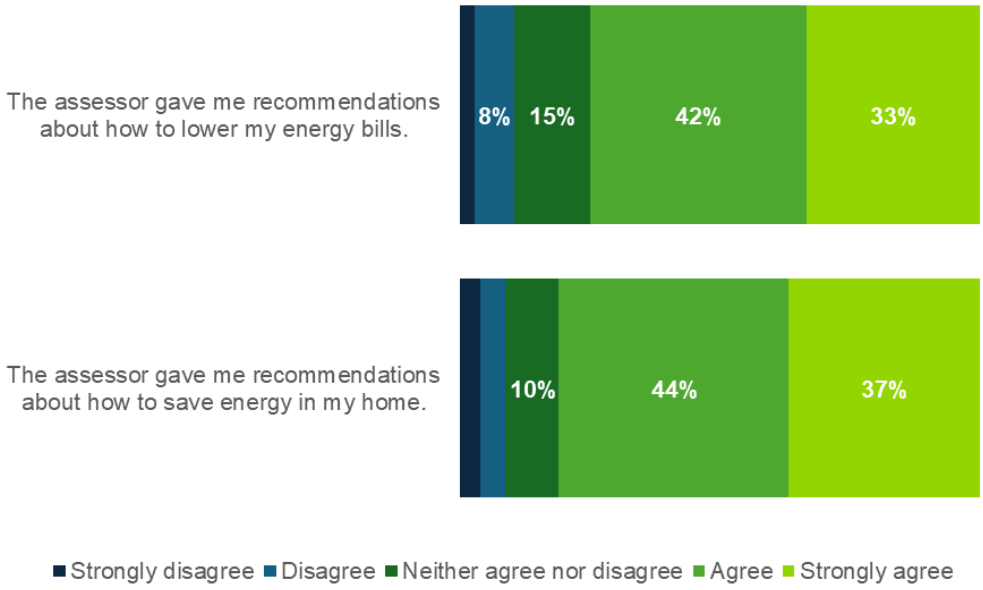
Source: Participant survey question C14: "About how long did you have to wait to have the assessment? Starting with when you signed up or completed paperwork…", N=369.

Assessment Experiences

Of overall assessor experiences, almost all survey respondents indicated that assessors are considerate of their time in that they are able to schedule the assessment at a time that worked well for the customers and arrived on time. They also said that assessors did a good job explaining what they were doing during the assessment. Quality scheduling experiences and clear communication during assessments both build trust with customers and drive higher satisfaction ratings.

Most participants (about 80%) said that assessors provided recommendations about how to save energy and lower their energy bills; however, around 20% of customers said this was not the case for them. There may be opportunities to provide additional recommendations around how to save money and energy during and after the assessment (see Figure 17).

Figure 17. Assessor Recommendations

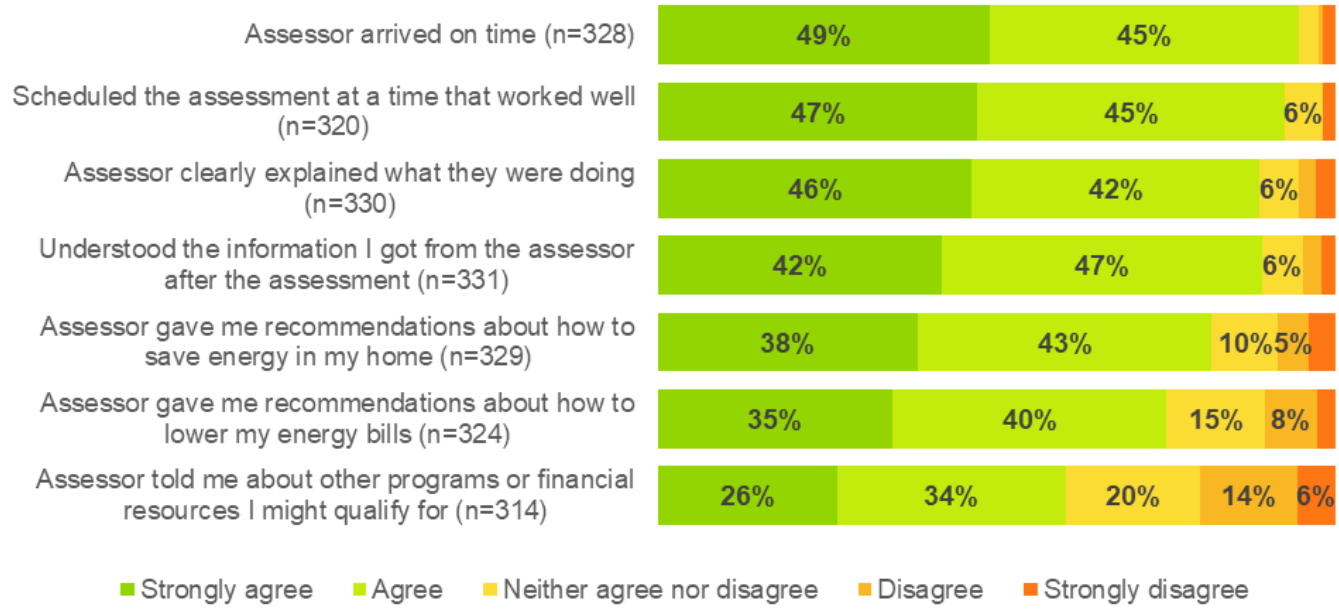


Source: Participant survey question C15: "How much do you agree or disagree with the following statements about your home energy assessment?, energy bills n=369, save energy n=365.

While the auditor may not be an expert in other services and programs, having this additional informational touchpoint for customers may be helpful. About two-thirds of respondents said their assessor told them about other programs and resources.

About the same proportion of participants served by HPCs received information on other programs as those served through CAPs. This is notable as the CAP agencies raised the concern that customers served by HPCs through the LVI model may not receive the same level of information as those serviced by CAPs. This preliminary data indicates that may not be the case. Figure 18 shows satisfaction ratings for components of the assessment overall.

Figure 18. Agreement with Assessment Statements

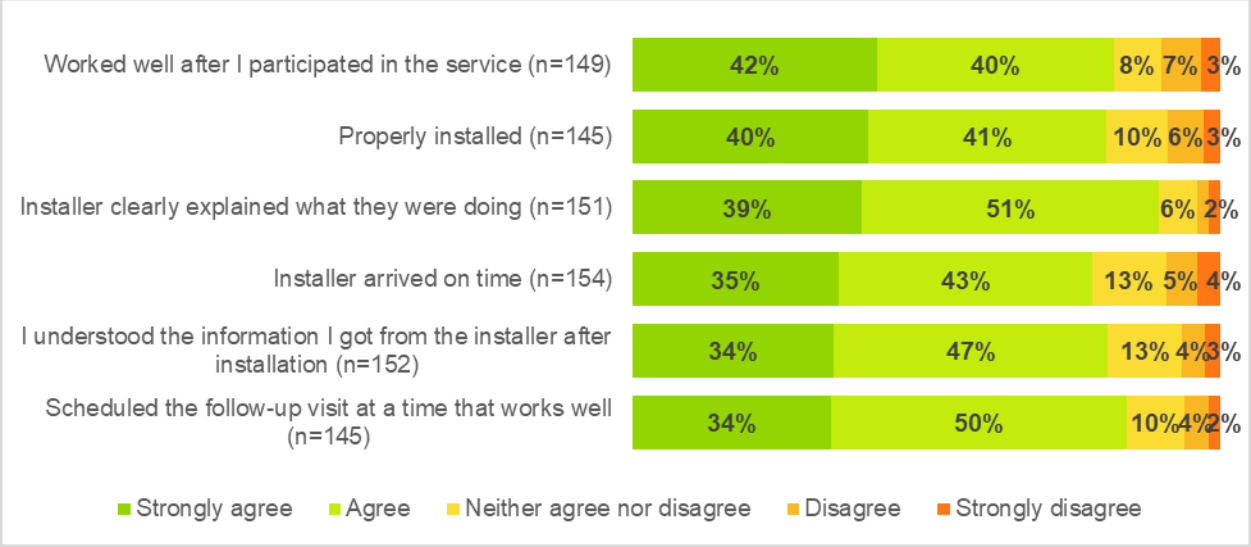


Source: Participant survey question C15: How much do you agree or disagree with the following statements about your home energy assessment?

Installation Experiences

Participants also shared relatively positive experiences with follow-up equipment installation. According to survey respondents, installment contractors demonstrated consideration of customers' time by scheduling when the time worked well for customers and arriving on time. Contractors explained well what they were doing during the installation and customers understood the information they received and installed the equipment properly. Figure 19 shows satisfaction ratings for components of the equipment installation customer experience overall.

Figure 19. Agreement with Installer Statements

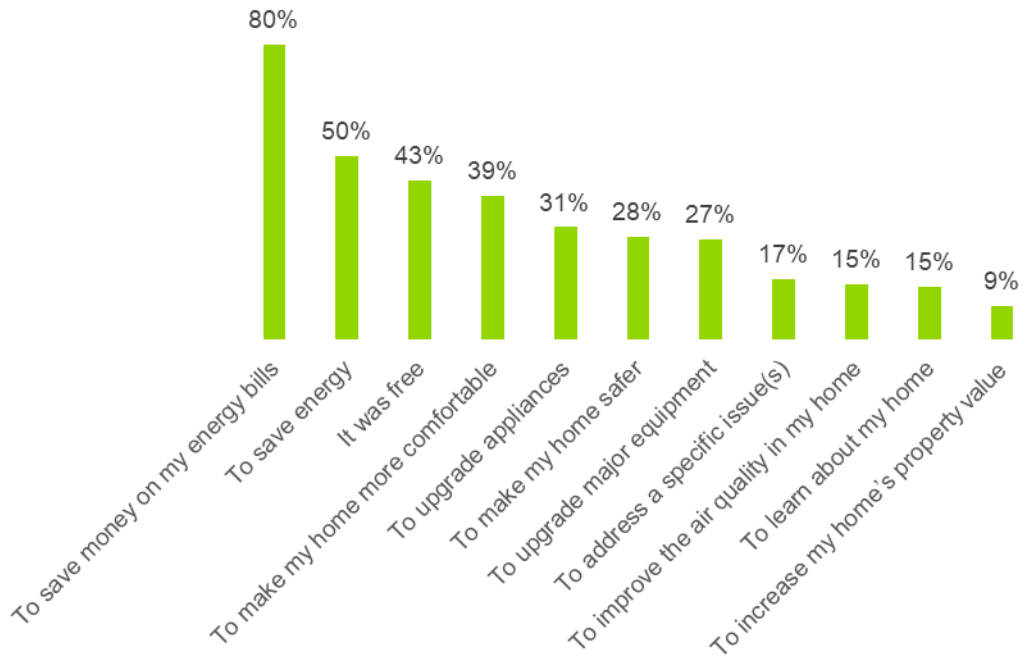


Source: Participant survey question C18: How much do you agree or disagree with the following statements about the follow-up visit to install the [Field-INSTALL_1] in your home?

Where participants expressed lower satisfaction, it was typically related to a mismatch in expectations around what the program would provide and what they actually received, especially for those who experience ongoing issues in their home (over half of survey respondents).

Many participants, in both survey responses and interviews, shared that their expectations of what the program would be able to do for them did not fully line up with the services they received, especially when they had ongoing issues even after participating in the program. Most often, participant survey respondents entered the program because they wanted to save money on their energy bills (81%) and were concerned about their bills. Figure 20 contains additional detail on why participants signed up for the program.

Figure 20. Reasons for Participation



Source: Participant survey question C4: "Why did you decide to get a home energy assessment?", n=406.

Many also experienced drafts and leaks within their homes, and about half of customers had issues with their appliances. While many of these customers said they've seen improvements in their areas of concern since participating in the program, over half (56%) also said there were remaining issues that they hoped the program could address but did not.

The most common issues were with windows. Many respondents wanted window replacements (55) or reported drafty windows or homes (23)[47]. Additionally, 32 customers wanted insulation installed. Others would like a new AC system (18), heat pumps or mini-splits (4), water heaters

[47] We note that the number of windows installed through the program in 2023 was substantially greater than that installed in 2022 (when these participants participated). Additionally, previous cost-effectiveness screenings limited the opportunities to install windows in many homes.

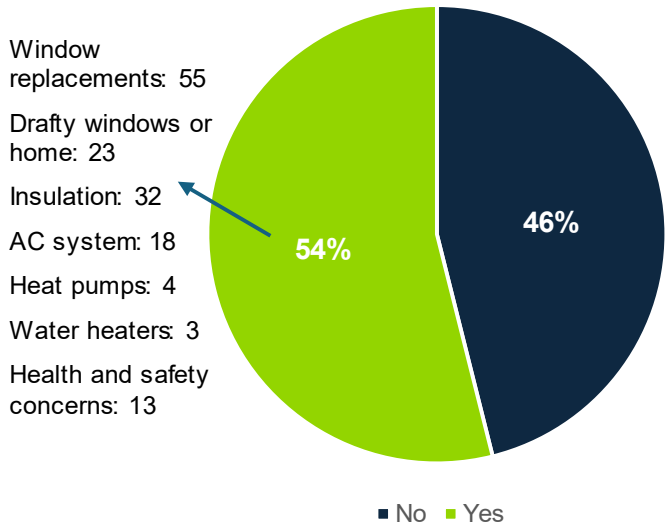
(3), or had health and safety concerns such as mold and moisture (13), as the following quotes and Figure 21 illustrate.

"Don't say you can help when you won't. They refused anything I said was a problem…It was a waste of time." —Participant survey respondent

"I didn't understand the decision/evaluation of why some things were not considered. Ex: attic insulation" —Participant survey respondent

"I have some windows that need to be tempered and won't qualify for the regular window replacement because of cost. But they have wide gaps that I usually have to fill with foam and cover in plastic each winter. Very drafty and single pane" — Participant survey respondent

Figure 21. Issues that Program Did Not Address



Source: Participant survey question C7: "Were there any other issues in your home that you hoped the program would address, but did not?", n=358.

In some cases, customers requested measures that are included in the program design, such as attic insulation. There could be many reasons why these customers did not receive the requested measures. It is possible that customer home energy assessments did not uncover a need for that specific measure. There could also be pre-weatherization or other barriers that impact the program's ability to provide a customer with a specific measure. The evaluation team was unable to assess why customers received, or did not receive, specific measures based on the data the team received. The evaluation team did not receive data indicating where pre-weatherization or other barriers limited work scopes, and it is unclear if the program tracks this information.

These customer requests suggest an opportunity to close the gap in customer expectations and what they will receive at the end of the assessment. This gap could be bridged with clearer explanations of how and why participants qualify for different measures, both before the assessment as well as after the assessment is complete and measures are identified. The program could also consider gathering information from customers up-front on their concerns

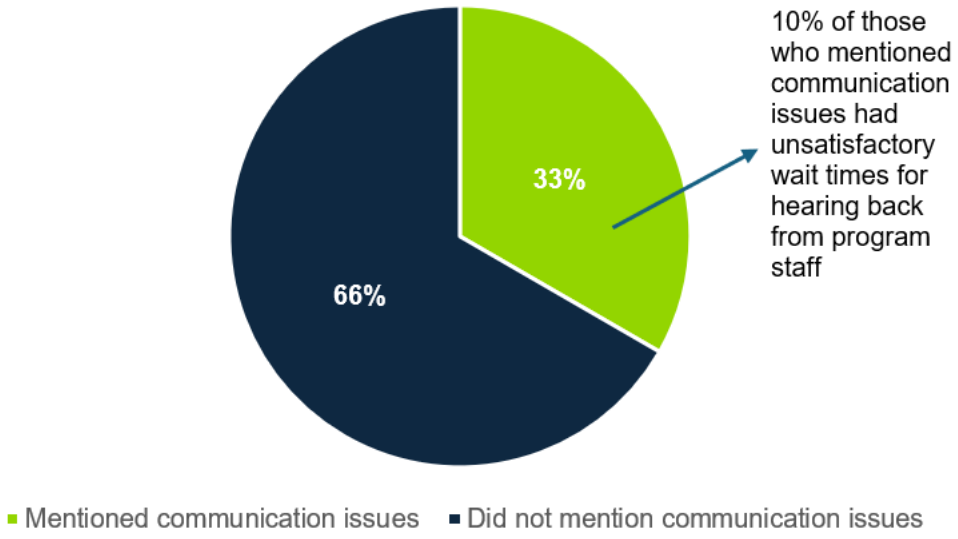
(perhaps as part of the application process or initial audit discussion) to be able to more directly address this gap in expectation and service if one exists.

Participants are looking for better and clearer communication to improve their experience.

When asked about program improvements, about a third of customers suggested improvements to program communication (see Figure 22). Participant survey respondents most frequently suggested improving communication to be more consistent and clearer around what to expect as they participate, specifically related to service timing, details about the equipment they've received, connections to relevant resources, and additional follow-up after an assessment or installation. Participant interviewees (n=7 of 10) also most frequently called out communication as a pain point in follow-up interviews. Several customers contacted Mass Save by phone about program issues and did not receive calls back, which often discouraged them from trying further. One frustrated participant discussed how the lack of communication soured his opinion of the program.

"Sometimes [I would] leave a message but no one follows up ... it's hard to get a call back"
—Participant interviewee

Figure 22. Communication Issues



Source: Participant survey question F3: *"How could the program better serve customers like you?", n=265.*

Service timing. Customers want better communication about what participation in the program will look like. This includes how long they could expect to wait before their assessment or installation. A portion (about 10%) of survey respondents were unhappy with the time they spent waiting to hear from staff. One customer who had not received any follow up communication after their assessment said they do not want the program coming into their home again due to the lack of communication. Another respondent explained that if they had known the program would not be able to serve their home before or during the winter, they would have tried to address the issues on their own, which might have resulted in lower bills for the season.

"Have a more cohesive plan. Communicate with customers. Have a timeline for services, list services place an expectation of a timeline. Call the customer when times are not working out. Went thru the winter with very drafty rooms. I could have and would have tried to fix these issues on my own if I knew it would not follow through. My heating bills were higher. I have waited and waited. No one is calling." —Participant survey respondent

Follow up post-assessment and installation. Several respondents, a small proportion of the hundreds surveyed, said they were still waiting to be contacted about issues they had during the assessment or to receive equipment promised to them during the assessment. Many interviewees echoed issues with wait time after the assessment. Several interviewees reported that they waited a long time to receive their equipment and had to contact the program to follow up. In a follow-up interview, one participant mentioned that after waiting a while for their refrigerator, they called and were told "someone should have told you it's an 18-month wait." This participant did not receive their refrigerator for three years and was frustrated with the lack of communication, saying "the explanation was never there." Lagging supply chain issues introduced by COVID may contribute to this issue. COVID significantly impacted supply chain, including appliances, and those supply chain issues still persist. What is most important is communicating a realistic timeline to participants - ideally in writing - and having a resource available for those participants to contact with any questions as time goes on.

Further, five participants who participated in follow-up interviews never received all or some of the equipment promised during the assessment. In at least one case, the equipment did appear in the tracking data as installed, but the participant said they did not receive it. All of these participants have tried calling the program about their missing equipment, but most did not receive calls back. Without program support, some participants have been frustrated by issues for years. For example, one participant received their assessment before COVID and has still not received the new window AC unit they were told they would receive. At this point, they are not expecting it and have purchased a new window AC unit instead.

"I was told someone would contact me about assisting with insulation and no one ever did" —Participant survey respondent

Details on equipment installed. Several customers noted that they wanted more information about the equipment installed in their homes, including a list of what they received or a summary in writing that they could refer to afterward.

"I learned as I experienced the program. That is, I did not know what to expect, or what options there were. Still not sure about some of them. There really was no brochure to leave behind that outlined the benefits. Also, I still do not have a detailed list of what was done - no summary in writing." —Participant survey respondent

"Written recommendations beyond what was done so I can remember" —Participant survey respondent

Connections to other resources. Several customers suggested that the program provide additional connections to other resources. Given that this is something the CAP agencies described as part of their practice, it suggests there are opportunities to do so more consistently.

"Perhaps provide a handout about possible other resources to address issues like windows and roofing." —Participant survey respondent

"Maybe let people know about other programs they could be eligible for"
—Participant survey respondent

7.2.2 Multifamily

Multifamily property owners and managers interviewed were generally satisfied with the program offerings, but also identified opportunities for improvement. Interviewed large PHAs generally had a smooth participation process. Overall, PHAs were satisfied with the IE Program. One participant said they "can't say enough" about the program. They mentioned that they said yes to everything offered through the program, and that the process was simple and straightforward.

> "*We've done countless installations and conversions with LEAN and the multi-family retrofit program. … Standalone Mass Save funded projects are very smooth."— PHA interviewee*

Challenges discussed by SF participants generally focused on the energy assessment and installation process. However, interviewed MF participants (property owners/managers and PHAs), discussed challenges most often related to scheduling.

Delays throughout the program participation process, but particularly in the early process stages, coupled with inconsistent communication, created frustration for participating MF property owners.

Several interviewed MF participants highlighted delays throughout the early stages of the participation process. These interviewees noted that the sign-up process took a long time, with one noting that it took about a month to even start the process because they were unable to get in touch with the correct program representative. Another interviewee who was dissatisfied with the sign-up process noted that "This is the only thing I didn't fully like. Sometimes it felt like you need to send him (their contact) paperwork multiple times or call multiple times and try to kind of expedite the process." Additionally, the review of their paperwork took four to six months, with this interviewee noting that they are hesitant to participate with another property because of these delays. Some landlords suggested the time and effort to participate might be a hardship or potential barrier to small-time or senior landlords who have to do it all themselves.

PHAs underscored these delays during the program participation process, noting the slow application process as a point for improvement. Three PHA staff members mentioned that they have to call specific individuals at an LV after applying online to make projects happen. Large PHAs discussed existing relationships with LVs and noted that smaller PHAs who have lower program awareness, participate in the program less frequently, and lack these existing relationships may not know who to reach out to or that circumventing the standard application process in this way is possible, creating potential inequities in program delivery.

Indeed, smaller and more rural PHAs shared that it was challenging to get served by the program. One PHA discussed challenges working with lead agencies in the MF pathway, noting that the process was smoother in the SF pathway where they were able to work with their local CAP agency, with whom they have a more established relationship. They explained that some of their tenants have waited for up to a year for an audit when being served by the lead agencies and HPCs through the MF program.

MF property owners discussed similar delays with installations and addressing project issues when they arise. One interviewee said there was a “notable” delay or waiting period between the initial assessment and paperwork before the start of work. While another complained about delays in getting project issues resolved.

While the SF program has undertaken new initiatives, such as the SCSC and LVI, in recent years to improve time to serve and streamline communication, these new initiatives do not apply to the MF pathway. Challenges described by MF pathway participants suggest that similar initiatives, as well as others focused on streamlining processes and improving the customer experience, could be beneficial for this group to help streamline the participation process.

7.2.3 Recommendations

Recommendation 6: The QA/QC visit is completed for 100% of IE Program jobs. There is an opportunity to expand this visit so that it becomes a meaningful touchpoint with customers, offering an opportunity to discuss the measures they received and address any outstanding concerns. These customer requests suggest an opportunity to close the gap in customer expectations and what they will receive at the end of the assessment. This gap could be bridged with clearer explanations of how and why participants qualify for different measures, both before and after the assessment and measures are identified. The program could also consider gathering information from customers up-front on their concerns (perhaps as part of the application process or initial audit discussion) to be able to more directly address this gap in expectation and service if one exists.

Recommendation 7: Explore new program initiatives for the MF pathway to address the challenges identified by MF customers, including long wait times. MF customers identified challenges that new SF pathway initiatives were designed in part to address, including ensuring a consistent point of contact and speedier program entry. MF customers discussed challenges later in the customer journey (discussed in detail in Section 7.2.2) including delays throughout the early participation process (e.g., the application timeline) and delays in installing equipment and addressing project issues. Given these challenges throughout the participation process, there is an opportunity for the program to innovate around all stages of program delivery for MF customers. For example, one PHA suggested the creation of a centralized hotline to help all housing authorities connect to the right providers more quickly.

Recommendation: Create consistent communication protocols for customers about both what to expect during their participation in the program and what measures will be installed and why. This should include identifying customers’ expectations and concerns and provide additional information on why measures of interest were not provided. Current participants expressed confusion about what to expect during their program journey as well as confusion about what measures they had received. Providing more detail up front about what participation will look like, including what happens in the home during an assessment, who will show up and how they are related to the program, how long it will take, and what the outcome of the assessment might be, would be helpful in resolving customer confusion.

Similarly, once measures are installed, customers would like to see a manifest of what was provided in their home. Given that many customers had outstanding issues in their home and were interested in measures that the program can provide, there is an opportunity to provide additional explanation for why they were not provided in that home. For instance, if the customer requested attic insulation, but the home assessment revealed that there was not a need for attic insulation, providing information on why they didn’t receive it could be helpful.

Consideration: Establish guidelines for what to communicate with customers at each touchpoint to provide consistency in customer experience. There is not currently an implementation manual for the program, and both the evaluation team observations and participant survey responses reveal that there are additional opportunities to create consistency in customer communication. An implementation manual that outlines each customer touchpoint and what information the customer should receive could enhance this communication. The evaluation team recommends establishing program-wide materials that contain key points to cover during conversations with customers. These could be adjusted or tailored to local needs but should provide a baseline of consistency for all customers in the program.

8. Customer Experience – Specific Pathways

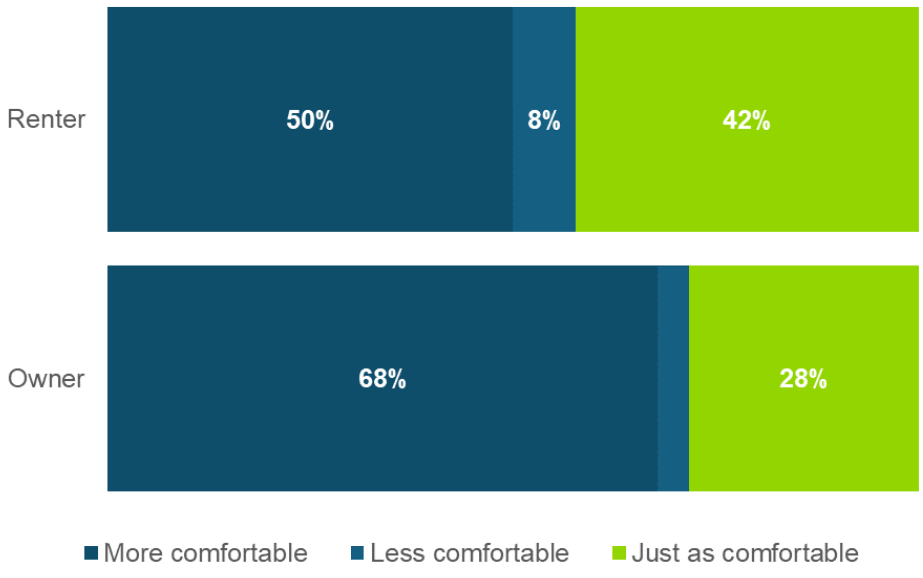
The evaluation team investigated several elements of the customer experience that don't tie directly to a specific aspect of the customer journey, but are instead related to their own unique characteristics, such as their homeownership status, or initiatives that the PAs are pursuing, such as electrification. This section outlines those customer experiences, beginning with renter specific experiences and concluding with customer experiences with electrification measures.

8.1 Renter Specific Experiences

Renters have more barriers to deep program participation than owners and are less likely to experience the full benefits of the program.

As discussed previously, in both the MF and SF pathways, renters are able to request and receive an AMP audit without property owner approval. Property owner approval is required prior to installation of energy efficiency measures and to receive other types of audits. This additional barrier to participation may result in participating renters experiencing fewer program benefits. Survey results suggest that renters may be more likely to receive only AMP audits than surveyed owners. Owners were more likely to receive measures associated with weatherization and heating system audits such as insulation (10.4% of owners compared to 5.4% of renters) and heat pumps (3.7% of owners, and 1.1% of renters). Additionally, owners were more likely to find their home more comfortable (68%) than renters (50%) and more renters (55%) report that there are still issues with their homes compared to owners (36%) after program participation (see Figure 23). While it is possible that surveyed MF renters were just unaware of weatherization or heating system upgrades, just 13% of surveyed renters were MF tenants. Renter survey responses primarily represent SF pathway experiences, who would be more likely to have been aware of measures installed.

Figure 23. Home Comfort after Participation



Source: Participant Survey question F1 "Overall, is your home more, less, or just as comfortable after participating in the program?" N=327

Source: Participant survey question F2: *"Overall, is your home more, less, or just as comfortable after participating in the program?", owner n=301, renter n=78.*

Survey results about the program participation decision for SF renters largely reflect the decision-making process for AMP only audits. That is, seventy-six percent of SF renters (n=71) said they made the decision to participate, 2.8% said their landlord/property owner decided, 18.3% said they decided together. However, in larger MF buildings, the decision to participate originates with the property manager more frequently (9 out of 19 MF renters reported that their landlords made the decision).

Additionally, in terms of the participation experience, SF renters are more likely to be involved in decisions around scheduling assessment and installation visits than are MF tenants. Seventy-four percent (74%) of SF renters and 26.3% of (5 out of 19) MF renters were responsible for scheduling the energy assessment, and 48.4% of SF renters and 15.8% of MF renters (3 out of 19) were responsible for scheduling follow up appointments.

Instead, the MF program team primarily conducts outreach to property owners and managers of eligible buildings and for weatherization and heating system upgrades coordination primarily takes place between the program team and the MF property owner or management, with specific education and notification for tenants to inform them when installations will be occurring. As a result, MF tenants may be unaware that their building participated in the program, especially if they were not home during assessment or installation visits and depending on the equipment or upgrades they received.

CFPs underscored these challenges to fully engaging renters, pointing to difficulties navigating the renter/landlord relationship and engaging landlords (necessary for weatherization audits). Four of the five CFP organizations the team spoke with highlighted that navigating the renter/landlord relationship is a barrier to enrollment. Landlords are a difficult population to reach, and renters can be hesitant to communicate with landlords as needed to enroll in the program. CFPs have asked the LV of the CFP program for support in strategizing how to engage with landlords. One CFP noted that they have had an easier time recruiting live-in owners because they "want to help tenants and improve the value of their home."

"*A lot of times, it's try and reach out and engage with them, and get nothing." —CFP interviewee*

Another partner says that the program's renter-landlord pipeline to entry "doesn't really make sense." CFPs tell renters about the program, and renters then have to reach out to their landlords for approval, which can delay the process. Additionally, renters are not always comfortable speaking to their landlords. Without landlord involvement, renters can only "get a few free things" through the AMP side of the program.

"There's various things in that landlord situation to address. … maybe [renters] have a property manager, so they don't get to speak to their landlords often, or maybe they have no clue who their landlord is. Or maybe their landlord doesn't care because it's not affecting them because they don't live on the property." — CFP interviewee

"They tend to be very reluctant to tell their landlords about the Mass Save [IE] program or even to give us the names of their landlords who need to be involved so that the whole house can get served. The reasons we find are my landlord's gonna raise my rent, a fee that improves the

building. . . another reason is that often people have more people living in the apartment than the lease allows. . . and they don't want the landlord to know." — CFP interviewee

One community has had success reaching landlords who come through their organization's doors to help tenants fill out RAFT applications, as both landlords and tenants need to fill out paperwork for RAFT. Another describes their strategy as "organizing renters and trying to get them to put pressure upwards," which has limited success, depending on who the landlord is. One Peer PA the team interviewed noted that the municipality had a successful lead abatement program, and they had had success working with property owners and managers who had participated in that program.

Further communication about overall program offerings could be useful to help reach more renters and landlords. One participant interviewee was a renter who received an AMP assessment only. They talked about how they would have liked further help with insulation or heating and were not aware that the program covered weatherization measures. They mentioned that their landlord would "do whatever he can to help his tenant" and would have been "ecstatic" to hear about the program. Ensuring assessors communicate with renters about how they can receive more robust weatherization or heating system measures could help increase measures installed and consequently, program savings.

8.1.1 Considerations

Consideration: Develop materials or leave-behinds for tenants who receive AMP assessments to inform them of other additional measures they may be eligible for. These materials should clearly detail what requires property owner/manager approval, and any supports that the PAs or programs have with facilitating that process to get approval. If such materials already exist, the program should ensure they are being disseminated, as participants were not aware of what other measures they might have been eligible for.

Consideration: Identify mechanisms to connect with private property owners and property managers, for instance leveraging other program participation (e.g., lead abatement or RAFT applications) and professional organizations for landlords and property managers. Given that property owners and managers can be a challenging group to reach, identifying opportunities to bundle participation could increase participation and ease the burden of participation for MF property owners and managers.

8.2 Electrification Measure Experiences

As noted previously, MF pathway projects typically differ from SF pathway projects in a variety of ways, including in the primary point of contact (property managers versus occupants) and in that the MF pathway includes both common area and dwelling unit measures. These differences, as well as differences in project technical complexity and cost, impact SF and MF participant experiences with electrification measures. As such, the evaluation team presents these findings separately, beginning with SF customer experiences and concluding with MF customer experiences.

8.2.1 Single Family

While it is of interest to program actors, there are real concerns about cost impacts on some customers. These concerns are in part driven by gaps in contractor and customer education.

In recent years, demand for electrification measures like heat pumps have increased. CAPs and PHAs are doing more heat pump projects. However, organizations that serve low-income communities are hesitant to fully recommend electrification to IE customers, citing concerns about customer costs and equipment knowledge.

About half of the CAP staff the team spoke with had reservations about recommending heat pumps to IE customers because of the potential for increased electric bills. Although expected cost savings differ significantly based on a customers' existing heating fuel (e.g., more significant cost savings are expected when moving from electric resistance heat and delivered fuels), this concern was raised across the board, regardless of existing heating fuel type. Auditors from CAPs shared these concerns and observed how customers who receive heat pumps tend to adjust the temperatures of the heat pump frequently enough to miss out on energy savings. Some participant survey responses point to this cost concern (two out of 10 who had a heat pump installed) or discussed sub-optimal heat pump operations (e.g., frequently adjusting thermostats) that were concerns of auditors (5 out of 10).

Some auditors felt that promoting electrification goes against the primary goal of CAP agencies of lowering the energy burden of IE customers. Specific concerns auditors mentioned include:

- A lack of customer knowledge about how to properly operate heat pumps (i.e., customers might make frequent adjustments rather than follow the recommended approach of "set it and forget it") leading to higher costs and lower efficiency.
- Customer capacity to maintain systems in the future as they require more maintenance, and thus more cost, than boilers. Additionally, auditors mentioned that heat pump technologies don't have the kind of lengthy track record they like to see when predicting operations and maintenance costs for customers.
- High prices for electricity and increases in electric bills. One auditor noted "we feel like we are not really helping them when installing heat pumps—they will be upset when their electric bill goes up." Another stated simply "putting in a million heat pumps won't save folks money," referencing Massachusetts' heat pump goals.

Two CAPs have faced challenges recommending electrification measures to elderly customers specifically, including technological barriers and cost concerns.

> *"[As an] anti-poverty agency, we have to worry about the client. I get very concerned with electrification for a few reasons: [We] never ever want to increase their electric bills... We're very careful about educating about heat pumps and pros/cons. . . We want [contractors] who really know [how to install heat pumps] because the worst thing would be for the client to have a larger energy burden than they already have."* —CAP

CFPs also shared reservations about recommending electrification measures to IE customers. In particular, CFPs worry that their customers will experience increased electric bills after installing a heat pump, creating additional financial burden.

> *"Unfortunately, natural gas is still on average going to be a cheaper way of heating your home. So if you're in a financial crunch or your finances are one of your main considerations, we have to be very careful about recommending the switch because a lot of times it doesn't make sense."* —CFP

One community partner was particularly concerned about MF participants, as landlords can use their tenants' information to get qualified for new heat pumps through the program. They are worried that a landlord's singular decision to electrify will result in higher bills and increased burden for tenants. The program is designed to protect against this, for instance focusing fuel displacement projects on homes with delivered fuels or in situations where the customer economics are favorable.

CFPs discussed other concerns surrounding electrification, notably with the quality of heat pump measures and installations. There is distrust in both the operating technology, as well as availability of contractors to address issues.

CAPs feedback reflected these concerns, highlighting a need for additional training and guidance around electrification. Five CAPs requested this implementation guidance around electrification, specifically mentioning assistance with vetting heat pump contractors, training and resources for contractors, and informational resources for customers.

The impact on energy costs are a valid concern, and one experienced by some participating customers. The participant sample did not include many customers who received heat pump; however, two out of 10 reported that the cost of their energy bills had gone up. One respondent cited, "*high costs of operations, likely more a result of electrical rates*" as the reason they are less satisfied with their heat pump. *Note: the program began installing heat pumps at a higher rate beginning in 2023. It may be worthwhile completing a follow-up study with 2023 customers (e.g., billing analysis) to better characterize experiences and concerns of IE customers that receive heat pumps based on more recent data.*

Additionally, half of customers surveyed who had a heat pump installed through the program (5 out of 10) report that they manually adjust thermostat settings as needed, rather than setting the heat pump to one temperature or at an automatic switch point. As noted by the auditors, these participants may not be maximizing energy savings.

Despite challenges associated with electrification technologies for low-income populations, some stakeholders highlight the importance and urgency of program investment in electrification technologies at scale.

Some CFPs express worry that hesitancy around electrification could have long-term consequences. While informing IE customers about the potential of increased bills after electrifying is important, some community partners expressed concern that worries about energy burden have decreased electrification progress and accessibility in MA. One community partner worries that IE customers will end up "stuck for 20 years with a new gas furnace which is polluting the planet more" because CAPs tell them that their "energy load financially" will increase with a heat pump. Another CFP describes what is happening as "a basic prohibition of electrifying low-income gas homes" due to concerns about increasing burden. This interviewee mentioned that the Sponsors of Mass Save developed a way to calculate potential energy burden trade-offs. They believe it is important to "empower the customers to make the decision about whether or not they want to make the tradeoffs to have better indoor air quality." There are other key benefits to installing electrification technologies, including providing customers

with summer cooling as heat stress increases. However, interviewed stakeholders did not discuss this benefit.

8.2.2 Multifamily

Electrification of MF buildings has some issues similar to those of SF homes, and some that are unique for property owners and managers who pay the electric bills for their properties.

MF participants identified substantial education gaps related to the electrification measures included in the program.

These gaps encompass both the technical aspects of using new systems and the financial implications for property owners and tenants. In addition to electrification-specific needs, stakeholders highlighted other educational needs that the program might address to enhance overall efficiency and participation.

One MF property manager interviewee underscored the need for education on living with heat pumps identified in the SF pathway research, requesting additional information for tenants and owners alike, including information about how heat pumps are quieter, have less air flow, are less hot or cold at the vent than traditional heating and cooling, and should be adjusted rarely for maximum efficiency. This could help tenants better understand the user experience and could reduce call-backs from tenants who think a system is malfunctioning when it is not. This can also make them less likely to operate their heat pumps sub-optimally and incur unnecessary costs.

Electric costs of electrified equipment did not always line up with expectations.

One landlord who pays the electric bills (tenants pay for delivered heating fuels) said that they did not know beforehand how much electrification measures would add to the electric utility bills. Due to affordable lease structure and restrictions on making changes, this building owner had significant electric utility cost increases, with the electric bill increasing by 50%. While the building owner operates other properties, they are now hesitant about participating in the program in those other properties because they do not want their electric costs to increase.

Interviewees provided multiple suggestions to alleviate the above-mentioned and other cost concerns associated with electrification measures. Some of these included offering a better electric rate for MF developments that make electrification commitments, helping landlords get new estimated utility allowances for affordable unit leases worked out with the affordable housing subsidy program before changes are made, or help them estimate what changes to the electric bill will be for the property after electrification. Finally, one interviewee suggested the utility could offer annual payment plans similar to those offered by the gas utility for any increased electric costs from electrification. Although the responsibility for many of these changes lies with other business units with each PA, evaluation findings suggest that many customers think about PAs more wholistically, and associated this responsibility with the program.

The findings from the MF interviews highlight substantial education gaps that should be addressed to improve the effectiveness of the electrification measures included in the program. These include technical understanding, financial implications, and broader educational needs. Property owners and tenants require comprehensive information on how new heat pump

systems operate differently from traditional systems, potential changes to utility bills, and strategies for maximizing efficiency.

Addressing these education gaps and service needs will not only facilitate the adoption of electrification measures but also enhance overall program participation and satisfaction. By equipping stakeholders with the necessary knowledge and resources, the program can drive greater energy efficiency and sustainability in MF properties. Thus, contributing to broader environmental goals and improved quality of life for residents

However, additional solutions beyond providing increased education and information may be needed to address cost and other impacts of electrification specific to MF buildings.

Some PHA participants feel electrification projects should be pursued on a larger scale, with more substantial upgrades and portfolio-wide planning, and that electrification projects will require more funding than is currently allocated to be pursued in this manner.

Many interviewed PHAs noted that they would like to make energy and electrification decisions while looking at their entire housing portfolio and overall needs, rather than on a project-by-project basis, as the IE Program currently operates. Instead of developing projects based on their portfolio's overall needs, housing authorities noted that they try to "fit the pieces" established by program guidelines. In discussions with the evaluation team, PHAs referenced the DER program, which LEAN also administers alongside the IE Program. PHAs argue that what they refer to as "standalone projects", referring to the measures offered in the IE Program installed on a building-by-building basis, will become less relevant as the state works towards electrification.

"These types of improvements are few and far between to be standalone anymore. If you're going to electrify a fossil fuel building, in order for that new system to function the way that they are supposed to, more than just the HVAC systems need to be improved upon. The envelope, air sealing. I don't think [the PA or CAP Agency]. are interested in funding architectural upgrades. It helps the systems that they install perform at peak efficiency, but I don't think that they're interested in funding fully-adhering weather-resistant barriers when doing a project. . . there needs to be a large pool of money to make sure that these things fit together like a perfect puzzle." —PHA

PHAs want more funding to support large scale planning and project costs. One PHA mentioned that they will "blow through the budget" for IE customers if they continue with current funding. They believe that while making these changes might be costly, they are worth it because upgrading PHAs provides health, environmental, social, and energy cost-saving benefits to low-income residents, in addition to helping MA reach its electrification goals.

"We need to look at the scale of the task, and the resources need to be there for the low income programs to deliver that" —PHA

8.2.3 Recommendations and Considerations

Recommendation 8: Provide additional education to building occupants and property owners and managers about electrified equipment, including what to expect in terms of operating cost and how to operate the equipment. Ensure that this information is provided to all SF and MF pathway participants and is provided in the most salient way.

As the program shifts toward decarbonization goals with a focus on electrifying space and water heating, it will be important to ensure that customers have the information they need to operate this new equipment effectively and efficiently. The MF pathway currently has collateral for customers outlining how to "get the most out of [their] heat pump," which includes operational information. However, information on cost impacts is not highlighted. Further, there may be more salient ways to provide this information to customers. Additional research may be required to determine how best to provide electrification education to customers.

Recommendation: Provide support for auditors, including training in customer education and effective communication related to electrification measures. Auditors and installers are front-line program representatives and as such, have the opportunity to drastically impact the customer experience of the program. Additional training in communication can support auditors as they go into participants' homes, giving customers a better sense of what to expect. As electrification and decarbonization require more substantive changes to homes and the equipment used in them, it is likely that contractors will play a key role in educating customers on what is being updated in their homes and how to use their new equipment. Training auditors and contractors in best practices in communication and education around equipment operations can ensure that as equipment is installed in customer homes, they are able to use it as recommended.

Consideration: As the PAs work with PHAs, the PAs may want to examine whether and how there are opportunities to support PHAs in their efforts toward decarbonization to ensure that the program continues to be of value to them. As with the process accommodations that the PAs have made to the DER pathway, the complex nature of DER projects and the capital refinance process for PHAs may continue to necessitate the evolution of the IE DER pathway and the IE program to meet the needs of its participants.

Consideration: Develop tools to estimate cost impacts of electrification and ways of communicating these long- and short-term cost impacts as well as benefits. Providing clear, accessible information about the benefits and costs associated with electrification can help alleviate some concerns and avoid unpleasant surprises. Programs need to improve communication about long-term savings versus short-term costs and describe other electrification benefits related to housing such as carbon emissions.

Consideration: Support the exploration of alternative mechanisms to mitigate the cost impact of electrification on customer bills where possible, including changes to rates and payment structures. The PAs should exploration of alternative ways to mitigate the cost impacts of electrification on IE customers to enable these customers to access the health benefits of electrification without increasing energy burden. Although these changes are the responsibility of other business units, they overlap with the program and directly impact program participants, and PAs should support these efforts wherever possible. As program stakeholders and customers highlighted, there may be a tension between advancing electrification goals and minimizing customer energy burden in some cases. However, it is important that IE customers are not left behind in the clean energy transition.

9. Looking Forward

During the planning for the evaluation, the PAs articulated an interest in understanding opportunities for the program to expand and broaden its reach by looking to new technologies/measures, opportunities to deepen building treatments, and opportunities to integrate new funding sources and delivery partners. This section details findings from peer PA interviews, secondary research, and interviews with program actors and participants to identify potential measures and program changes the PAs may want to consider. The section begins by presenting the context of the next three-year plan, recognizing that given the goals and budget allocations for that three-year plan, the program will need to expand in scale to meet the savings goals.

9.1.1 Proposed Three-Year Plan Budget and Priorities

The next three-year plan has a concerted focus on IE, moderate income, and rental customers. Around $1 billion is being directed to these customer groups, representing about a third of proposed incentives (see Table 10) The proposed 2025-2027 budget and savings represent an increase from this current cycle[48]. The increase in savings, while not as significant as budget, is notable given this upcoming cycle excludes electric and gas savings measures traditionally offered (e.g., select lighting and HVAC equipment) while seeking to push the market further and faster toward electrification measures (e.g., heat pumps). The IE Program also focuses on expanding equity and improving customer experiences through SCSC and other program enhancements discussed within this report.

Table 10. 2022-2024 and Proposed 2025-2027 Energy Efficiency and Decarbonization Plan Values for IE Program

Planned Values	2022-2024	2025-2027	% Increase
Total Budget	566,489,552	1,183,872,149	109%
Net Lifetime Electric Savings (MWh)	782,437	1,235,212	58%
Net Lifetime Gas Savings (therms)	174,968,273	223,105,339	28%

Source: https://ma-eeac.org/wp-content/uploads/Exhibit-1-Three-Year-Plan-2022-2024-11-1-21-w-App-1.pdf; https://ma-eeac.org/wp-content/uploads/FINAL-MA-2025-2027-Plan-09-25-24-v2.pdf

The goals for the program during the next three year cycle are substantially higher than in previous program cycles. For the 2025-2027 period, the program aims to weatherize approximately 48,000 low- and moderate-income households. By comparison, since 2013, the program has weatherized 70,000 low-income households. The next cycle aims to serve nearly half as many as have been served in the previous 11 years in just 3 years. The goals for installing heat pumps are even more aggressive, with the program aiming to install heat pumps in 16,000 low- and moderate-income homes in the next cycle, compared with the 3,600 that have been installed in LMI homes since 2019, a more than 4-fold increase in a three-year period. To meet these aggressive targets, the program will need to scale strategically and efficiently.

[48] Source: April 1 Draft 2025-2027 Three Year Plan (Updated May 30, 2024) (Final-Draft-MA-2025-2027-Plan.pdf (ma-eeac.org)). Downloaded July 31, 2024.

9.2 Additional Measures for Program Consideration

This section outlines additional measures and other interventions the PAs may want to explore in the next program cycle.

9.2.1 Distributed Energy: PV

The next three-year plan also highlights planned efforts by the PAs to minimize the energy burdens for low- and moderate-income customers through clean energy adoption efforts. Among these efforts include offerings in planning that will incentivize PV for eligible customers at National Grid, Eversource, and CLC. These efforts align with feedback received from MF property owners and managers about other measures, options, or services they would like to see offered through the program. Three interviewees said they either already installed solar on their properties, or were currently exploring it. One MF participant interviewee explicitly asked for the IE Program to incentivize solar PV installations at electrifying properties and was looking for an incentive from Mass Save beyond the 30% federal tax credit.

9.2.2 Electrification and Building Decarbonization

The next three-year plan highlights the role of electrification for low-income customers, noting that electrification will "continue to be the default solution for delivered fuels and electric resistance customers" due to the cost-effective nature of these conversions. However, this research suggests that additional work is needed to ensure that electrification does not increase customer energy burden in these situations, including but not limited to increased customer education on effective heat pump operations.

Peer PA secondary research and interviews highlighted the importance of electrification for LI communities but underscored that the focus of building electrification efforts should be on the goal of improving the health and resilience of people rather than decarbonizing housing stock. An interviewee described striving for an equitable transition that would position electrification as a solution to existing household problems, while also lowering bills, improving health, and making homes more comfortable.

This research underscored that building electrification should also include safeguards that protect residents from unwanted effects. The interviewee suggested providing free appliance replacements, creating rules against energy bill and rent increases and targeting green workforce opportunities to workers who live in ESJ communities.

In addition to increasing heat pump and heat pump water heater installs, interviewees identified other measures of interest with an electrification and health and safety focus such as bathroom venting and fans[49] and induction cooktops.[50]

Limitations related to electric panels are an increasing concern as additional electric load is added to residential homes, especially smaller homes with 100amp panels. As the PAs work to electrify these homes, they should consider appliances that avoid the need to implement panel

[49] Bath fans are currently covered by DOE WAP where applicable. The LVI initiative also began offering bath fans as a program measure in the summer of 2024, however CAPs will continue to be required to cover this measure under DOE WAP funding.

[50] One interviewed CAP agency discussed installing induction cooktops and other all-electric appliances through a grant program in one city that they serve.

upgrades, such as 120V water heaters, appliances with back-up batteries, watt dieting, smart panels, or other solutions that can avoid the cost of an electric panel upgrade while also enabling those homes to access the benefits of decarbonization and electrification.

Peer PA secondary research and interviews also identified measures that other PAs are considering, for example compact heat pump units that can be installed in MF buildings (e.g., in lieu of a window air conditioner). Additionally, some peer PAs are looking into strategies to avoid the cost of panel upgrades when electrifying IE homes and buildings. There does not seem to be a consensus to date on these new measures or approaches.

During interviews with PHAs, they requested additional support from the PAs in providing more comprehensive building plans and design documents. They noted that even in the DER pathway, the documentation provided by LEAN often did not include the design documents for the new HVAC systems to be installed. This level of documentation was often a requirement for certain financing (green loans) or certifications. Any additional support the PAs could provide would be appreciated.

With respect to multifamily electrification, other PAs, such as New York State Energy Research & Development (NYSERDA), are working with manufacturers to install heat pumps in multifamily units. New York City Housing Authority (NYCHA) is piloting the installation of these new forma factor heat pumps produced by Midea and Gradient. The PAs may want to consider incorporating these units into the program, if their use in multifamily buildings in cold climates is proved out.

9.2.3 Building Shell and Weatherization

MF property owners also suggested expansion of building shell measure provided through the program, including opportunities for the installation of efficient windows. The PAs are currently exploring opportunities to expand window measures through the IE Program, including in a "leaky double-pane" air sealing and window replacement trial.[51] The program currently offers windows as a program measure to replace single-pane windows. MF participants also mentioned interest in additional weatherization measures, such as increased basement insulation around central heat pump water heater (HPWH) units.

9.2.4 Other Program design and delivery suggestions

Peer PA secondary research and interviews also drew out a number of generally higher-level suggestions for the IE Program. Many strategies suggested in the studies the team reviewed include those that the program already employs, including partnering with community-based organizations, prioritizing equity, and including key measures such as thermal space conditioning measures, heat pump water heaters, and major appliances.

Other studies identified emerging program models and best practices. One study found that low to moderate income (LMI) customers often shop in secondary markets when replacing appliances, particularly refrigerators, freezers, clothes washers, and clothes dryers.[52] The program currently provides refrigerator and freezer replacements to eligible customers,

[51] https://ma-eeac.org/wp-content/uploads/Mass-Save-Program-Administrators-Quarterly-Report-Q4-2023-2.16.24.pdf

[52] Amann, J., C. Tolentino, and D. York. 2023. Toward More Equitable Energy Efficiency Programs for Underserved Households. Washington, DC: ACEEE. aceee.org/research-report/b2301.

however, exploring opportunities to partner with secondary markets to promote high-efficiency appliances not currently provided by the program could help to ensure that LI customers have opportunities to purchase more efficient appliances and save money on their energy bills. That same report advocated creating flexible options for purchasing energy-efficient technologies such as micro-financing which is another strategy the program could consider to expand access to measures not currently offered by the program[53]. This approach might be worth consideration as the PAs continue to identify opportunities to address the goals of the IE Program and equity as a whole.

9.2.5 Recommendations

Consideration: Continue to expand program offerings to include additional measures related to electrification and building decarbonization. Program participants, peer PAs, and some program actors identified measures that the program should consider incorporating into the program, including expanding opportunities for windows and deeper energy retrofits.

Consideration: Consider alternatives to costly electric panel upgrades and other new measures such as modular heat pumps for multifamily. As electrification and decarbonization are increasing priorities, the program may want to consider additional measures for electrification to make homes electrification ready beyond weatherization, or to increase panel capacity without a full panel upgrade.

Recommendation: Reserve funding for and establish priorities for targeted IE Program studies in each program cycle. As noted, considerable time elapsed between evaluation studies. The IE Program and related state priorities will continue to evolve to achieve state goals and priorities around equity and decarbonization, among others. It would behoove the PAs and LEAN to intentionally reserve funding for IE evaluations and approach those evaluations with a forward-looking perspective toward improvement, advancement, and more real-time, program supportive assessments. Ideally these studies will be targeted and as such could be structured as quick-hit or embedded research. The evaluation team and PAs may also want to consider a framework for ensuring the research and evaluation activities meet comprehensive program evaluation needs within each three-year cycle, such as culminating all reports into a brief, comprehensive report documenting program progress, activities, findings, and recommendations for the next cycle.

Consideration: Include more frequent process evaluations and quick-hit studies in future years to allow for more timely feedback given the dynamic nature of the IE program. The current structure of one process evaluation every five to ten years is insufficient given the pace of program changes. Increasing the frequency with which the program is evaluated will allow for more continuous improvement, helping the program to better meet customer needs and achieve increasing program goals.

[53] Ibid.

10. Summary of Recommendations, Considerations, and Future Research

The tables below summarize in brief the recommendations (Table 11) and considerations (Table 12) detailed throughout the report. We also include a list of the future research efforts we recommend throughout the report.

Table 11. Recommendations

Report Section	Recommendation
New Program Initiatives	Conduct additional studies into initiatives that could not be effectively explored through this evaluation, including the SCSC and LVI initiative, to understand how these initatives are performing.
New Program Initiatives	Develop systems to understand the growth of the LVI initiative and determine guardrails to ensure this new program component does not surpass budgetary limitations.
Internal Processes	Identify and implement an electronic assessment tool for onsite data collection that is compatible with program data tracking systems.
Internal Processes	Convene organizations involved with administering IE weatherization services (e.g., LEAN, PAs, Executive Office of Housing and Livable Communities [EOHLC]) to identify (or develop) and implement a robust electronic tracking system.
Internal Processes	Provide additional support for CAP agencies, both technical and financial, to alleviate administrative burden and improve service delivery.
Internal Processes	The QA/QC visit is completed for 100% of IE Program jobs. There is an opportunity to expand this visit so that it becomes a meaningful touchpoint with customers, offering an opportunity to discuss the measures they received and address any outstanding concerns.
Customer Journey	Provide clear follow-up procedures for customers, particularly prior to assessments, so that they are aware of where to go when they have questions about the program, and ensure staff have the training and resources needed to address participant questions.
Customer Journey	Create consistent communication protocols for customers about both what to expect during their participation in the program and what measures will be installed and why. This should include identifying customers' expectations and concerns and provide additional information on why measures of interest were not provided

Report Section	Recommendation
Customer Journey	Explore new program initiatives for the MF pathway to address the challenges identified by MF customers, including long wait times.
Customer Experience - Electrification	Provide additional education to building occupants and property owners and managers about electrified equipment, including what to expect in terms of operating cost and how to operate the equipment. Ensure that this information is provided to all SF and MF pathway participants and is provided in the most salient way.
Customer Experience - Electrification	Provide additional support for auditors and installers, including training in customer education and effective communication related to electrification measures.

Source: The evaluation team

Table 12. Considerations

Report Section	Considerations
Customer Journey	Explore the outreach mechanisms used by HPCs to determine whether there are broad learnings for the program.
Customer Journey	Establish guidelines for what to communicate with customers at each touchpoint to provide consistency in customer experience.
Customer Experience - Renters	Develop materials or leave-behinds for tenants who receive AMP assessments to inform them of other additional measures they may be eligible for.
Customer Experience - Renters	Identify additional mechanisms to connect with private property owners and property managers, such as leveraging other program participation (e.g., lead abatement or Residential Assistance for Families in Transition [RAFT] applications) and professional organizations for landlords and property managers.
Customer Experience - Electrification	As the PAs work with PHAs, the PAs may want to examine whether and how there are opportunities to support PHAs in their efforts toward decarbonization to ensure that the program continues to be of value to them.
Customer Experience - Electrification	Support the exploration of alternative mechanisms to mitigate the cost impact of electrification on customer bills, including changes to rates and payment structures.
Customer Experience - Electrification	Develop tools to estimate cost impacts of electrification and ways of communicating these long- and short-term cost impacts as well as benefits.

Looking Forward	Include more frequent process evaluations and quick-hit studies in future years to allow for more timely feedback given the dynamic nature of the IE program.
Looking Forward	Consider alternatives to costly electric panel upgrades and other new measures such as modular heat pumps for multifamily.
Looking Forward	Continue to expand program offerings to include additional measures related to electrification and building decarbonization. Program participants, peer PAs, and some program actors identified measures that the program should consider incorporating into the program, including expanding opportunities for windows and deeper energy retrofits.
Looking Forward	As the PAs work with PHAs, the PAs may want to examine whether and how there are opportunities to support PHAs in their efforts toward decarbonization to ensure that the program continues to be of value to them.

Source: The evaluation team

Future Research and evaluation:

- **Conduct additional studies to assess the effectiveness of new initiatives.** The studies should focus on 1) identifying intended outcomes and how to measure progress toward those outcomes; 2) assessing progress toward outcomes, 3) determining how customers and agencies experience the process, and 4) highlighting preliminary results (intended and unintended) as well as opportunities for expansion or improvement.

- **Reserve funding for and establish priorities for targeted IE Program studies in each program cycle.** As noted, considerable time elapsed between evaluation studies. The IE Program and related state priorities will continue to evolve to achieve state goals and priorities around equity and decarbonization, among others. It would behoove the PAs and LEAN to intentionally reserve funding for IE evaluations and approach those evaluations with a forward-looking perspective toward improvement, advancement, and more real-time, program supportive assessments. Ideally these studies will be targeted and as such could be structured as quick-hit or embedded research. The evaluation team and PAs may also want to consider a framework for ensuring the research and evaluation activities meet comprehensive program evaluation needs within each three-year cycle, such as culminating all reports into a brief, comprehensive report documenting program progress, activities, findings, and recommendations for the next cycle.

- **Investigate how other states approach challenging but critical data infrastructure needs.** Two areas arose in this and prior evaluations: the need for centralized data collection and reporting system and electronic audit capabilities. As with all prior impact evaluations, the evaluation was also hindered by the inability to gather WAP-related program data due to DOE-issued guidance (dated February 1, 2010, see Appendix F. The evaluation team recommends facilitation of a targeted peer review study, reaching out to state agencies across the country to share, for example, information on their experiences addressing these issues, solutions considerations, experiences throughout

the system transitions, (e.g., auditor experience moving to an electric system, system-specific experiences), and resources and timeline expectations.

- **Conduct follow-up studies to more comprehensively assess research questions.** Feedback in this reporting identified some IE program areas that were not comprehensively assessed and could warrant follow-up research if of interest. Example areas include the MF pathway and QA/QC processes.

Appendix A. Study Goals and Objectives

Throughout the study and across all four topic areas, the evaluation team sought to identify process improvements. The evaluation team notes that while there are similarities in some of the topics addressed in the Customer Experience and Program Processes section, the primary difference between these two topic areas relates to perspective: the questions in the former topic area are focused on the customer perspective and how customers experience the program whereas the latter is focused on the service delivery and program processes. While in many cases the two are linked (e.g., improvements in the service delivery processes may also improve customer service), they may not always be directly correlated, thus the evaluation team explored them in parallel.

A.1 Key Research Area #1: Program Ecosystem

How does the Mass Save IE program fit within the broader landscape of interventions, programs, and funding streams, including fuel assistance, federal rehab loan programs, WAP funding and IRA?

Sub-questions:

- What is the current status of service including program spending, savings, participation rates and other metrics of interest?
- What is the potential impact of IRA funding? Are there opportunities to leverage funding to provide deeper retrofits or expand the reach of the program?
- How does the IE program intersect with other MA and federal programs and initiatives in serving IE (as well as moderate income) customers, including fuel assistance, LIHEAP, WAP, and HEARTWAP?
- What percent of participants are enrolled in income-based rates and how, if at all, does the program help direct eligible households to enroll?
- What is the broader landscape of programs, legislation, and funding opportunities from federal, state, and local entities and how does the Mass Save IE offering fit in that ecosystem? What elements fall in-between these programs, e.g., non-heat-pump water heaters, repairs that are bigger and more structural than pre-weatherization barriers)?
- How do requirements associated with federal funding impact the process for delivering and implementing the Mass Save IE program?

Table 13. Program Landscape Questions and Activities

Relevant Activities	Current Status of Service	Potential Impact of IRA Funding	IE Program Intersection with Other Programs	Broader Landscape of Interventions
Tracking data review	X	X	X	X
Benchmarking/ secondary research		X	X	X

Relevant Activities	Current Status of Service	Potential Impact of IRA Funding	IE Program Intersection with Other Programs	Broader Landscape of Interventions
CAP agency interviews/ site visits	X	X	X	X
Auditor/ inspector interviews	X	X	X	X
CFP and PHA interviews	X	X	X	X
Participant survey	X		X	X
Participant interviews	X		X	X
Property owner survey/ interviews	X		X	X

Source:

A.2 Key Research Area #2: Customer Experience

What is the customer experience (CX) of the current service delivery process (including customer onboarding, education, assessment, installation, and cross-program connections handoffs and considering new electrification measures)?

Sub-questions:

- What is the current onboarding process for customers and how does it vary by CAP agency and PA? How do customers get into the program? How effective is the customer onboarding process? Are there opportunities to improve the process?
- What is working well and does this vary by PA and/or CAP agency? Are there opportunities to share processes that are working?
- Where are the drop-off points in the process, and why do they occur?
- Who is the program missing, and what are the characteristics and needs of those customers (including engagement with other non-Mass Save programs, their flow within and out of IE and moderate-income eligibility status, and previous experience seeking energy and other assistance)?
- What are the IE participation barriers and outreach needs that go beyond demographics, such as fuel assistance wait times and the need for annual renewal on FA/discount rate?
- What is the customer experience through the program including maintenance and repairs of equipment installed through the program as well as health and safety repairs made as part of the program interventions?

- What are the current QA/QC processes and what is the program's response to issues with installation or equipment?

Table 14. Customer Experience Questions and Activities

Relevant Activities	Customer On-boarding	What Is Working Well	Drop-Off Points	Participation Barriers	Maintenance and Repairs	QA/QC Experience
Tracking data review		X	X	X		
Bench-marking/ secondary research	X			X		
CAP agency interviews/ site visits	X	X	X	X		
Auditor/ inspector interviews	X	X	X	X	X	X
CFP and PHA interviews	X	X	X	X	X	X
Participant survey	X	X	X	X	X	X
Participant interviews	X	X	X	X	X	X
Property owner survey/ interviews	X	X	X	X	X	X

Source:

A.3 Key Research Area #3: Program Process

What is the current service delivery process (including customer onboarding, customer prioritization, prioritization of CAP agency resources, QA/QC) and is it aligned with the goal of increasing weatherization, electrification and co-delivery of weatherization and electrification?

Sub-questions further organized by topic areas within program processes:

- **Goals:** What are the overarching program and policy goals for the IE program and what are the target metrics/data needs to support those efforts? How are CAPs progressing toward goals of delivering weatherization and electrification?
- **Data:** What are current data collection processes and how do they vary, if at all, by PA and CAP agency? What critical data needs to be tracked, and to what end? What data is

most important for measuring progress toward goals and stated metrics (beyond energy savings and participation counts)? Where and when is data gathered and how easy or difficult is it on staff? Are there opportunities to streamline data gathering for frontline staff?

- **Workforce Training:** How are the agencies and PAs training (both onboarding new and upskilling current) staff? Are these mechanisms adequate to meet staffing needs? How effective are these approaches and how consistent across the state?
- **Transparency:** What are the expected communications across the channels - data, report outs, etc.? Are these consistent across agencies and PAs? Are they occurring as intended?
- **Mixed-income buildings:** How is the program serving mixed-income buildings and are there opportunities to better serve those buildings?
- **Workflow:** How are customers prioritized for service within the program? Is this consistent across agencies or segments? What are the priorities for federal funding and to what extent are they consistent with/in conflict with Mass Save priorities? What changes are needed to better align the service delivery process with increasing co-delivery of Wx and electrification? How does co-delivery of Mass Save and federal funding affect the service delivery process (including customer prioritization, customer onboarding, measure prioritization, etc.)? How are health and safety barriers characterized and remediated?

Table 15. Program Process Questions and Activities

Relevant Activities	Goals	Workforce Training	Data Needs	Transparency	Mixed-Income Buildings	Workflow
Tracking data review	X		X	X	X	X
Bench-marking/ secondary research	X	X	X	X	X	X
CAP agency interviews/ site visits	X	X	X	X	X	X
Auditor/ inspector interviews	X	X		X	X	X
CFP and PHA interviews	X	X		X		
Participant survey					X	X
Participant interviews					X	X

Relevant Activities	Goals	Workforce Training	Data Needs	Transparency	Mixed-Income Buildings	Workflow
Property owner survey/ interviews					X	X

Source:

A.4 Key Research Area #4: Looking forward

What are the opportunities within MA markets to better serve customers, whether broader reach to more buildings, new measures/technologies, or deeper reach within buildings?

Sub-questions:

- What new electrification interventions or measures should the program consider? How should the program share information about the cost of electrification with customers?
- What are the opportunities for electrification of water heating, specifically HPWH? What are barriers to installing HPWH?
- What are gas efficiency opportunities for IE in the face of electrification?
- What are broader funding ideas that other states and localities are exploring to address barriers and structural challenges that keep buildings from being serviced?
- Are there opportunities to provide deeper weatherization alongside electrification?
- Are projects being deferred due to cost or technical factors such as the cost of panel upgrades? If so, how many projects are thus impacted? How can the program direct future focus toward these opportunities while maintaining equitable delivery?
- Are there opportunities to engage new delivery partners to work with the PAs and LEAN, specifically to better serve customers who have limited English proficiency?
- What are the right talking points and educational needs on electrification for customers?
- What is the customer experience of living with new electrification measures?

Table 16. Looking Forward Questions and Activities

Relevant Activities	New Measures? How to Share Info	Gas Efficiency	What Are Other Places Doing?	Deeper Weatherization
Tracking data review	X			
Benchmarking/ secondary research	X	X	X	X
CAP agency interviews/ site visits	X			X

Relevant Activities	New Measures? How to Share Info	Gas Efficiency	What Are Other Places Doing?	Deeper Weatherization
Auditor/inspector interviews				X
CFP and PHA interviews				
Participant survey				
Participant interviews				
Property owner survey/interviews				

Source:

Appendix B. Summary of Research Activities

The team's evaluation of the Massachusetts IE Program involved several key research activities aimed at understanding the program's effectiveness and informing future planning. The evaluation team began by reviewing program materials and data from 2020 to 2023 to assess participation trends. In early 2023, the team conducted four interviews with peer PAs and reviewed 44 documents to benchmark the Massachusetts program against national practices in equity, workforce development, and electrification.

In fall 2023, the evaluation team interviewed staff from 10 CAP agencies and conducted site visits and ride-alongs with auditors to gain insights into the program's on-the-ground operations. The team also held seven interviews with CAP agency auditors and two with HPCs and completed five ride-alongs to understand the audit process and integration of electrification measures. Later in 2023, the team conducted five interviews with CFP organizations and held two listening sessions with PHAs to explore barriers to participation.

In spring 2024, the evaluation team surveyed 400 SF and MF participants from the 2022 program year to gather data on their experiences. This survey was followed by 19 in-depth interviews in summer 2024 to further explore participant experiences. Finally, the team conducted a survey and 10 in-depth interviews with property owners and managers in spring 2024 to understand their perspective on program participation. The evaluation process included analysis and reporting, where the evaluation team synthesized findings from all research activities to produce a comprehensive report. Throughout the study, the team ensured effective study management, coordinating closely with all stakeholders to complete tasks on schedule and meet the evaluation objectives.

This section describes the methods and approach the team took to completing each of following major tasks:

- Task 1. Materials Review and Data Review
- Task 2. Benchmarking review, secondary research and peer PA interviews
- Task 3. CAP Agency interviews and site visits
- Task 4. Auditor/Inspector Interviews and Ride-Alongs
- Task 5. CFP partner interviews and PHA interviews
- Task 6. Participant Survey
- Task 7. Participant Interviews
- Task 8. Property Owner Interviews
- Task 9. Analysis and Reporting
- Task 10: Study Management

These tasks were designed to deliver a robust process evaluation of the IE Program and to ensure that the MA PAs, EEAC, and stakeholders have necessary feedback as they go into planning for the 2025-2027 cycle.

B.1 Materials & Data Review

The objective of this task was to ensure that the evaluation team was aligned with PAs, EEAC, and stakeholders at the outset of the study, to understand the available data for the study, and assess participation trends through a data review.

The Process and Impact evaluation teams collaborated to request program participation data from PAs including the following for all single and multifamily participants since 2020:

- Participant contact information (email, phone)
- Property owner contact information (email, phone)(if relevant)
- CAP agency and contractor/installer contact information,
- All audit data, including a list of all measures installed in the building, regardless of whether they were paid for through the program or not, including installation dates and any subsequent follow up visits. Data should specify funding source (e.g., federal WAP versus PA versus other state or local monies).
- Building info including site address, age of building, number of units, heating/cooling fuel, etc.

The team received data from the PAs as well as LEAN/the CAP agencies.

The team also requested a copy of all program materials used as part of outreach and program delivery, including bill inserts, email or other marketing outreach, flyers distributed at CAP agencies, generic copies of reports provided after an assessment or installation, and any follow up outreach materials.

After receiving the data, the evaluation team conducted a data review. The review included data analysis summarizing the number of participants, market actors, and units rebated by segments of interest, for instance, small MF or renters. This information informed and was summarized in the sampling plan for subsequent surveys and interviews.

The team reviewed tracking data from the last several years 202-2023 to identify any patterns of participation and assess if and how these trends have changed since the last evaluation Data received for 2023 was received directly from LEAN and represented only a sample of those who participated in the LVI model. However, the evaluation team focused on 2022 for research activities.

B.2 Benchmarking, Secondary Research, & Peer PA Interviews

Electrification, workforce development, and equity are key concerns of the MA PAs in this cycle. Many of these concerns and challenges are shared by PAs around the country. To understand how the MA program compares with other IE programs, the team conducted a benchmarking review and secondary research around emerging practices and new approaches in IE programs related to equity, workforce development, and electrification. This secondary research explored best practices around workforce development efforts, research on the customer experience of living with electrification upgrades, particularly those who have participated in IE programs, and best practices around ensuring equitable access for IE customers. The evaluation team also looked into what measures and approaches have been studied to increase savings. Where

possible, the team leveraged secondary research and publicly available evaluation studies to provide insight into these research questions.

Given that not all evaluations are public, and some may yet be in process, the team conducted four interviews with peer PAs who are experiencing similar challenges in serving their IE communities. The team spoke with PAs running IE programs in California, New York, Illinois, and Rhode Island. Topics for these interviews included identifying new opportunities for the program to extend its reach, understanding what approaches IE programs nationally are taking to address challenges of electrification, exploring new funding streams (e.g., IRA) and opportunities for program integration, and understanding the full impacts of electrification among IE customers and recommended communication approaches around electrification. The interviews also explored any approaches to workforce development and training that have been effective, particularly as related to IE programs. The team synthesized findings from these interviews and secondary research and included them in the final report.

B.3 CAP Agency Interviews and Site Visits

To understand program operations as practiced, the evaluation team conducted 12 interviews with CAP agencies, representing varied geographies and PAs across the state, except for Unitil. The team recruited from a census of affiliated CAP agencies including those that implement SF and MF IE programs. The team spoke with a mix of CAP agencies including larger, more resourced and smaller, less resourced agencies. The team was also able to speak with highly successful CAP agencies, as well as some that appeared to be struggling from a performance perspective. The interviews explored topics including program delivery processes, workforce development, and implementation challenges. In addition to interviews, the evaluation team conducted site visits and ride-alongs with auditors to observe program operations and challenges firsthand. These interviews and visits provided insight into the implementation of new initiatives such as the LEAN SCSC and LVI.

As part of these interviews, the evaluation team utilized a detailed interview guide that explored key topics that included the following:

- Program delivery processes, including customer onboarding, customer prioritization, and QA/QC
- Time to serve and any issues contributing to longer wait times
- Changes to implementation process since the last evaluation, including changes made in response to COVID shutdowns
- Staffing experiences and challenges
- Workforce development approaches and challenges
- Approach to addressing nonparticipant/non-responder barriers
- Approach to landlord-tenant challenges
- Current data collection practices and tracking
- Approach to mixed-income buildings
- Language access and services offered in languages other than English

As discussed in the following sections, the CAP interviews took place in fall 2023, shortly after the implementation of the LEAN SCSC, the rollout of Monday.com boards to coordinate efforts statewide, and the introduction of LVI. The interviews and site visits provided an opportunity for CAP agency staff to share real-time feedback with the evaluation team on these new initiatives.

B.4 Auditor Interviews and Ride-Alongs

The assessment process is a key part of the program delivery, so it was important for the evaluation team to understand the dynamics of the auditor's work. Given the changes in the program, including very recent changes such as the LVI, in addition to post-pandemic labor market changes, the evaluation team valued hearing from auditors working with the program.

To understand this critical perspective, the evaluation team conducted seven interviews with CAP agency auditors at seven different CAP agencies; and two interviews with representatives from an HPC company. Auditor interviews were completed in the fall of 2023 and spring of 2024. The team also conducted three ride-alongs with CAP agency auditors in the fall of 2023, and two ride-alongs with HPC auditors who participated through the LVI in spring of 2024.

Interview topics included program delivery process, including customer onboarding and prioritization, interactions with home occupants, current data collection practices and tracking, and differences in approach/process for SF versus MF occupants. The evaluation team also explored auditor training experiences, opportunities, and ideas for additional training or development that would be beneficial to the program. Given that electrification measures are an increasing priority for the program, the team sought to understand from auditors how and under what circumstances they discuss electrification measures such as heat pumps or heat pump water heaters.

The team worked with CAP agencies to recruit auditors for the interviews using an email request for participation. The team aimed to schedule ride-alongs with CAP agencies representing all PAs and regions of the state and completed ride-alongs with auditors from CAP agencies in key areas such as Pittsfield, Haverhill, Boston, Springfield, and Worchester. However, there were some gaps in coverage, particularly in regions served by CAP agencies representing Plymouth, Essex, Bristol, Norfolk, Barnstable, and the Greater Fall River and Taunton areas. These gaps may have resulted in a less comprehensive understanding of the audit process and challenges in those specific areas, potentially limiting the evaluation's ability to fully capture regional differences program implementation.

Ride-alongs allowed the evaluation team to see what happens in practice in the field in real time rather than a generalized summary as in an interview. The ride-alongs focused on the process of the audit and interactions with the home occupant, including discussions of recommended measures including electrification measures. The evaluation team recruited for these to represent different regions of the state, different CAP agencies, as well as HPCs who conducted IE audits through LVI.

B.5 CFP Interviews

In order to understand barriers to participation in the IE program, as well as to better understand the changes that had been introduced since the last evaluation, such as the rollout of the CFP program, the evaluation team conducted five interviews with CFP partner organizations. CFP partner organizations or municipalities provided insights into challenges with outreach, barriers

to participation, or opportunities to improve the experience for their constituents in accessing the program. Low-income communities were not part of the official target population for the CFP, so many organizations do not have specific IE-related goals. However, low-income work could be counted towards goals for other target populations like renters and landlords.

Interview topics included understanding what had gone well, barriers and challenges to participate for IE customers, opportunities these organizations identify, and key drivers for these communities and organizations. These interviews also explored barriers to participation and how CFPs were addressing these barriers. The team worked with the CFP program implementor to recruit for these interviews.

B.6 PHA Interviews

Recognizing that PHAs were frequent participants in the program and served a large contingent of IE residents in the state, the team conducted a listening session with multiple PHAs to gather their perspectives and experiences with interacting with and participating in the program. This listening session focused on larger PHAs, many of which operated in more urban, densely populated areas. To understand the perspective and experiences of smaller PHAs, the team conducted a one-to-one interview with a smaller PHA that operated in more rural or less densely populated areas. Through the listening session and interview, the evaluation team heard from six PHAs from across the state, representing smaller and larger PHAs.

During the listening session and interview, the team explored topics such as what had gone well, the barriers and challenges to participation for IE customers and for organizations such as PHAs, the opportunities these organizations identified, and the key drivers for these communities and organizations. These sessions also examined barriers to participation. The team collaborated with the EOHLC to recruit for the listening session and interview.

B.7 Participant Survey

The evaluation team conducted a participant survey targeting both single-family and multifamily program participants from the 2022 program year. The survey successfully gathered comprehensive data on participant experiences, addressing all four areas of research focus. This data provided a solid foundation for understanding the participants' experience across various housing types and informed the subsequent qualitative research.

The goal of the participant survey was to understand the customer experience of the program for both single and multifamily participants and tenants, as well as barriers to participating. The participant survey responses provided insight into all four areas of research questions, including program ecosystem, participant experience, program delivery, forward looking topics as well as the impact analysis.

The survey targeted three groups of participants:

1. SF program participants (residing in 1- 4 unit buildings)
2. MF tenant program participants (residing in 5+ unit buildings)
3. Heat pump recipients

As noted in the report, the evaluation struggled to reach MF tenants; just 4% of respondents lived in MF buildings. The team fielded phone and web participant surveys through

subcontractor Ewald & Wasserman (E&W) Research, targeting up to 400 survey completes of residential participants. The evaluation team aimed to gather 330 completes from SF and 70 completes from MF tenant participants, as more SF participants were likely to have experienced all phases of program participation and installation of electrification measures, both focus areas for this research. The target and actual completes by category are listed in Table 17.

Table 17. Target and Actual Completes

Category	Target	Actual
SF	330	390
MF	70	27

Source: The evaluation team

Recruitment for the survey took place through email invitations and mailed postcards with a push to the online or phone survey. The multi-modal survey included both a web (Qualtrics) and phone survey. The web survey was optimized for mobile phones. Participants were provided a $25 Tango gift card as a thank you for their time. Tango gift cards are digitally redeemed by choosing from 100+ merchants, like Amazon, Target, and Walmart. To further encourage participants with electrification measures installed to participate, the team provided higher incentives through electronic recruitment, offering $50 instead of the standard $25 incentive. This higher incentive also reflected the added response burden these participants had due to an additional line of questioning in the survey.

Recognizing that understanding and improving access for people who speak languages other than English was important to the PAs, the team fielded the survey in Spanish, Portuguese, Mandarin, Cantonese, Haitian Creole, and English. The survey was fielded in April and May 2024 by E&W Research, the team's multilingual survey subcontractor. They offered both online and phone surveys across the six target languages for this study.

Sampling Design

The team received a list of 20,147 unique residential customers (14,963 SF and 5,184 MF) who participated in the IE Program in 2022 and who are not on the do-not-contact list. Customers in the sample who did not have an email address on file received postcard invitations by mail.

The evaluation team created the sample based on the following considerations:

- Projects had claimed savings in 2022
- Projects represent all the PAs
- Projects include all those that had electrification measures (including 15854 who received one or more electrification measure, 127 who received central HPs, 25 who received HP mini-splits, and 15 that received HPWHs)
- Projects include a mix of other measure types represented in the population data.

[54] No MF tenants in the participant sample received electrification measures like heat pumps or heat pump water heaters. This sample does not include property owners / landlords who received these measures. The evaluation team will survey property owners / landlords separately.

Table 18 shows the distribution of overall cases in the sample frame for each PA. In the table, "Subtotal (not unique)" includes instances where an individual customer receives services from more than one PA and so is counted in the "Total Sample Frame" column for multiple PAs. The "Total (unique)" count represents the sum of individual customers with each individual customer counted only once overall. For this reason, the "Subtotal (not unique)" is higher than the "Total (unique)" count.

Table 18. Sample Frame by Program Pathway (SF/MF) and PA

Variable Name	SF Sample Frame	Percent SF by PA	MF Sample Frame	Percent MF by Pa	Total Sample Frame	Percent Total by PA
Eversource (incl. EGMA)	8,253	55%	1,788	35%	10,041	50%
National Grid	6,068	41%	2,772	53%	8,840	44%
Cape Light Compact	892	6%	616	12%	1,508	7%
Berkshire Gas	97	1%	0	0%	97	<1%
Liberty Utilities	53	<1%	0	0%	53	<1%
Unitil	64	<1%	10	<1%	74	<1%
Subtotal (not unique)	**15,427**	**N/A**	**5,186**	**N/A**	**20,613**	**N/A**
Total (unique)	**14,963**	**100%**	**5,184**	**100%**	**20,147**	**100%**

Source: The evaluation team

To obtain 400 survey completes, the evaluation team targeted 330 SF and 70 MF completes. the team pulled sample to represent 40%-50% of Eversource and National Grid customers and a census of customers from all other PAs. Table 19 shows the total number of customers in the sample frame, the sample the team used, and the estimated number of survey completes if the evaluation team were to achieve an 8% response rate. The team recruited from Eversource and National Grid sample points in several waves to hold space for responses from other PAs and to manage overall incentive expenses.

Table 19. Sampling with Expected Number of Completes

PA	SF Sample Count	Expected SF Completes	MF Sample Count	Expected MF Completes	Total Sample Count	Expected Total Completes
Eversource (incl. EGMA)	1,988	160	300	20	2,288	180
National Grid	1,510	135	429	30	1,939	165
Cape Light Compact	867	20	481	19	1,348	39
Berkshire Gas	97	5	0	0	97	5
Liberty Utilities	53	5	0	0	53	5
Unitil	61	5	3	Up to 1	64	6
Total (unique)	4,643	330	1,213	70	5,856	400

Source: The evaluation team

During the survey fielding phase, the PAs and the evaluation team identified a need to administer the survey to more recently engaged participants (projects with claimed savings after 2022), specifically those that participated through the Single-family (SF)-only LVI model, which began its pilot phase in 2021 and steadily grew in project count through 2023. To accomplish this, the evaluation team worked with LV ABCD to retrieve 250 additional SF sample points from participants who participated between January 2023 and March 2024. Of these, 200 cases appeared eligible for the participant survey (i.e., had valid contact information and had received relevant program services). The evaluation team incorporated this respondent group into the following table.

Table 20 shows participant survey responses by PA. Reflective of the sample frame, the majority of SF participants (78%) receive energy services from Eversource or National Grid. Over half of MF participants (56%) have Cape Light Compact as a PA[55].

Table 20. Participant Completes by PA

PA	SF Completes Count	Percent of Total SF Completes	MF Completes Count	Percent of Total MF Completes
Eversource (incl. EGMA)	177	46%	3	11%
National Grid	124	32%	9	33%
Cape Light Compact	95	25%	15	56%
Berkshire Gas	6	2%	N/A	N/A
Liberty Utilities	4	1%	N/A	N/A
Unitil	3	<1%	0	-
Add-on sample: 2023 LVI participants (ABCD)	3	<1%	N/A	N/A
Subtotal (not unique)				
Total (unique)	**385**	**-**	**27**	**-**

Source: Evaluation survey

Participant Survey Design

Survey topics included program awareness, program experience, including elements that went well and those that did not, and opportunities for program improvements. The survey also explored any instances where equipment installed through the program failed or needed to be replaced and explored the experience of living with new electrification measures. The evaluation team developed the survey modularly using skip logic to allow for specific question types to be tailored to respondents based on program (e.g., SF versus MF), homeowner status (owner versus tenant), and measures installed. For renters/tenants, the survey also explored the experience of coordinating with property ownership and program representatives for installations and other visits. For those who have had a heat pump or other electrification measure (e.g., heat pump water heater, electric panel upgrade) installed, the evaluation team explored their experiences living with the new equipment. The team coordinated with the Impact Evaluation team to include a battery of questions to inform the impact analysis for customers with electric or natural gas heating.

[55] CLC serves a small portion of the state and is thus over-represented in these survey responses.

B.8 Participant Interviews

Building on survey results, the evaluation team conducted 19 in-depth interviews in summer 2024 to understand the perspectives of participants. These interviews allowed for a deeper exploration of the themes identified in the survey, capturing qualitative insights into participant experiences. The interviews provided a nuanced understanding of the program's impact, covering diverse participant perspectives across different housing types and regions. To understand the perspective of program participants, the evaluation team explored participant survey respondent themes and experiences in greater depth with follow-up in-depth interviews.

The team identified a proposed recruitment strategy across segments and demographics based on the survey and impact findings to address any outstanding questions from those tasks. Interview topics included additional detail on what went well and where there are opportunities for improvement. Based on the responses to the survey and further analysis, the team identified specific areas of focus for these interviews:

- Area 1: Customer experiences with electrification measures and health and safety improvements.
- Area 2: Understanding program challenges identified through the survey, particularly related to communication and specific measure-related issues.

The evaluation team provided the PAs with a draft interview guide for review and comments. This guide was designed to explore these areas in greater depth, ensuring the interviews would capture nuanced feedback from participants who had experienced different aspects of the program.

The team recruited for the interviews by asking as part of the participant survey whether respondents would be interested in participating in follow-up research. The team then recruited for interviews by using an email invitation to individuals who identified their interest in participating in follow up research. For those participants who took the survey by phone, the team also conducted phone recruitment. The team conducted these 45-minute in-depth interviews using Zoom or a similar online meeting platform, or over the phone if participants preferred to call in.. Participants were compensated with a $100 Tango gift card for their time.

B.9 Property Owner/Manager Survey and Interviews

In spring 2024, the evaluation team conducted a survey with property owners and managers (the team received just nine responses to this survey) and 10 in-depth interviews with property owners and managers. These activities aimed to understand their experiences with the program, particularly regarding communication, installation processes, and their overall satisfaction with the services provided.

During the recruitment phase for the property owner and manager surveys, the evaluation team faced significant challenges in securing sufficient participation. The evaluation team received a list of 568 unique property managers who participated in the IE Program in 2022. After experiencing initial recruitment challenges, the evaluation team coordinated with PA program staff to ensure that contact information was correct (i.e., the team had information for the individual who was the project decision maker with program/project knowledge).

To address these challenges and ensure a more representative sample, the team implemented several strategies:

- **Extended Recruitment Methods:** The team expanded recruitment efforts to include both email invitations and physical mailers, encouraging participants to complete the survey through either web or phone-based options. The evaluation team also linked the participant and property manager survey, so that anyone who inadvertently received the participant survey email or mailer would be automatically redirected to the property owner survey. This approach was intended to improve access and convenience for property managers.
- **Follow-Up Efforts:** To further boost participation, follow-up emails and calls were made, particularly to property managers who had not yet responded to the initial survey outreach. Additionally, phone recruitment was utilized for those who had not completed the survey (to target follow up interviews), and a more targeted approach was taken to recruit participants who received electrification measures or represented larger multifamily properties.

Despite these efforts, response rates remained lower than anticipated. As a result, the evaluation teamer-prioritized the interviews. Originally, interviews were planned as follow-ups to survey respondents, but given the recruitment challenges, the team shifted to conducting phone interviews with property owners and managers who had not participated in the survey. These interviews combined basic survey questions with additional detailed feedback on their experiences with the program.

The evaluation team decided to combine survey and interview data and analyze these together, given the qualitative nature of the survey data received.

B.9.1 Property Owner/Manager Survey

The goal of the property owner/manager survey was to understand the participant experience for property owners as they moved through the IE Program. The survey explored various aspects of the experience, including onboard communication with tenants, scheduling assessments and installations, and the experience with installed equipment. Responses from the survey from this survey provided insight into all four areas of research: program ecosystem, participant experience, program delivery, forward-looking topics, and impact analysis. team explored onboarding, communication with tenants, scheduling of assessments and installs, and experience with the installed equipment. The property owner/manager survey responses provided insight into all four areas of research questions, including program ecosystem, participant experience, program delivery, forward looking topics as well as the impact analysis.

Challenges were encountered in recuring enough survey respondents, especially given the difficulties in obtaining accurate and up-to-date contact information for property owners and managers. Many contacts were outdated or incomplete, and differentiating between tenant and owner contacts posed difficulties, particularly in multifamily (MF) buildings. In response to these challenges, the team implemented additional recruitment efforts, such as extending outreach via follow-up calls, physical mailings, and expanding web-based and phone-based options for survey completion. Participants were incentivized with a $75 gift card to encourage survey completion. Despite these efforts, the team ultimately achieved a lower-than-expected response rate, gathering fewer completes than the targeted number of 70 for multifamily participants; just nine responses were received.

To supplement the survey data, the team re-prioritized follow-up interviews. These interviews allowed for a more in-depth exploration of participant experiences and were analyzed together with the survey data to form a comprehensive understanding of the property owner/manager experience. This approach helped ensure that crucial insights were captured, even with the lower survey response rate.

B.9.2 Property Owner/Manager Interviews

To grasp the nuance of the property owner/manager participation experience, the evaluation team conducted 10 follow-up interviews with property owners to understand the barriers, challenges, highlights, and opportunities for improving their participation experience. The team recruited for these interviews to ensure that the respondents reflected a variety of CAP agencies throughout the state and all PAs. The interviews were conducted over Zoom or Teams meetings or over the phone if interviewees preferred. The evaluation team offered participating property owners/managers a gift card of $150 as a thank you for their time. The team recruited for these interviews through the property owner survey, sending email invitations to survey respondents who expressed interest.

Appendix C. Participant Survey Results

This section shows survey results for the participant survey. Survey tables are shown by all participants, PA, and owner/renter status.

Table 21. Participant Survey Response Rates

Recruitment Status	Count
Postcards Sent	4516
Emails Sent	4702
Emails Failed	2
Emails Bounced	398
Emails Received	4302
Entered Survey	532
Completes	412
Completed Response Rate	8.8%

Source: The evaluation team

Participant Survey Tables

Table 22. Participant Survey Screener - Termination Questions

Question	Choices	Count	% of Participants
Our records show that your home had an energy assessment and received home improvements at no cost through the Mass Save Income Eligible Program. Is that correct?	Yes	421	81.6%
	No	45	8.7%
	Not sure	50	9.7%
Which of the following best describes your experience with the Mass Save Income Eligible Program and energy assessments? Select all that apply. (Among terminated for not reporting having an assessment)	My home received an energy assessment, but someone else I live with participated in it	1	2.1%
	My home received an assessment, but my landlord participated in it	2	4.3%
	My home received an energy assessment, but not through the Mass Save Income Eligible Program	4	8.5%
	My home did not receive an assessment	14	29.8%
	I am unsure of what the Mass Save Income Eligible Program is	6	12.8%
	I am unsure of what the energy assessment is or what that means	7	14.9%
	Other, please specify	14	29.8%
Is the home that got the assessment your primary residence?	Yes	412	97.9%
	No	9	2.1%
Do you own, rent, or manage the home that got the assessment and home improvements?	Own	318	75.5%
	Rent	92	21.9%

Question	Choices	Count	% of Participants
	I manage the property	1	0.2%
	Other	7	1.7%
	Not sure	3	0.7%

Source: The evaluation team

Table 23. Participant Survey Screener – Home Screener Questions

Question	Choices	Count	% of Participants
What type of home is it?	Single-family house detached from any other house	297	72.1%
	Single-family house attached to one or more houses	29	7.0%
	Triple decker with 3 units	15	3.6%
	Apartment or condo building with 2 to 4 units	40	9.7%
	Apartment or condo building with 5 to 19 units	9	2.2%
	Apartment or condo building with 20 or more units	7	1.7%
	Mobile home or trailer	5	1.2%
	Other, please specify	10	2.4%
Are your home's energy bills for electricity, natural gas, or other fuel types included in your rental payment?	Yes, all energy bills are included	5	5.4%
	Yes, some energy bills are included	3	3.3%
	No, I pay the energy bills separately	84	91.3%
Which energy bills are included in your rental payment? Please select all that apply.	Electric	0	0.0%
	Natural gas	2	66.7%
	Propane	0	0.0%
	Fuel oil	1	33.3%
	Other, please specify	0	0.0%
What fuel does your home's primary heating system use?	Electric	68	16.6%
	Natural gas	220	53.7%
	Propane	20	4.9%
	Fuel oil	93	22.7%
	Other, please specify	9	2.2%
What fuel does your home's water heater use?	Electric	114	28.8%
	Natural gas	209	52.8%
	Propane	13	3.3%
	Fuel oil	55	13.9%
	Other, please specify	5	1.3%

Source: The evaluation team

Table 24. Participant Survey Screener – Awareness and Motivation Questions

Question	Choices	Count	% of Participants
How did you learn about the program? Select all that apply.	My landlord / property manager	19	4.8%
	A flyer or other notice at my building	10	2.5%
	A professional home energy assessor	20	5.1%
	A Community Action Program agency	119	30.2%
	A local government agency	40	10.2%
	Previous experience with other utility services	24	6.1%
	Previous experience with Mass Save services	88	22.3%
	Social group text message (WhatsApp, WeMeet, Nextdoor, other)	3	0.8%
	A family member or friend	71	18.0%
	An internet search	20	5.1%
	An ad from a Sponsor of Mass Save	63	16.0%
	An ad from my utility	53	13.5%
	Contacting my utility for help with something else and they told me about it	21	5.3%
	A professional heating/cooling/insulation person	10	2.5%
	The LEAN Statewide Customer Services Center (SCSC)	3	0.8%
	Other, please specify	12	3.0%
Who made the decision to participate in the program? Select all that apply.	I made the decision	63	70.0%
	My landlord / property manager decided to participate	11	12.2%
	My landlord / property manager and I decided together	14	15.6%
	Someone else, please specify:	2	2.2%
In the past three years, did you receive any other services offered by your utility or the Sponsors of Mass Save or participate in any other energy assistance programs? Select all that apply.	Received rebates, such as a rebate for heating and cooling equipment, insulation, lighting, and appliances	47	12.3%
	Received a 0% interest loan for making energy efficient improvements to my home	10	2.6%
	Completed an online energy assessment	24	6.3%
	Received assistance to pay my winter energy bill	191	49.9%
	Received a discounted electric or natural gas rate	203	53.0%
	Enrolled in a payment plan to spread energy bill payments out over time	63	16.4%
	Other, specify:	12	3.1%
	None of the above	70	18.3%
Why did you / your landlord decide to get a home energy assessment? Select all that apply.	To improve the air quality in my home	61	15.0%
	To make my home safer for me or my family	113	27.8%
	To increase my home's property value	37	9.1%
	To improve my home's appearance	14	3.4%
	To address a health issue for my home's occupants	25	6.2%
	To upgrade major equipment (like the furnace or air conditioner)	110	27.1%
	To upgrade appliances (like a refrigerator or clothes washer)	124	30.5%

Question	Choices	Count	% of Participants
	To make my home more comfortable	158	38.9%
	It was free	175	43.1%
	To address a specific issue(s) in my home	67	16.5%
	To save energy to protect the environment	202	49.8%
	To save money on my energy bills	325	80.0%
	To learn about my home	59	14.5%
	Other, please specify	10	2.5%
What, if any, issue(s) did your home have before you participated in the program? Select all that apply.	I didn't have any issues with my home	34	8.5%
	My energy bills were too high	229	57.1%
	My home was drafty	181	45.1%
	My doors and windows felt leaky	140	34.9%
	My heating and/or cooling system ran frequently	87	21.7%
	My heating and/or cooling system heated or cooled my home unevenly	103	25.7%
	Some of my appliances were unreliable, broken, or didn't work well	156	38.9%
	Other, please specify	33	8.2%
Since participating in the program, which of the issues you indicated have improved? Select all that apply.	My energy bills were too high	132	38.0%
	My home was drafty	115	33.1%
	My doors and windows felt leaky	65	18.7%
	My heating and/or cooling system ran frequently	52	15.0%
	My heating and/or cooling system heated or cooled my home unevenly	46	13.3%
	Some of my appliances were unreliable, broken, or didn't work well	124	35.7%
	Other, please specify	22	6.3%
	None of the above	52	15.0%
Did your home receive any of the following repairs or upgrades as part of this service? Select all that apply.	Knob and tube electrical wiring removal	17	6.9%
	Electric panel upgrade	17	6.9%
	Roof repair	13	5.3%
	Asbestos removal	2	0.8%
	Vermiculite removal	4	1.6%
	Pest removal	1	0.4%
	Mold removal	5	2.0%
	Basement moisture removal, including sump pump install	7	2.8%
	Heating system/combustion safety repair	68	27.6%
	Other, please specify	150	61.0%
Were there any other issues in your home that you hoped the program would address, but did not?	No	165	46.1%
	Yes, please specify	193	53.9%

Source: The evaluation team

Table 25. Participant Survey – Enrollment and Scheduling Questions

Question	Choices	Count	% of Participants
What steps in the energy assessment and home improvement process were you responsible for? Select all that apply.	Signing up for the program	59	72.8%
	Scheduling the energy assessment	51	63.0%
	Being home during the energy assessment	61	75.3%
	Scheduling any follow up appointments	33	40.7%
	Being home during any follow up appointments	39	48.1%
	None of the above, the landlord / property manager was responsible	8	9.9%
After you learned about the program, how did you sign up to participate?	A Community Action Program agency	253	78.8%
	A Home Performance Contractor company	29	9.0%
	Other, please specify:	39	12.1%
How easy was it to schedule the energy assessment? Was it…	Very difficult	6	1.6%
	Difficult	20	5.4%
	Neither difficult nor easy	65	17.7%
	Easy	156	42.4%
	Very easy	121	32.9%
About how long did you have to wait to have the assessment? Starting with when you signed up or completed paperwork…	Less than one month	131	41.5%
	One to two months	118	37.3%
	Three to six months	46	14.6%
	Six to nine months	9	2.8%
	More than nine months	12	3.8%

Source: The evaluation team

Table 26. Participant Survey – Assessor Experience

Question	Choices	Count	% of Participants
How much do you agree or disagree with the following statements about your home energy assessment?			
I scheduled the assessment at a time that worked well for me.	Strongly disagree	7	2.0%
	Disagree	0	0.0%
	Neither agree nor disagree	21	5.9%
	Agree	162	45.4%
	Strongly agree	167	46.8%
	Mean	4.4	
The assessor arrived on time.	Strongly disagree	7	1.9%
	Disagree	2	0.5%
	Neither agree nor disagree	11	3.0%
	Agree	174	47.0%
	Strongly agree	176	47.6%
	Mean	4.4	
	Strongly disagree	11	3.0%

The assessor clearly explained what they were doing during the assessment.	Disagree	8	2.2%
	Neither agree nor disagree	21	5.6%
	Agree	165	44.4%
	Strongly agree	167	44.9%
	Mean	4.3	
I understood the information I got from the assessor after the assessment.	Strongly disagree	8	2.1%
	Disagree	9	2.4%
	Neither agree nor disagree	25	6.7%
	Agree	183	49.1%
	Strongly agree	148	39.7%
	Mean	4.2	
The assessor gave me recommendations about how to save energy in my home.	Strongly disagree	14	3.8%
	Disagree	18	4.9%
	Neither agree nor disagree	38	10.3%
	Agree	163	44.2%
	Strongly agree	136	36.9%
	Mean	4.1	
The assessor gave me recommendations about how to lower my energy bills.	Strongly disagree	10	2.7%
	Disagree	28	7.7%
	Neither agree nor disagree	53	14.5%
	Agree	152	41.6%
	Strongly agree	122	33.4%
	Mean	4.0	
The assessor told me about other programs or financial resources I might qualify for.	Strongly disagree	19	5.4%
	Disagree	49	13.8%
	Neither agree nor disagree	77	21.8%
	Agree	120	33.9%
	Strongly agree	89	25.1%
	Mean		3.6

Source: The evaluation team

Table 27. Participant Survey – Installer Experience – Install 1

Question	Choices	Count	% of Participants
How easy was it to schedule follow-up visits to install the [INSTALL_1] in your home?	Very difficult	5	3.0%
	Difficult	11	6.6%
	Neither easy nor difficult	28	16.9%

	Easy	79	47.6%
	Very easy	43	25.9%
	Mean	3.9	
How much do you agree or disagree with the following statements about the follow-up visit to install [INSTALL_1] in your home?			
I scheduled the follow-up visit at a time that worked well for me.	Strongly disagree	4	2.5%
	Disagree	7	4.3%
	Neither agree nor disagree	16	9.9%
	Agree	84	52.2%
	Strongly agree	50	31.1%
	Mean	4.0	
The installer arrived on time.	Strongly disagree	3	1.7%
	Disagree	3	1.7%
	Neither agree nor disagree	12	7.0%
	Agree	92	53.5%
	Strongly agree	62	36.0%
	Mean	4.2	
The installer clearly explained what they were doing during the installation.	Strongly disagree	6	3.5%
	Disagree	8	4.7%
	Neither agree nor disagree	25	14.7%
	Agree	75	44.1%
	Strongly agree	56	32.9%
	Mean	4.0	
I understood the information I got from the installer after the installation.	Strongly disagree	4	2.3%
	Disagree	6	3.5%
	Neither agree nor disagree	22	12.9%
	Agree	84	49.1%
	Strongly agree	55	32.2%
	Mean	4.1	
The [INSTALL_1] was properly installed.	Strongly disagree	4	2.4%
	Disagree	10	6.1%
	Neither agree nor disagree	17	10.4%
	Agree	70	42.7%
	Strongly agree	63	38.4%

	Mean	4.1	
The [INSTALL_1] worked well after I participated in the service.	Strongly disagree	5	3.0%
	Disagree	11	6.5%
	Neither agree nor disagree	13	7.7%
	Agree	73	43.2%
	Strongly agree	67	39.6%
	Mean	4.1	

Source: The evaluation team

Table 28. Participant Survey – Installer Experience – Install 1 Support

Question	Choices	Count	% of Participants
Did you have help from the program to get the [INSTALL_1] properly installed?	Yes, I had help from the equipment installer	5	38.5%
	Yes, I had help from the home energy assessor	0	0.0%
	Yes, I had help from other program staff	4	30.8%
	No, I did not have help from any program staff	6	46.2%
How helpful was the program?	Not at all helpful	1	14.3%
	Slightly helpful	0	0.0%
	Moderately helpful	1	14.3%
	Helpful	1	14.3%
	Very helpful	4	57.1%
	I did not ask program staff for help	0	
Did you have help from the program to get the [INSTALL_1] properly installed?	Yes, I had help from the equipment installer	4	26.7%
	Yes, I had help from the home energy assessor	2	13.3%
	Yes, I had help from other program staff	3	20.0%
	No, I did not have help from any program staff	8	53.3%
How helpful was the program?	Not at all helpful	0	0.0%
	Slightly helpful	2	28.6%
	Moderately helpful	2	28.6%
	Helpful	1	14.3%
	Very helpful	2	28.6%

Source: The evaluation team

Table 29. Participant Survey – Installer Experience – Install 2

Question	Choices	Count	% of Participants
How easy was it to schedule follow-up visits to install the [INSTALL_2] in your home?	Very difficult	3	3.3%
	Difficult	3	3.3%
	Neither easy nor difficult	15	16.3%
	Easy	41	44.6%
	Very easy	30	32.6%
	Mean	4.0	
How much do you agree or disagree with the following statements about the follow-up visit to install [INSTALL_2] in your home?			
I scheduled the follow-up visit at a time that worked well for me.	Strongly disagree	0	0.0%
	Disagree	1	1.2%
	Neither agree nor disagree	6	7.1%
	Agree	41	48.2%
	Strongly agree	37	43.5%
	Mean	4.3	
The installer arrived on time.	Strongly disagree	0	0.0%
	Disagree	1	1.1%
	Neither agree nor disagree	5	5.7%
	Agree	44	50.6%
	Strongly agree	37	42.5%
	Mean	4.3	
The installer clearly explained what they were doing during the installation.	Strongly disagree	0	0.0%
	Disagree	2	2.4%
	Neither agree nor disagree	15	17.9%
	Agree	32	38.1%
	Strongly agree	35	41.7%
	Mean	4.2	
I understood the information I got from the installer after the installation.	Strongly disagree	0	0.0%
	Disagree	1	1.2%
	Neither agree nor disagree	10	11.6%
	Agree	40	46.5%
	Strongly agree	35	40.7%
	Mean	4.3	

The [INSTALL_2] was properly installed.	Strongly disagree	0	0.0%
	Disagree	1	1.1%
	Neither agree nor disagree	6	6.8%
	Agree	41	46.6%
	Strongly agree	40	45.5%
	Mean	4.4	
The [INSTALL_2] worked well after I participated in the service.	Strongly disagree	0	0.0%
	Disagree	3	3.3%
	Neither agree nor disagree	12	13.2%
	Agree	34	37.4%
	Strongly agree	42	46.2%
	Mean	4.3	

Source: The evaluation team

Table 30. Participant Survey – Installer Experience – Install 2 Support

Question	Choices	Count	% of Participants
Did you have help from the program to get the [INSTALL_2] working better?	Yes, I had help from the equipment installer	0	0.0%
	Yes, I had help from the home energy assessor	0	0.0%
	Yes, I had help from other program staff	0	0.0%
	No, I did not have help from any program staff	2	100.0%

Source: The evaluation team

Table 31. Participant Survey – Heat Pump Experience

Question	Choices	Count	% of Participants
How satisfied are you with how well the heat pump heats your home?	Not at all satisfied	0	0.0%
	Slightly satisfied	0	0.0%
	Moderately satisfied	1	8.3%
	Very satisfied	5	41.7%
	Extremely satisfied	6	50.0%
	My home did not receive a heat pump	0	0.0%
How satisfied are you with the costs to operate your home's heat pump?	Not at all satisfied	1	8.3%
	Slightly satisfied	0	0.0%
	Moderately satisfied	3	25.0%

	Very satisfied	5	41.7%
	Extremely satisfied	3	25.0%
How do you typically set your thermostat to control the heat pump?	I do not know how to use the thermostat	0	0.0%
	I set it to one temperature	6	50.0%
	I set it to adjust automatically	3	25.0%
	I set it to adjust automatically between a high and low temperature	6	50.0%
	I change the thermostat settings manually, by hand or smart phone, as needed	0	0.0%
	My landlord / property manager controls the thermostat	5	100.0%
How frequently do you manually adjust your thermostat in a day?	1-2 times	0	0.0%
	3-5 times	0	0.0%
	6 or more times	5	41.7%
Have you experienced any of the following changes since the heat pump(s) was installed?			5
Cost of energy bills	No change	2	16.7%
	Better	3	30.0%
	Worse	4	40.0%
Amount of energy used	No change	3	30.0%
	Better	0	0.0%
	Worse	11	91.7%
Comfort of home	No change	1	8.3%
	Better	5	41.7%
	Worse	7	58.3%
Ease of operating heating/cooling system	No change	0	0.0%
	Better	5	45.5%
	Worse	5	45.5%
Noise level of operating heating/cooling system	No change	1	9.1%
	Better	5	41.7%
	Worse	7	58.3%
Indoor air quality	No change	0	0.0%
	Better	3	27.3%
	Worse	7	63.6%

Home humidity in summer	No change	1	9.1%
	Better	0	0.0%
	Worse	0	0.0%

Source: The evaluation team

Table 32. Participant Survey – Satisfaction

Question	Choices	Count	% of Participants
Overall, is your home more, less, or just as comfortable after participating in the program?	More comfortable	244	64.0%
	Less comfortable	18	4.7%
	Just as comfortable	119	31.2%
How likely are you to recommend the program to a friend, family member, or neighbor?	Not at all likely	12	3.0%
	Slightly likely	9	2.3%
	Moderately likely	36	9.1%
	Very likely	142	35.9%
	Extremely likely	197	49.7%

Source: The evaluation team

Table 33. Participant Survey – Demographics

Question	Choices	Count	% of Participants
How many years have you lived in your current home?	One year or less	6	1.5%
	2-3 years	30	7.5%
	4-5 years	51	12.7%
	6-10 years	71	17.7%
	More than 10 years	244	60.7%
What language(s) do you speak at home?	English	390	96.3%
	Spanish	34	8.4%
	Portuguese/Cape Verdean	9	2.2%
	Mandarin	4	1.0%
	Cantonese	8	2.0%
	Haitian Creole	6	1.5%
	French	6	1.5%
	Arabic	3	0.7%
	Vietnamese	1	0.2%

	Russian	1	0.2%
	Hindi	1	0.2%
	Italian	2	0.5%
	Korean	0	0.0%
	Other, please specify	6	1.5%
What language do you speak most often at home?	English	35	68.6%
	Spanish	7	13.7%
	Portuguese/Cape Verdean	1	2.0%
	Mandarin	0	0.0%
	Cantonese	4	7.8%
	Haitian Creole	1	2.0%
	French	0	0.0%
	Arabic	1	2.0%
	Vietnamese	0	0.0%
	Russian	1	2.0%
	Hindi	1	2.0%
	Italian	0	0.0%
	Korean	0	0.0%
	Other, please specify	0	0.0%
What is your race/ethnicity?	White	285	75.8%
	Black or African American	54	14.4%
	American Indian or Alaska Native	13	3.5%
	Asian Indian	2	0.5%
	Chinese	12	3.2%
	Filipino	0	0.0%
	Japanese	0	0.0%
	Korean	0	0.0%
	Vietnamese	2	0.5%
	Hmong	0	0.0%
	Asian, please specify:	4	1.1%
	Native Hawaiian	0	0.0%
	Guamanian or Chamorro	0	0.0%
	Samoan	1	0.3%

	Pacific Islander	0	0.0%
	Somali	0	0.0%
	Latino, Hispanic, or of Spanish origin	42	11.2%
	Other, please specify:	10	2.7%

Source: The evaluation team

Participant Survey Tables by PA

Table 34. Participant Survey Screener - Termination Questions by PA

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
Our records show that your home had an energy assessment and received home improvements at no cost through the Mass Save Income Eligible Program. Is that correct?	Yes	4	100.0%	106	87.6%	186	85.3%	118	72.0%	3	60.0%	4	100.0%
	No	0	0.0%	4	3.3%	12	5.5%	28	17.1%	1	20.0%	0	0.0%
	Not sure	0	0.0%	11	9.1%	20	9.2%	18	11.0%	1	20.0%	0	0.0%
Which of the following best describes your experience with the Mass Save Income Eligible Program and energy assessments? Select all that apply. (Among terminated for not reporting having an assessment)	My home received an energy assessment, but someone else I live with participated in it	0	0.0%	0	0.0%	1	5.6%	0	0.0%	0	0.0%	0	0.0%
	My home received an assessment, but my landlord participated in it	0	0.0%	1	14.3%	0	0.0%	1	4.8%	0	0.0%	0	0.0%
	My home received an energy assessment, but not through the Mass Save Income Eligible Program	0	0.0%	0	0.0%	2	11.1%	1	4.8%	1	100.0%	0	0.0%
	My home did not receive an assessment	0	0.0%	2	28.6%	3	16.7%	9	42.9%	0	0.0%	0	0.0%
	I am unsure of what the Mass Save Income Eligible Program is	0	0.0%	0	0.0%	2	11.1%	4	19.0%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	I am unsure of what the energy assessment is or what that means	0	0.0%	1	14.3%	4	22.2%	2	9.5%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	3	42.9%	6	33.3%	5	23.8%	0	0.0%	0	0.0%
Is the home that got the assessment your primary residence?	Yes	3	75.0%	103	97.2%	182	97.8%	117	99.2%	3	100.0%	4	100.0%
	No	1	25.0%	3	2.8%	4	2.2%	1	0.8%	0	0.0%	0	0.0%
	Not sure	4	100.0%	87	82.1%	133	71.5%	88	74.6%	3	100.0%	3	75.0%
Do you own, rent, or manage the home that got the assessment and home improvements?	Own	0	0.0%	17	16.0%	46	24.7%	29	24.6%	0	0.0%	0	0.0%
	Rent	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%
	I manage the property	0	0.0%	1	0.9%	5	2.7%	1	0.8%	0	0.0%	0	0.0%
	Other	0	0.0%	1	0.9%	2	1.1%	0	0.0%	0	0.0%	0	0.0%
	Not sure	4	100.0%	106	87.6%	186	85.3%	118	72.0%	3	60.0%	4	100.0%

Source: The evaluation team

Table 35. Participant Survey Screener – Home Screener Questions by PA

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
What type of home is it?	Single-family house detached from any other house	3	75.0%	81	77.1%	124	68.9%	83	70.9%	3	100.0%	3	100.0%
	Single-family house attached to one or more houses	0	0.0%	4	3.8%	15	8.3%	10	8.5%	0	0.0%	0	0.0%
	Triple decker with 3 units	0	0.0%	0	0.0%	10	5.6%	5	4.3%	0	0.0%	0	0.0%
	Apartment or condo building with 2 to 4 units	1	25.0%	8	7.6%	19	10.6%	12	10.3%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	Apartment or condo building with 5 to 19 units	0	0.0%	6	5.7%	1	0.6%	2	1.7%	0	0.0%	0	0.0%
	Apartment or condo building with 20 or more units	0	0.0%	4	3.8%	0	0.0%	3	2.6%	0	0.0%	0	0.0%
	Mobile home or trailer	0	0.0%	1	1.0%	4	2.2%	0	0.0%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	1	1.0%	7	3.9%	2	1.7%	0	0.0%	0	0.0%
Are your home's energy bills for electricity, natural gas, or other fuel types included in your rental payment?	Yes, all energy bills are included	0	0.0%	2	11.8%	1	2.2%	2	6.9%	0	0.0%	0	0.0%
	Yes, some energy bills are included	0	0.0%	0	0.0%	0	0.0%	3	10.3%	0	0.0%	0	0.0%
	No, I pay the energy bills separately	0	0.0%	15	88.2%	45	97.8%	24	82.8%	0	0.0%	0	0.0%
Which energy bills are included in your rental payment? Please select all that apply.	Electric	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Natural gas	0	0.0%	0	0.0%	0	0.0%	2	66.7%	0	0.0%	0	0.0%
	Propane	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Fuel oil	0	0.0%	0	0.0%	0	0.0%	1	33.3%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
What fuel does your home's primary heating system use?	Electric	0	0.0%	27	26.2%	24	13.3%	17	14.5%	0	0.0%	0	0.0%
	Natural gas	3	75.0%	51	49.5%	102	56.7%	60	51.3%	1	33.3%	3	100.0%
	Propane	0	0.0%	7	6.8%	7	3.9%	6	5.1%	0	0.0%	0	0.0%
	Fuel oil	1	25.0%	15	14.6%	43	23.9%	32	27.4%	2	66.7%	0	0.0%
	Other, please specify	0	0.0%	3	2.9%	4	2.2%	2	1.7%	0	0.0%	0	0.0%
What fuel does your home's water heater use?	Electric	1	25.0%	29	28.2%	49	28.7%	33	29.2%	0	0.0%	2	66.7%
	Natural gas	3	75.0%	52	50.5%	97	56.7%	54	47.8%	2	100.0%	1	33.3%
	Propane	0	0.0%	7	6.8%	3	1.8%	3	2.7%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	Fuel oil	0	0.0%	12	11.7%	20	11.7%	23	20.4%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	3	2.9%	2	1.2%	0	0.0%	0	0.0%	0	0.0%

Source: The evaluation team

Table 36. Participant Survey Screener – Awareness and Motivation Questions by PA

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
How did you learn about the program? Select all that apply.	My landlord / property manager	0	0.0%	8	8.0%	3	1.7%	8	7.2%	0	0.0%	0	0.0%
	A flyer or other notice at my building	0	0.0%	2	2.0%	3	1.7%	5	4.5%	0	0.0%	0	0.0%
	A professional home energy assessor	0	0.0%	3	3.0%	12	6.9%	5	4.5%	0	0.0%	0	0.0%
	A Community Action Program agency	3	75.0%	19	19.0%	62	35.8%	34	30.6%	1	33.3%	0	0.0%
	A local government agency	0	0.0%	6	6.0%	16	9.2%	18	16.2%	0	0.0%	0	0.0%
	Previous experience with other utility services	0	0.0%	3	3.0%	14	8.1%	7	6.3%	0	0.0%	0	0.0%
	Previous experience with Mass Save services	0	0.0%	31	31.0%	35	20.2%	19	17.1%	1	33.3%	2	66.7%
	Social group text message (WhatsApp, WeMeet, Nextdoor, other)	0	0.0%	2	2.0%	1	0.6%	0	0.0%	0	0.0%	0	0.0%
	A family member or friend	2	50.0%	15	15.0%	25	14.5%	29	26.1%	0	0.0%	0	0.0%
	An internet search	0	0.0%	9	9.0%	7	4.0%	4	3.6%	0	0.0%	0	0.0%
	An ad from a Sponsor of Mass Save	1	25.0%	19	19.0%	25	14.5%	16	14.4%	1	33.3%	1	33.3%
	An ad from my utility	1	25.0%	12	12.0%	28	16.2%	11	9.9%	1	33.3%	0	0.0%
	Contacting my utility for help with something else and they told me about it	0	0.0%	5	5.0%	9	5.2%	7	6.3%	0	0.0%	0	0.0%
	A professional heating/cooling/insulation person	0	0.0%	5	5.0%	3	1.7%	2	1.8%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	The LEAN Statewide Customer Services Center (SCSC)	0	0.0%	1	1.0%	1	0.6%	1	0.9%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	3	3.0%	6	3.5%	3	2.7%	0	0.0%	0	0.0%
Who made the decision to participate in the program? Select all that apply.	I made the decision	0	0.0%	8	47.1%	35	76.1%	20	74.1%	0	0.0%	0	0.0%
	My landlord / property manager decided to participate	0	0.0%	5	29.4%	2	4.3%	4	14.8%	0	0.0%	0	0.0%
	My landlord / property manager and I decided together	0	0.0%	3	17.6%	8	17.4%	3	11.1%	0	0.0%	0	0.0%
	Someone else, please specify:	0	0.0%	1	5.9%	1	2.2%	0	0.0%	0	0.0%	0	0.0%
In the past three years, did you receive any other services offered by your utility or the Sponsors of Mass Save or participate in any other energy assistance programs? Select all that apply.	Received rebates, such as a rebate for heating and cooling equipment, insulation, lighting, and appliances	0	0.0%	12	12.5%	22	13.1%	11	10.1%	2	66.7%	0	0.0%
	Received a 0% interest loan for making energy efficient improvements to my home	0	0.0%	5	5.2%	1	0.6%	3	2.8%	1	33.3%	0	0.0%
	Completed an online energy assessment	0	0.0%	4	4.2%	13	7.7%	6	5.5%	1	33.3%	0	0.0%
	Received assistance to pay my winter energy bill	1	25.0%	47	49.0%	89	53.0%	52	47.7%	2	66.7%	0	0.0%
	Received a discounted electric or natural gas rate	1	25.0%	47	49.0%	87	51.8%	66	60.6%	1	33.3%	1	33.3%
	Enrolled in a payment plan to spread energy bill payments out over time	0	0.0%	10	10.4%	35	20.8%	18	16.5%	0	0.0%	0	0.0%
	Other, specify:	1	25.0%	3	3.1%	5	3.0%	3	2.8%	0	0.0%	0	0.0%
	None of the above	2	50.0%	21	21.9%	26	15.5%	18	16.5%	1	33.3%	2	66.7%
Why did you / your landlord decide to get a home energy assessment? Select all that apply.	To improve the air quality in my home	0	0.0%	14	13.6%	28	15.6%	17	14.9%	1	33.3%	1	33.3%
	To make my home safer for me or my family	2	50.0%	22	21.4%	56	31.3%	32	28.1%	1	33.3%	0	0.0%
	To increase my home's property value	1	25.0%	8	7.8%	22	12.3%	6	5.3%	0	0.0%	0	0.0%
	To improve my home's appearance	0	0.0%	4	3.9%	6	3.4%	3	2.6%	1	33.3%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	To address a health issue for my home's occupants	1	25.0%	7	6.8%	13	7.3%	4	3.5%	0	0.0%	0	0.0%
	To upgrade major equipment (like the furnace or air conditioner)	1	25.0%	23	22.3%	55	30.7%	29	25.4%	2	66.7%	0	0.0%
	To upgrade appliances (like a refrigerator or clothes washer)	1	25.0%	32	31.1%	61	34.1%	29	25.4%	1	33.3%	0	0.0%
	To make my home more comfortable	3	75.0%	35	34.0%	80	44.7%	38	33.3%	2	66.7%	0	0.0%
	It was free	4	100.0%	41	39.8%	87	48.6%	43	37.7%	0	0.0%	0	0.0%
	To address a specific issue(s) in my home	1	25.0%	21	20.4%	30	16.8%	15	13.2%	0	0.0%	0	0.0%
	To save energy to protect the environment	4	100.0%	55	53.4%	94	52.5%	47	41.2%	1	33.3%	1	33.3%
	To save money on my energy bills	4	100.0%	81	78.6%	147	82.1%	87	76.3%	3	100.0%	3	100.0%
	To learn about my home	1	25.0%	12	11.7%	30	16.8%	16	14.0%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	1	1.0%	3	1.7%	6	5.3%	0	0.0%	0	0.0%
What, if any, issue(s) did your home have before you participated in the program? Select all that apply.	I didn't have any issues with my home	0	0.0%	11	11.2%	10	5.6%	11	9.6%	1	33.3%	1	33.3%
	My energy bills were too high	2	50.0%	51	52.0%	104	58.1%	69	60.5%	2	66.7%	1	33.3%
	My home was drafty	3	75.0%	42	42.9%	85	47.5%	49	43.0%	1	33.3%	1	33.3%
	My doors and windows felt leaky	2	50.0%	26	26.5%	76	42.5%	34	29.8%	1	33.3%	1	33.3%
	My heating and/or cooling system ran frequently	2	50.0%	19	19.4%	40	22.3%	24	21.1%	1	33.3%	1	33.3%
	My heating and/or cooling system heated or cooled my home unevenly	1	25.0%	26	26.5%	44	24.6%	30	26.3%	1	33.3%	1	33.3%
	Some of my appliances were unreliable, broken, or didn't work well	0	0.0%	40	40.8%	74	41.3%	40	35.1%	1	33.3%	1	33.3%
	Other, please specify	1	25.0%	8	8.2%	15	8.4%	9	7.9%	0	0.0%	0	0.0%
Since participating in the program, which of the	My energy bills were too high	1	25.0%	30	37.0%	56	35.2%	43	43.4%	1	50.0%	1	50.0%
	My home was drafty	2	50.0%	29	35.8%	54	34.0%	28	28.3%	1	50.0%	1	50.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
issues you indicated have improved? Select all that apply.	My doors and windows felt leaky	2	50.0%	16	19.8%	35	22.0%	11	11.1%	0	0.0%	1	50.0%
	My heating and/or cooling system ran frequently	2	50.0%	14	17.3%	22	13.8%	12	12.1%	1	50.0%	1	50.0%
	My heating and/or cooling system heated or cooled my home unevenly	0	0.0%	14	17.3%	20	12.6%	12	12.1%	0	0.0%	0	0.0%
	Some of my appliances were unreliable, broken, or didn't work well	0	0.0%	33	40.7%	57	35.8%	33	33.3%	1	50.0%	0	0.0%
	Other, please specify	1	25.0%	6	7.4%	8	5.0%	7	7.1%	0	0.0%	0	0.0%
	None of the above	0	0.0%	12	14.8%	28	17.6%	12	12.1%	0	0.0%	0	0.0%
Did your home receive any of the following repairs or upgrades as part of this service? Select all that apply.	Knob and tube electrical wiring removal	1	33.3%	0	0.0%	11	10.7%	5	7.2%	0	0.0%	0	0.0%
	Electric panel upgrade	0	0.0%	2	2.9%	11	10.7%	4	5.8%	0	0.0%	0	0.0%
	Roof repair	0	0.0%	7	10.3%	3	2.9%	3	4.3%	0	0.0%	0	0.0%
	Asbestos removal	0	0.0%	0	0.0%	1	1.0%	1	1.4%	0	0.0%	0	0.0%
	Vermiculite removal	0	0.0%	0	0.0%	3	2.9%	1	1.4%	0	0.0%	0	0.0%
	Pest removal	0	0.0%	1	1.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Mold removal	0	0.0%	2	2.9%	1	1.0%	2	2.9%	0	0.0%	0	0.0%
	Basement moisture removal, including sump pump install	0	0.0%	1	1.5%	5	4.9%	1	1.4%	0	0.0%	0	0.0%
	Heating system/combustion safety repair	1	33.3%	16	23.5%	25	24.3%	25	36.2%	1	50.0%	0	0.0%
	Other, please specify	2	66.7%	44	64.7%	61	59.2%	41	59.4%	1	50.0%	1	100.0%
Were there any other issues in your home that you hoped the program would address, but did not?	No	1	25.0%	53	55.8%	66	44.3%	44	41.9%	0	0.0%	1	50.0%
	Yes, please specify	3	75.0%	42	44.2%	83	55.7%	61	58.1%	3	100.0%	1	50.0%

Source: The evaluation team

Table 37. Participant Survey – Enrollment and Scheduling Questions by PA

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
What steps in the energy assessment and home improvement process were you responsible for? Select all that apply.	Signing up for the program	0	0.0%	10	62.5%	30	75.0%	19	76.0%	0	0.0%	0	0.0%
	Scheduling the energy assessment	0	0.0%	7	43.8%	29	72.5%	15	60.0%	0	0.0%	0	0.0%
	Being home during the energy assessment	0	0.0%	9	56.3%	32	80.0%	20	80.0%	0	0.0%	0	0.0%
	Scheduling any follow up appointments	0	0.0%	4	25.0%	20	50.0%	9	36.0%	0	0.0%	0	0.0%
	Being home during any follow up appointments	0	0.0%	6	37.5%	22	55.0%	11	44.0%	0	0.0%	0	0.0%
	None of the above, the landlord / property manager was responsible	0	0.0%	4	25.0%	2	5.0%	2	8.0%	0	0.0%	0	0.0%
After you learned about the program, how did you sign up to participate?	A Community Action Program agency	4	100.0%	54	73.0%	121	82.9%	72	79.1%	1	33.3%	1	33.3%
	A Home Performance Contractor company	0	0.0%	8	10.8%	9	6.2%	8	8.8%	2	66.7%	2	66.7%
	Other, please specify:	0	0.0%	12	16.2%	16	11.0%	11	12.1%	0	0.0%	0	0.0%
How easy was it to schedule the energy assessment? Was it…	Very difficult	0	0.0%	3	3.2%	1	0.6%	2	1.9%	0	0.0%	0	0.0%
	Difficult	0	0.0%	6	6.5%	8	4.9%	6	5.8%	0	0.0%	0	0.0%
	Neither difficult nor easy	1	25.0%	14	15.1%	27	16.7%	23	22.3%	0	0.0%	0	0.0%
	Easy	2	50.0%	45	48.4%	62	38.3%	42	40.8%	3	100.0%	2	66.7%
	Very easy	1	25.0%	25	26.9%	64	39.5%	30	29.1%	0	0.0%	1	33.3%
About how long did you have to wait to have the assessment? Starting with when you signed up or completed paperwork…	Less than one month	0	0.0%	25	30.9%	60	44.4%	44	47.8%	1	33.3%	1	33.3%
	One to two months	2	100.0%	31	38.3%	47	34.8%	34	37.0%	2	66.7%	2	66.7%
	Three to six months	0	0.0%	19	23.5%	19	14.1%	8	8.7%	0	0.0%	0	0.0%
	Six to nine months	0	0.0%	1	1.2%	5	3.7%	3	3.3%	0	0.0%	0	0.0%
	More than nine months	0	0.0%	5	6.2%	4	3.0%	3	3.3%	0	0.0%	0	0.0%

Source: The evaluation team

Table 38. Participant Survey – Assessor Experience by PA

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
How much do you agree or disagree with the following statements about your home energy assessment?		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
I scheduled the assessment at a time that worked well for me.	Strongly disagree	0	0.0%	3	3.3%	1	0.6%	3	3.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	6	6.7%	10	6.4%	5	5.0%	0	0.0%	0	0.0%
	Agree	3	75.0%	38	42.2%	72	45.9%	46	46.0%	1	33.3%	2	66.7%
	Strongly agree	1	25.0%	43	47.8%	74	47.1%	46	46.0%	2	66.7%	1	33.3%
	Mean	4.3		4.3		4.4		4.3		4.7		4.3	
The assessor arrived on time.	Strongly disagree	0	0.0%	3	3.2%	2	1.2%	2	1.9%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	2	1.2%	0	0.0%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	3	3.2%	3	1.9%	5	4.8%	0	0.0%	0	0.0%
	Agree	3	75.0%	44	47.3%	76	46.9%	49	46.7%	1	33.3%	1	33.3%
	Strongly agree	1	25.0%	43	46.2%	79	48.8%	49	46.7%	2	66.7%	2	66.7%
	Mean	4.3		4.3		4.4		4.4		4.7		4.7	
The assessor clearly explained what they were doing during the assessment.	Strongly disagree	0	0.0%	6	6.3%	2	1.2%	3	2.9%	0	0.0%	0	0.0%
	Disagree	1	25.0%	1	1.1%	1	0.6%	5	4.8%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	6	6.3%	9	5.6%	6	5.7%	0	0.0%	0	0.0%
	Agree	2	50.0%	40	42.1%	76	46.9%	44	41.9%	2	66.7%	1	33.3%
	Strongly agree	1	25.0%	42	44.2%	74	45.7%	47	44.8%	1	33.3%	2	66.7%
	Mean	3.8		4.2		4.4		4.2		4.3		4.7	
I understood the information I got	Strongly disagree	0	0.0%	4	4.3%	2	1.2%	2	1.9%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
from the assessor after the assessment.	Disagree	0	0.0%	4	4.3%	0	0.0%	4	3.8%	1	33.3%	0	0.0%
	Neither agree nor disagree	1	25.0%	7	7.4%	9	5.5%	8	7.5%	0	0.0%	0	0.0%
	Agree	2	50.0%	44	46.8%	84	51.5%	50	47.2%	1	33.3%	2	66.7%
	Strongly agree	1	25.0%	35	37.2%	68	41.7%	42	39.6%	1	33.3%	1	33.3%
	Mean	4.0		4.1		4.3		4.2		3.7		4.3	
The assessor gave me recommendations about how to save energy in my home.	Strongly disagree	0	0.0%	5	5.4%	4	2.5%	5	4.8%	0	0.0%	0	0.0%
	Disagree	0	0.0%	5	5.4%	7	4.3%	6	5.7%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	7	7.6%	20	12.3%	10	9.5%	1	33.3%	0	0.0%
	Agree	3	75.0%	43	46.7%	69	42.6%	45	42.9%	1	33.3%	2	66.7%
	Strongly agree	1	25.0%	32	34.8%	62	38.3%	39	37.1%	1	33.3%	1	33.3%
	Mean	4.3		4.0		4.1		4.0		4.0		4.3	
The assessor gave me recommendations about how to lower my energy bills.	Strongly disagree	0	0.0%	5	5.4%	1	0.6%	4	3.9%	0	0.0%	0	0.0%
	Disagree	1	25.0%	9	9.8%	11	6.8%	7	6.9%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	10	10.9%	29	18.0%	13	12.7%	0	0.0%	1	33.3%
	Agree	2	50.0%	40	43.5%	62	38.5%	44	43.1%	3	100.0%	1	33.3%
	Strongly agree	1	25.0%	28	30.4%	58	36.0%	34	33.3%	0	0.0%	1	33.3%
	Mean	3.8		3.8		4.0		4.0		4.0		4.0	
The assessor told me about other programs or financial resources I might qualify for.	Strongly disagree	0	0.0%	6	6.7%	8	5.2%	5	5.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	12	13.5%	21	13.5%	16	16.0%	0	0.0%	0	0.0%
	Neither agree nor disagree	3	75.0%	18	20.2%	38	24.5%	17	17.0%	0	0.0%	1	33.3%
	Agree	1	25.0%	31	34.8%	47	30.3%	37	37.0%	3	100.0%	1	33.3%
	Strongly agree	0	0.0%	22	24.7%	41	26.5%	25	25.0%	0	0.0%	1	33.3%

Question	Choices	Berkshire	CLC	Eversource	NGrid	Unitil	HPC Data
	Mean	3.3	3.6	3.6	3.6	4.0	4.0

Source: The evaluation team

Table 39. Participant Survey – Installer Experience by PA – Install 1

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
How easy was it to schedule follow-up visits to install the [INSTALL_1] in your home?	Very difficult	0	0.0%	0	0.0%	3	3.2%	2	5.1%	0	0.0%	0	0.0%
	Difficult	1	25.0%	1	3.8%	4	4.2%	5	12.8%	0	0.0%	0	0.0%
	Neither easy nor difficult	1	25.0%	3	11.5%	16	16.8%	8	20.5%	0	0.0%	0	0.0%
	Easy	2	50.0%	12	46.2%	50	52.6%	14	35.9%	1	50.0%	0	0.0%
	Very easy	0	0.0%	10	38.5%	22	23.2%	10	25.6%	1	50.0%	0	0.0%
	Mean	3.3		4.2		3.9		3.6		4.5		N/A	
How much do you agree or disagree with the following statements about the follow-up visit to install [INSTALL_1] in your home?													
I scheduled the follow-up visit at a time that worked well for me.	Strongly disagree	0	0.0%	0	0.0%	3	3.1%	1	2.8%	0	0.0%	0	0.0%
	Disagree	0	0.0%	1	4.3%	1	1.0%	5	13.9%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	2	8.7%	12	12.5%	2	5.6%	0	0.0%	0	0.0%
	Agree	4	100.0%	10	43.5%	49	51.0%	19	52.8%	2	100.0%	0	0.0%
	Strongly agree	0	0.0%	10	43.5%	31	32.3%	9	25.0%	0	0.0%	0	0.0%
	Mean	4.0		4.3		4.1		3.8		4.0		N/A	

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
The installer arrived on time.	Strongly disagree	0	0.0%	0	0.0%	3	3.0%	0	0.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	1	4.0%	2	2.0%	0	0.0%	0	0.0%	0	0.0%
	Neither agree nor disagree	1	25.0%	1	4.0%	3	3.0%	7	17.1%	0	0.0%	0	0.0%
	Agree	3	75.0%	12	48.0%	54	54.0%	21	51.2%	2	100.0%	0	0.0%
	Strongly agree	0	0.0%	11	44.0%	38	38.0%	13	31.7%	0	0.0%	0	0.0%
	Mean	3.8		4.3		4.2		4.1		4.0		N/A	
The installer clearly explained what they were doing during the installation.	Strongly disagree	0	0.0%	0	0.0%	5	5.1%	1	2.4%	0	0.0%	0	0.0%
	Disagree	1	25.0%	0	0.0%	6	6.1%	1	2.4%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	4	16.7%	8	8.1%	12	29.3%	1	50.0%	0	0.0%
	Agree	3	75.0%	9	37.5%	46	46.5%	16	39.0%	1	50.0%	0	0.0%
	Strongly agree	0	0.0%	11	45.8%	34	34.3%	11	26.8%	0	0.0%	0	0.0%
	Mean	3.5		4.3		4.0		3.9		3.5		N/A	
I understood the information I got from the installer after the installation.	Strongly disagree	0	0.0%	0	0.0%	3	3.0%	1	2.4%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	5	5.0%	1	2.4%	0	0.0%	0	0.0%
	Neither agree nor disagree	1	25.0%	3	12.5%	8	7.9%	9	22.0%	1	100.0%	0	0.0%
	Agree	3	75.0%	11	45.8%	54	53.5%	16	39.0%	0	0.0%	0	0.0%
	Strongly agree	0	0.0%	10	41.7%	31	30.7%	14	34.1%	0	0.0%	0	0.0%
	Mean	3.8		4.3		4.0		4.0		3.0		3.8	
The [INSTALL_1] was properly installed.	Strongly disagree	0	0.0%	0	0.0%	3	3.3%	1	2.4%	0	0.0%	0	0.0%
	Disagree	0	0.0%	1	4.0%	9	9.8%	0	0.0%	0	0.0%	0	0.0%
	Neither agree nor disagree	2	50.0%	1	4.0%	9	9.8%	5	12.2%	0	0.0%	0	0.0%
	Agree	2	50.0%	11	44.0%	38	41.3%	17	41.5%	2	100.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	Strongly agree	0	0.0%	12	48.0%	33	35.9%	18	43.9%	0	0.0%	0	0.0%
	Mean	3.5		4.4		4.0		4.2		4.0		N/A	
The [INSTALL_1] worked well after I participated in the service.	Strongly disagree	0	0.0%	0	0.0%	3	3.2%	2	4.7%	0	0.0%	0	0.0%
	Disagree	0	0.0%	1	3.7%	9	9.7%	1	2.3%	0	0.0%	0	0.0%
	Neither agree nor disagree	0	0.0%	1	3.7%	7	7.5%	4	9.3%	1	50.0%	0	0.0%
	Agree	4	100.0%	11	40.7%	38	40.9%	19	44.2%	1	50.0%	0	0.0%
	Strongly agree	0	0.0%	14	51.9%	36	38.7%	17	39.5%	0	0.0%	0	0.0%
	Mean	4.0		4.4		4.0		4.1		3.5		N/A	

Source: The evaluation team

Table 40. Participant Survey – Installer Experience by PA – Install 1 Support

Question	Choices	CLC		Eversource		NGrid	
		Count	% of PA	Count	% of PA	Count	% of PA
Did you have help from the program to get the [INSTALL_1] properly installed?	Yes, I had help from the equipment installer	0	0.0%	4	36.4%	1	100.0%
	Yes, I had help from the home energy assessor	0	0.0%	0	0.0%	0	0.0%
	Yes, I had help from other program staff	0	0.0%	4	36.4%	0	0.0%
	No, I did not have help from any program staff	1	100.0%	5	45.5%	0	0.0%
How helpful was the program?	Not at all helpful	0	0.0%	0	0.0%	1	100.0%
	Slightly helpful	0	0.0%	0	0.0%	0	0.0%
	Moderately helpful	0	0.0%	1	16.7%	0	0.0%
	Helpful	0	0.0%	1	16.7%	0	0.0%
	Very helpful	0	0.0%	4	66.7%	0	0.0%
	I did not ask program staff for help	0		0.0%		0	

Question	Choices	CLC		Eversource		NGrid	
Did you have help from the program to get the [INSTALL_1] properly installed?	Yes, I had help from the equipment installer	0	0.0%	4	33.3%	0	0.0%
	Yes, I had help from the home energy assessor	0	0.0%	2	16.7%	0	0.0%
	Yes, I had help from other program staff	0	0.0%	2	16.7%	1	33.3%
	No, I did not have help from any program staff	0	0.0%	6	50.0%	2	66.7%
How helpful was the program?	Not at all helpful	0	0.0%	0	0.0%	0	0.0%
	Slightly helpful	0	0.0%	2	33.3%	0	0.0%
	Moderately helpful	0	0.0%	2	33.3%	0	0.0%
	Helpful	0	0.0%	0	0.0%	1	100.0%
	Very helpful	0	0.0%	2	33.3%	0	0.0%

Source: The evaluation team

Table 41. Participant Survey – Installer Experience by PA – Install 2

Question	Choices	Berkshire		CLC		Eversource		NGrid	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
How easy was it to schedule follow-up visits to install the [INSTALL_2] in your home?	Very difficult	0	0.0%	0	0.0%	2	2.7%	1	25.0%
	Difficult	0	0.0%	1	7.7%	1	1.4%	1	25.0%
	Neither easy nor difficult	0	0.0%	2	15.4%	13	17.6%	0	0.0%
	Easy	1	100.0%	7	53.8%	31	41.9%	2	50.0%
	Very easy	0	0.0%	3	23.1%	27	36.5%	0	0.0%
	Mean	4.0		3.9		4.1		2.8	
How much do you agree or disagree with the following statements about the follow-up visit to install [INSTALL_2] in your home?									
I scheduled the follow-up visit at a time that worked well for me.	Strongly disagree	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	1	1.5%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid	
	Neither agree nor disagree	1	50.0%	0	0.0%	4	5.9%	1	25.0%
	Agree	1	50.0%	4	36.4%	35	51.5%	1	25.0%
	Strongly agree	0	0.0%	7	63.6%	28	41.2%	2	50.0%
	Mean	3.5		4.6		4.3		4.3	
The installer arrived on time.	Strongly disagree	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	0	0.0%	1	25.0%
	Neither agree nor disagree	1	50.0%	0	0.0%	4	5.8%	0	0.0%
	Agree	1	50.0%	7	58.3%	35	50.7%	1	25.0%
	Strongly agree	0	0.0%	5	41.7%	30	43.5%	2	50.0%
	Mean	3.5		4.4		4.4		4.0	
The installer clearly explained what they were doing during the installation.	Strongly disagree	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	2	3.0%	0	0.0%
	Neither agree nor disagree	2	100.0%	1	9.1%	12	17.9%	0	0.0%
	Agree	0	0.0%	4	36.4%	25	37.3%	3	75.0%
	Strongly agree	0	0.0%	6	54.5%	28	41.8%	1	25.0%
	Mean	3.0		4.5		4.2		4.3	
I understood the information I got from the installer after the installation.	Strongly disagree	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	1	1.4%	0	0.0%
	Neither agree nor disagree	1	50.0%	1	9.1%	8	11.6%	0	0.0%
	Agree	1	50.0%	4	36.4%	32	46.4%	3	75.0%
	Strongly agree	0	0.0%	6	54.5%	28	40.6%	1	25.0%
	Mean	3.5		4.5		4.3		4.3	
	Strongly disagree	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid	
The [INSTALL_2] was properly installed.	Disagree	0	0.0%	0	0.0%	0	0.0%	1	25.0%
	Neither agree nor disagree	2	100.0%	0	0.0%	4	5.7%	0	0.0%
	Agree	0	0.0%	7	58.3%	32	45.7%	2	50.0%
	Strongly agree	0	0.0%	5	41.7%	34	48.6%	1	25.0%
	Mean	3.0		4.4		4.4		3.8	
The [INSTALL_2] worked well after I participated in the service.	Strongly disagree	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%	3	4.2%	0	0.0%
	Neither agree nor disagree	2	100.0%	2	15.4%	7	9.7%	1	25.0%
	Agree	0	0.0%	6	46.2%	26	36.1%	2	50.0%
	Strongly agree	0	0.0%	5	38.5%	36	50.0%	1	25.0%
	Mean	3.0		4.2		4.3		4.0	

Source: The evaluation team

Table 42. Participant Survey – Installer Experience by PA – Install 2 Support

Question	Choices	CLC		Eversource		NGrid	
		Count	% of PA	Count	% of PA	Count	% of PA
Did you have help from the program to get the [INSTALL_2] properly installed?	No, I did not have help from any program staff	0	0.0%	0	0.0%	1	100.0%
Did you have help from the program to get the [INSTALL_2] working better?	Yes, I had help from the equipment installer	0	0.0%	0	0.0%	0	0.0%
	Yes, I had help from the home energy assessor	0	0.0%	0	0.0%	0	0.0%
	Yes, I had help from other program staff	0	0.0%	0	0.0%	0	0.0%
	No, I did not have help from any program staff	0	0.0%	0	0.0%	2	100.0%

Source: The evaluation team

Table 43. Participant Survey – Heat Pump Experience by PA

Question	Choices	CLC		Eversource	
		Count	% of PA	Count	% of PA
How satisfied are you with how well the heat pump heats your home?	Not at all satisfied	0	0.0%	0	0.0%
	Slightly satisfied	0	0.0%	0	0.0%
	Moderately satisfied	0	0.0%	1	9.1%
	Very satisfied	0	0.0%	5	45.5%
	Extremely satisfied	1	100.0%	5	45.5%
	My home did not receive a heat pump	0	0.0%	0	0.0%
How satisfied are you with the costs to operate your home's heat pump?	Not at all satisfied	1	100.0%	2	18.2%
	Slightly satisfied	0	0.0%	0	0.0%
	Moderately satisfied	1	100.0%	5	45.5%
	Very satisfied	0	0.0%	3	27.3%
	Extremely satisfied	1	100.0%	5	45.5%
How do you typically set your thermostat to control the heat pump?	I do not know how to use the thermostat	0	0.0%	0	0.0%
	I set it to one temperature	0	0.0%	0	0.0%
	I set it to adjust automatically	0	0.0%	0	0.0%
	I set it to adjust automatically between a high and low temperature	0	0.0%	1	9.1%
	I change the thermostat settings manually, by hand or smart phone, as needed	0	0.0%	5	45.5%
	My landlord / property manager controls the thermostat	1	100.0%	5	45.5%
How frequently do you manually adjust your thermostat in a day?	1-2 times	1	100.0%	4	100.0%
	3-5 times	0	0.0%	0	0.0%

Question	Choices	CLC		Eversource	
	6 or more times	0	0.0%	0	0.0%
Have you experienced any of the following changes since the heat pump(s) was installed?					
Cost of energy bills	No change	0	0.0%	5	45.5%
	Better	1	100.0%	4	36.4%
	Worse	0	0.0%	2	18.2%
Amount of energy used	No change	0	0.0%	3	33.3%
	Better	1	100.0%	3	33.3%
	Worse	0	0.0%	3	33.3%
Comfort of home	No change	0	0.0%	0	0.0%
	Better	1	100.0%	10	90.9%
	Worse	0	0.0%	1	9.1%
Ease of operating heating/cooling system	No change	0	0.0%	5	45.5%
	Better	1	100.0%	6	54.5%
	Worse	0	0.0%	0	0.0%
Noise level of operating heating/cooling system	No change	1	100.0%	4	40.0%
	Better	0	0.0%	5	50.0%
	Worse	0	0.0%	1	10.0%
Indoor air quality	No change	1	100.0%	4	36.4%
	Better	0	0.0%	7	63.6%
	Worse	0	0.0%	0	0.0%
Home humidity in summer	No change	1	100.0%	2	20.0%
	Better	0	0.0%	7	70.0%

Question	Choices	CLC		Eversource	
		0	0.0%	1	10.0%

Source: The evaluation team

Table 44. Participant Survey – Satisfaction by PA

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
Overall, is your home more, less, or just as comfortable after participating in the program?	More comfortable	3	75.0%	63	61.8%	107	66.0%	67	62.6%	2	66.7%	2	66.7%
	Less comfortable	0	0.0%	8	7.8%	5	3.1%	5	4.7%	0	0.0%	0	0.0%
	Just as comfortable	1	25.0%	31	30.4%	50	30.9%	35	32.7%	1	33.3%	1	33.3%
How likely are you to recommend the program to a friend, family member, or neighbor?	Not at all likely	0	0.0%	7	6.9%	2	1.1%	3	2.8%	0	0.0%	0	0.0%
	Slightly likely	0	0.0%	2	2.0%	4	2.3%	3	2.8%	0	0.0%	0	0.0%
	Moderately likely	0	0.0%	10	9.8%	14	8.0%	11	10.1%	1	33.3%	0	0.0%
	Very likely	3	75.0%	38	37.3%	62	35.4%	37	33.9%	1	33.3%	1	33.3%
	Extremely likely	1	25.0%	45	44.1%	93	53.1%	55	50.5%	1	33.3%	2	66.7%

Source: The evaluation team

Table 45. Participant Survey – Demographics by PA

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
		Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA	Count	% of PA
How many years have you lived in your current home?	One year or less	0	0.0%	0	0.0%	4	2.3%	2	1.8%	0	0.0%	0	0.0%
	2-3 years	1	25.0%	5	4.9%	12	6.8%	11	9.7%	0	0.0%	1	33.3%
	4-5 years	1	25.0%	15	14.6%	17	9.7%	18	15.9%	0	0.0%	0	0.0%
	6-10 years	0	0.0%	16	15.5%	33	18.8%	21	18.6%	0	0.0%	1	33.3%
	More than 10 years	2	50.0%	67	65.0%	110	62.5%	61	54.0%	3	100.0%	1	33.3%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
What language(s) do you speak at home?	English	4	100.0%	103	99.0%	167	94.4%	110	96.5%	3	100.0%	3	100.0%
	Spanish	0	0.0%	1	1.0%	18	10.2%	15	13.2%	0	0.0%	0	0.0%
	Portuguese/Cape Verdean	0	0.0%	1	1.0%	6	3.4%	2	1.8%	0	0.0%	0	0.0%
	Mandarin	0	0.0%	0	0.0%	2	1.1%	2	1.8%	0	0.0%	0	0.0%
	Cantonese	0	0.0%	0	0.0%	5	2.8%	3	2.6%	0	0.0%	0	0.0%
	Haitian Creole	0	0.0%	0	0.0%	5	2.8%	1	0.9%	0	0.0%	0	0.0%
	French	0	0.0%	2	1.9%	3	1.7%	1	0.9%	0	0.0%	0	0.0%
	Arabic	0	0.0%	1	1.0%	1	0.6%	0	0.0%	0	0.0%	1	33.3%
	Vietnamese	0	0.0%	0	0.0%	1	0.6%	0	0.0%	0	0.0%	0	0.0%
	Russian	0	0.0%	0	0.0%	1	0.6%	0	0.0%	0	0.0%	0	0.0%
	Hindi	0	0.0%	0	0.0%	0	0.0%	1	0.9%	0	0.0%	0	0.0%
	Italian	0	0.0%	1	1.0%	1	0.6%	0	0.0%	0	0.0%	0	0.0%
	Korean	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	1	1.0%	2	1.1%	3	2.6%	0	0.0%	0	0.0%
What language do you speak most often at home?	English	0	0.0%	3	100.0%	18	66.7%	13	65.0%	0	0.0%	1	100.0%
	Spanish	0	0.0%	0	0.0%	4	14.8%	3	15.0%	0	0.0%	0	0.0%
	Portuguese/Cape Verdean	0	0.0%	0	0.0%	0	0.0%	1	5.0%	0	0.0%	0	0.0%
	Mandarin	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Cantonese	0	0.0%	0	0.0%	2	7.4%	2	10.0%	0	0.0%	0	0.0%
	Haitian Creole	0	0.0%	0	0.0%	1	3.7%	0	0.0%	0	0.0%	0	0.0%
	French	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Arabic	0	0.0%	0	0.0%	1	3.7%	0	0.0%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	Vietnamese	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Russian	0	0.0%	0	0.0%	1	3.7%	0	0.0%	0	0.0%	0	0.0%
	Hindi	0	0.0%	0	0.0%	0	0.0%	1	5.0%	0	0.0%	0	0.0%
	Italian	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Korean	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
What is your race/ethnicity?	White	4	100.0%	89	92.7%	111	68.5%	77	71.3%	3	100.0%	1	33.3%
	Black or African American	0	0.0%	8	8.3%	33	20.4%	12	11.1%	0	0.0%	1	33.3%
	American Indian or Alaska Native	0	0.0%	5	5.2%	4	2.5%	3	2.8%	0	0.0%	1	33.3%
	Asian Indian	0	0.0%	0	0.0%	0	0.0%	2	1.9%	0	0.0%	0	0.0%
	Chinese	0	0.0%	0	0.0%	6	3.7%	6	5.6%	0	0.0%	0	0.0%
	Filipino	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Japanese	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Korean	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Vietnamese	0	0.0%	0	0.0%	2	1.2%	0	0.0%	0	0.0%	0	0.0%
	Hmong	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Asian, please specify:	0	0.0%	1	1.0%	1	0.6%	2	1.9%	0	0.0%	0	0.0%
	Native Hawaiian	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Guamanian or Chamorro	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Samoan	0	0.0%	0	0.0%	0	0.0%	1	0.9%	0	0.0%	0	0.0%
	Pacific Islander	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Somali	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Question	Choices	Berkshire		CLC		Eversource		NGrid		Unitil		HPC Data	
	Latino, Hispanic, or of Spanish origin	0	0.0%	4	4.2%	18	11.1%	19	17.6%	0	0.0%	1	33.3%
	Other, please specify:	0	0.0%	1	1.0%	6	3.7%	2	1.9%	0	0.0%	1	33.3%

Source: The evaluation team

Participant Survey Tables by Owner/Renter Status

Table 46. Participant Survey Screener - Termination Questions by Owner/Renter Status

Question	Choices	Own		Rent	
		Count	% of Owners	Count	% of Renters
Our records show that your home had an energy assessment and received home improvements at no cost through the Mass Save Income Eligible Program. Is that correct?	Yes	318	100.0%	92	100.0%
	No	0	0.0%	0	0.0%
	Not sure	0	0.0%	0	0.0%
Is the home that got the assessment your primary residence?	Yes	313	98.4%	90	97.8%
	No	5	1.6%	2	2.2%
Do you own, rent, or manage the home that got the assessment and home improvements?	Own	318	100.0%	0	0.0%
	Rent	0	0.0%	92	100.0%
	I manage the property	0	0.0%	0	0.0%
	Other	0	0.0%	0	0.0%
	Not sure	0	0.0%	0	0.0%

Source: The evaluation team

Table 47. Participant Survey Screener – Home Screener Questions by Owner/Renter Status

Question	Choices	Own		Rent	
		Count	% of Owners	Count	% of Renters
What type of home is it?	Single-family house detached from any other house	274	86.2%	22	23.9%
	Single-family house attached to one or more houses	13	4.1%	16	17.4%
	Triple decker with 3 units	4	1.3%	11	12.0%
	Apartment or condo building with 2 to 4 units	12	3.8%	28	30.4%

Question	Choices	Own		Rent	
	Apartment or condo building with 5 to 19 units	3	0.9%	6	6.5%
	Apartment or condo building with 20 or more units	1	0.3%	6	6.5%
	Mobile home or trailer	5	1.6%	0	0.0%
	Other, please specify	6	1.9%	3	3.3%
Are your home's energy bills for electricity, natural gas, or other fuel types included in your rental payment?	Yes, all energy bills are included	0	0.0%	5	5.4%
	Yes, some energy bills are included	0	0.0%	3	3.3%
	No, I pay the energy bills separately	0	0.0%	84	91.3%
Which energy bills are included in your rental payment? Please select all that apply.	Electric	0	0.0%	0	0.0%
	Natural gas	0	0.0%	2	66.7%
	Propane	0	0.0%	0	0.0%
	Fuel oil	0	0.0%	1	33.3%
	Other, please specify	0	0.0%	0	0.0%
What fuel does your home's primary heating system use?	Electric	43	13.6%	24	26.4%
	Natural gas	165	52.1%	54	59.3%
	Propane	17	5.4%	3	3.3%
	Fuel oil	84	26.5%	9	9.9%
	Other, please specify	8	2.5%	1	1.1%
What fuel does your home's water heater use?	Electric	94	30.1%	20	24.4%
	Natural gas	155	49.7%	52	63.4%
	Propane	9	2.9%	4	4.9%
	Fuel oil	50	16.0%	5	6.1%
	Other, please specify	4	1.3%	1	1.2%

Source: The evaluation team

Table 48. Participant Survey Screener – Awareness and Motivation Questions by Owner/Renter Status

Question	Choices	Own		Rent	
		Count	% of Owners	Count	% of Renters
	My landlord / property manager	0	0.0%	19	22.4%

Question	Choices	Own		Rent	
How did you learn about the program? Select all that apply.	A flyer or other notice at my building	0	0.0%	10	11.8%
	A professional home energy assessor	15	4.9%	5	5.9%
	A Community Action Program agency	92	30.0%	26	30.6%
	A local government agency	32	10.4%	8	9.4%
	Previous experience with other utility services	22	7.2%	2	2.4%
	Previous experience with Mass Save services	79	25.7%	8	9.4%
	Social group text message (WhatsApp, WeMeet, Nextdoor, other)	3	1.0%	0	0.0%
	A family member or friend	60	19.5%	10	11.8%
	An internet search	16	5.2%	4	4.7%
	An ad from a Sponsor of Mass Save	53	17.3%	10	11.8%
	An ad from my utility	44	14.3%	9	10.6%
	Contacting my utility for help with something else and they told me about it	15	4.9%	5	5.9%
	A professional heating/cooling/insulation person	9	2.9%	1	1.2%
	The LEAN Statewide Customer Services Center (SCSC)	2	0.7%	1	1.2%
	Other, please specify	10	3.3%	2	2.4%
Who made the decision to participate in the program? Select all that apply.	I made the decision	0	0.0%	63	70.0%
	My landlord / property manager decided to participate	0	0.0%	11	12.2%
	My landlord / property manager and I decided together	0	0.0%	14	15.6%
	Someone else, please specify:	0	0.0%	2	2.2%
In the past three years, did you receive any other services offered by your utility or the Sponsors of Mass Save or participate in any other energy assistance programs? Select all that apply.	Received rebates, such as a rebate for heating and cooling equipment, insulation, lighting, and appliances	43	14.4%	3	3.7%
	Received a 0% interest loan for making energy efficient improvements to my home	8	2.7%	1	1.2%
	Completed an online energy assessment	17	5.7%	7	8.5%
	Received assistance to pay my winter energy bill	156	52.2%	35	42.7%
	Received a discounted electric or natural gas rate	168	56.2%	35	42.7%
	Enrolled in a payment plan to spread energy bill payments out over time	40	13.4%	23	28.0%
	Other, specify:	11	3.7%	1	1.2%
	None of the above	49	16.4%	21	25.6%

Question	Choices	Own		Rent	
Why did you / your landlord decide to get a home energy assessment? Select all that apply.	To improve the air quality in my home	51	16.0%	10	11.6%
	To make my home safer for me or my family	92	28.9%	19	22.1%
	To increase my home's property value	35	11.0%	2	2.3%
	To improve my home's appearance	11	3.5%	3	3.5%
	To address a health issue for my home's occupants	21	6.6%	4	4.7%
	To upgrade major equipment (like the furnace or air conditioner)	97	30.5%	12	14.0%
	To upgrade appliances (like a refrigerator or clothes washer)	96	30.2%	28	32.6%
	To make my home more comfortable	134	42.1%	22	25.6%
	It was free	136	42.8%	38	44.2%
	To address a specific issue(s) in my home	57	17.9%	9	10.5%
	To save energy to protect the environment	163	51.3%	37	43.0%
	To save money on my energy bills	263	82.7%	60	69.8%
	To learn about my home	50	15.7%	9	10.5%
	Other, please specify	6	1.9%	4	4.7%
What, if any, issue(s) did your home have before you participated in the program? Select all that apply.	I didn't have any issues with my home	18	5.8%	15	17.0%
	My energy bills were too high	180	57.9%	49	55.7%
	My home was drafty	145	46.6%	35	39.8%
	My doors and windows felt leaky	112	36.0%	27	30.7%
	My heating and/or cooling system ran frequently	76	24.4%	11	12.5%
	My heating and/or cooling system heated or cooled my home unevenly	82	26.4%	20	22.7%
	Some of my appliances were unreliable, broken, or didn't work well	117	37.6%	39	44.3%
	Other, please specify	30	9.6%	3	3.4%
Since participating in the program, which of the issues you indicated have improved? Select all that apply.	My energy bills were too high	110	39.4%	22	32.8%
	My home was drafty	102	36.6%	13	19.4%
	My doors and windows felt leaky	57	20.4%	8	11.9%
	My heating and/or cooling system ran frequently	49	17.6%	3	4.5%
	My heating and/or cooling system heated or cooled my home unevenly	40	14.3%	5	7.5%

Question	Choices	Own		Rent	
	Some of my appliances were unreliable, broken, or didn't work well	93	33.3%	31	46.3%
	Other, please specify	22	7.9%	0	0.0%
	None of the above	38	13.6%	14	20.9%
Did your home receive any of the following repairs or upgrades as part of this service? Select all that apply.	Knob and tube electrical wiring removal	14	6.7%	2	5.9%
	Electric panel upgrade	15	7.1%	2	5.9%
	Roof repair	12	5.7%	1	2.9%
	Asbestos removal	2	1.0%	0	0.0%
	Vermiculite removal	4	1.9%	0	0.0%
	Pest removal	1	0.5%	0	0.0%
	Mold removal	4	1.9%	1	2.9%
	Basement moisture removal, including sump pump install	6	2.9%	1	2.9%
	Heating system/combustion safety repair	64	30.5%	4	11.8%
	Other, please specify	124	59.0%	25	73.5%
Were there any other issues in your home that you hoped the program would address, but did not?	No	114	41.0%	51	65.4%
	Yes, please specify	164	59.0%	27	34.6%

Source: The evaluation team

Table 49. Participant Survey – Enrollment and Scheduling Questions by Owner/Renter Status

Question	Choices	Own		Rent	
		Count	% of Owners	Count	% of Renters
What steps in the energy assessment and home improvement process were you responsible for? Select all that apply.	Signing up for the program	0	0.0%	59	72.8%
	Scheduling the energy assessment	0	0.0%	51	63.0%
	Being home during the energy assessment	0	0.0%	61	75.3%
	Scheduling any follow up appointments	0	0.0%	33	40.7%
	Being home during any follow up appointments	0	0.0%	39	48.1%
	None of the above, the landlord / property manager was responsible	0	0.0%	8	9.9%

Question	Choices	Own		Rent	
After you learned about the program, how did you sign up to participate?	A Community Action Program agency	210	78.4%	43	81.1%
	A Home Performance Contractor company	24	9.0%	5	9.4%
	Other, please specify:	34	12.7%	5	9.4%
How easy was it to schedule the energy assessment? Was it…	Very difficult	5	1.6%	1	2.0%
	Difficult	18	5.7%	2	3.9%
	Neither difficult nor easy	60	18.9%	5	9.8%
	Easy	137	43.2%	19	37.3%
	Very easy	97	30.6%	24	47.1%
About how long did you have to wait to have the assessment? Starting with when you signed up or completed paperwork…	Less than one month	112	41.2%	19	43.2%
	One to two months	99	36.4%	19	43.2%
	Three to six months	42	15.4%	4	9.1%
	Six to nine months	8	2.9%	1	2.3%
	More than nine months	11	4.0%	1	2.3%

Source: The evaluation team

Table 50. Participant Survey – Assessor Experience by Owner/Renter Status

Question	Choices	Own		Rent	
How much do you agree or disagree with the following statements about your home energy assessment?		Count	% of Owners	Count	% of Renters
I scheduled the assessment at a time that worked well for me.	Strongly disagree	6	2.0%	1	2.0%
	Disagree	0	0.0%	0	0.0%
	Neither agree nor disagree	19	6.2%	2	4.0%
	Agree	142	46.3%	20	40.0%
	Strongly agree	140	45.6%	27	54.0%
	Mean	4.3		4.4	

Question	Choices	Own		Rent	
The assessor arrived on time.	Strongly disagree	6	1.9%	1	1.6%
	Disagree	2	0.6%	0	0.0%
	Neither agree nor disagree	9	2.9%	2	3.3%
	Agree	145	46.9%	29	47.5%
	Strongly agree	147	47.6%	29	47.5%
	Mean	4.4		4.4	
The assessor clearly explained what they were doing during the assessment.	Strongly disagree	10	3.2%	1	1.6%
	Disagree	8	2.6%	0	0.0%
	Neither agree nor disagree	19	6.1%	2	3.3%
	Agree	136	43.7%	29	47.5%
	Strongly agree	138	44.4%	29	47.5%
	Mean	4.2		4.4	
I understood the information I got from the assessor after the assessment.	Strongly disagree	7	2.2%	1	1.6%
	Disagree	9	2.9%	0	0.0%
	Neither agree nor disagree	22	7.1%	3	4.9%
	Agree	151	48.4%	32	52.5%
	Strongly agree	123	39.4%	25	41.0%
	Mean	4.2		4.3	
The assessor gave me recommendations about how to save energy in my home.	Strongly disagree	13	4.2%	1	1.7%
	Disagree	14	4.5%	4	6.8%
	Neither agree nor disagree	34	11.0%	4	6.8%
	Agree	137	44.2%	26	44.1%
	Strongly agree	112	36.1%	24	40.7%
	Mean	4.0		4.2	

Question	Choices	Own		Rent	
The assessor gave me recommendations about how to lower my energy bills.	Strongly disagree	9	3.0%	1	1.7%
	Disagree	24	7.9%	4	6.7%
	Neither agree nor disagree	47	15.4%	6	10.0%
	Agree	127	41.6%	25	41.7%
	Strongly agree	98	32.1%	24	40.0%
	Mean		3.9		4.1
The assessor told me about other programs or financial resources I might qualify for.	Strongly disagree	16	5.4%	3	5.4%
	Disagree	43	14.4%	6	10.7%
	Neither agree nor disagree	66	22.1%	11	19.6%
	Agree	99	33.2%	21	37.5%
	Strongly agree	74	24.8%	15	26.8%
	Mean		3.6		3.7

Source: The evaluation team

Table 51. Participant Survey – Installer Experience by Owner/Renter Status – Install 1

Question	Choices	Own		Rent	
		Count	% of Owners	Count	% of Renters
How easy was it to schedule follow-up visits to install the [INSTALL_1] in your home?	Very difficult	5	3.4%	0	0.0%
	Difficult	10	6.8%	1	5.6%
	Neither easy nor difficult	24	16.2%	4	22.2%
	Easy	73	49.3%	6	33.3%
	Very easy	36	24.3%	7	38.9%
	Mean		3.8		4.1
How much do you agree or disagree with the following statements about the follow-up visit to install [INSTALL_1] in your home?					

Question	Choices	Own		Rent	
I scheduled the follow-up visit at a time that worked well for me.	Strongly disagree	4	2.8%	0	0.0%
	Disagree	6	4.2%	1	5.9%
	Neither agree nor disagree	14	9.7%	2	11.8%
	Agree	77	53.5%	7	41.2%
	Strongly agree	43	29.9%	7	41.2%
	Mean		4.0		4.2
The installer arrived on time.	Strongly disagree	3	2.0%	0	0.0%
	Disagree	3	2.0%	0	0.0%
	Neither agree nor disagree	10	6.6%	2	10.0%
	Agree	82	53.9%	10	50.0%
	Strongly agree	54	35.5%	8	40.0%
	Mean		4.2		4.3
The installer clearly explained what they were doing during the installation.	Strongly disagree	6	4.0%	0	0.0%
	Disagree	7	4.6%	1	5.3%
	Neither agree nor disagree	22	14.6%	3	15.8%
	Agree	68	45.0%	7	36.8%
	Strongly agree	48	31.8%	8	42.1%
	Mean		4.0		4.2
I understood the information I got from the installer after the installation.	Strongly disagree	4	2.6%	0	0.0%
	Disagree	5	3.3%	1	5.3%
	Neither agree nor disagree	20	13.2%	2	10.5%
	Agree	75	49.3%	9	47.4%
	Strongly agree	48	31.6%	7	36.8%

Question	Choices	Own		Rent	
	Mean	4.0		4.2	
The [INSTALL_1] was properly installed.	Strongly disagree	4	2.7%	0	0.0%
	Disagree	8	5.5%	2	11.1%
	Neither agree nor disagree	16	11.0%	1	5.6%
	Agree	61	41.8%	9	50.0%
	Strongly agree	57	39.0%	6	33.3%
	Mean	4.1		4.1	
The [INSTALL_1] worked well after I participated in the service.	Strongly disagree	4	2.7%	1	4.8%
	Disagree	9	6.1%	2	9.5%
	Neither agree nor disagree	12	8.1%	1	4.8%
	Agree	64	43.2%	9	42.9%
	Strongly agree	59	39.9%	8	38.1%
	Mean	4.1		4.0	

Source: The evaluation team

Table 52. Participant Survey – Installer Experience by Owner/Renter Status – Install 1 Support

Question	Count	% of Owners		Count	
		Count	% of Owners	Count	% of Renters
Did you have help from the program to get the [INSTALL_1] properly installed?	Yes, I had help from the equipment installer	4	36.4%	1	50.0%
	Yes, I had help from the home energy assessor	0	0.0%	0	0.0%
	Yes, I had help from other program staff	4	36.4%	0	0.0%
	No, I did not have help from any program staff	5	45.5%	1	50.0%
How helpful was the program?	Not at all helpful	1	16.7%	0	0.0%

Question	Count	% of Owners	Count	
	Slightly helpful	0	0.0%	0	0.0%
	Moderately helpful	1	16.7%	0	0.0%
	Helpful	1	16.7%	0	0.0%
	Very helpful	3	50.0%	1	100.0%
	I did not ask program staff for help	0		0.0%	
Did you have help from the program to get the [INSTALL_1] properly installed?	Yes, I had help from the equipment installer	4	33.3%	0	0.0%
	Yes, I had help from the home energy assessor	2	16.7%	0	0.0%
	Yes, I had help from other program staff	1	8.3%	2	66.7%
	No, I did not have help from any program staff	7	58.3%	1	33.3%
How helpful was the program?	Not at all helpful	0	0.0%	0	0.0%
	Slightly helpful	2	40.0%	0	0.0%
	Moderately helpful	2	40.0%	0	0.0%
	Helpful	0	0.0%	1	50.0%
	Very helpful	1	20.0%	1	50.0%

Source: The evaluation team

Table 53. Participant Survey – Installer Experience by Owner/Renter Status – Install 2

Question	Choices	Own		Rent	
		Count	% of Owners	Count	% of Renters
How easy was it to schedule follow-up visits to install the [INSTALL_2] in your home?	Very difficult	3	3.7%	0	0.0%
	Difficult	3	3.7%	0	0.0%
	Neither easy nor difficult	15	18.5%	0	0.0%
	Easy	36	44.4%	5	45.5%

Question	Choices	Own		Rent	
	Very easy	24	29.6%	6	54.5%
	Mean	3.9		4.5	
How much do you agree or disagree with the following statements about the follow-up visit to install [INSTALL_2] in your home?					
I scheduled the follow-up visit at a time that worked well for me.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.4%	0	0.0%
	Neither agree nor disagree	6	8.1%	0	0.0%
	Agree	35	47.3%	6	54.5%
	Strongly agree	32	43.2%	5	45.5%
	Mean	4.3		4.5	
The installer arrived on time.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.3%	0	0.0%
	Neither agree nor disagree	4	5.3%	1	9.1%
	Agree	38	50.0%	6	54.5%
	Strongly agree	33	43.4%	4	36.4%
	Mean	4.4		4.3	
The installer clearly explained what they were doing during the installation.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.4%	1	8.3%
	Neither agree nor disagree	11	15.3%	4	33.3%
	Agree	30	41.7%	2	16.7%
	Strongly agree	30	41.7%	5	41.7%
	Mean	4.2		3.9	
I understood the information I got from the installer after the installation.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.4%	0	0.0%

Question	Choices	Own		Rent	
	Neither agree nor disagree	7	9.5%	3	25.0%
	Agree	36	48.6%	4	33.3%
	Strongly agree	30	40.5%	5	41.7%
	Mean	4.3		4.2	
The [INSTALL_2] was properly installed.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.4%	0	0.0%
	Neither agree nor disagree	5	6.8%	1	7.1%
	Agree	35	47.3%	6	42.9%
	Strongly agree	33	44.6%	7	50.0%
	Mean	4.4		4.4	
The [INSTALL_2] worked well after I participated in the service.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	3	3.9%	0	0.0%
	Neither agree nor disagree	10	13.0%	2	14.3%
	Agree	29	37.7%	5	35.7%
	Strongly agree	35	45.5%	7	50.0%
	Mean	4.2		4.4	

Source: The evaluation team

Table 54. Participant Survey – Installer Experience by Owner/Renter Status – Install 2 Support

Question	Choices	Own		Rent	
		Count	% of Owner	Count	% of Renter
Did you have help from the program to get the [INSTALL_2] properly installed?	No, I did not have help from any program staff	1	100.0%	0	0.0%
Did you have help from the program to get the [INSTALL_2] working better?	Yes, I had help from the equipment installer	0	0.0%	0	0.0%

Question	Choices	Own		Rent	
	Yes, I had help from the home energy assessor	0	0.0%	0	0.0%
	Yes, I had help from other program staff	0	0.0%	0	0.0%
	No, I did not have help from any program staff	2	100.0%	0	0.0%

Source: The evaluation team

Table 55. Participant Survey – Heat Pump Experience by Owner/Renter Status

Question	Choices	Own		Rent	
		Count	% of Owner	Count	% of Renter
How satisfied are you with how well the heat pump heats your home?	Not at all satisfied	0	0.0%	0	0.0%
	Slightly satisfied	0	0.0%	0	0.0%
	Moderately satisfied	1	9.1%	0	0.0%
	Very satisfied	5	45.5%	0	0.0%
	Extremely satisfied	5	45.5%	1	100.0%
	My home did not receive a heat pump	0	0.0%	0	0.0%
How satisfied are you with the costs to operate your home's heat pump?	Not at all satisfied	2	18.2%	1	100.0%
	Slightly satisfied	0	0.0%	0	0.0%
	Moderately satisfied	5	45.5%	1	100.0%
	Very satisfied	2	18.2%	1	100.0%
	Extremely satisfied	6	54.5%	0	0.0%
How do you typically set your thermostat to control the heat pump?	I do not know how to use the thermostat	0	0.0%	0	0.0%
	I set it to one temperature	5	100.0%	0	0.0%
	I set it to adjust automatically	0	0.0%	0	0.0%

	I set it to adjust automatically between a high and low temperature	0	0.0%	0	0.0%
	I change the thermostat settings manually, by hand or smart phone, as needed	5	45.5%	0	0.0%
	My landlord / property manager controls the thermostat	4	36.4%	1	100.0%
How frequently do you manually adjust your thermostat in a day?	1-2 times	2	18.2%	0	0.0%
	3-5 times	3	33.3%	0	0.0%
	6 or more times	3	33.3%	1	100.0%
Have you experienced any of the following changes since the heat pump(s) was installed?			3	33.3%	0
Cost of energy bills	No change	0	0.0%	0	0.0%
	Better	10	90.9%	1	100.0%
	Worse	1	9.1%	0	0.0%
Amount of energy used	No change	5	45.5%	0	0.0%
	Better	6	54.5%	1	100.0%
	Worse	0	0.0%	0	0.0%
Comfort of home	No change	5	50.0%	0	0.0%
	Better	4	40.0%	1	100.0%
	Worse	1	10.0%	0	0.0%
Ease of operating heating/cooling system	No change	5	45.5%	0	0.0%
	Better	6	54.5%	1	100.0%
	Worse	0	0.0%	0	0.0%
Noise level of operating heating/cooling system	No change	3	30.0%	0	0.0%
	Better	6	60.0%	1	100.0%
	Worse	1	10.0%	0	0.0%

Indoor air quality	No change	0	0.0%	0	0.0%
	Better	0	0.0%	0	0.0%
	Worse	1	9.1%	0	0.0%
Home humidity in summer	No change	5	45.5%	0	0.0%
	Better	5	45.5%	1	100.0%
		0	0.0%	0	0.0%

Source: The evaluation team

Table 56. Participant Survey – Satisfaction by Owner/Renter Status

Question	Choices	Own		Rent	
		Count	% of Owner	Count	% of Renter
Overall, is your home more, less, or just as comfortable after participating in the program?	More comfortable	204	67.8%	39	50.0%
	Less comfortable	12	4.0%	6	7.7%
	Just as comfortable	85	28.2%	33	42.3%
How likely are you to recommend the program to a friend, family member, or neighbor?	Not at all likely	9	2.9%	3	3.4%
	Slightly likely	7	2.3%	2	2.3%
	Moderately likely	25	8.2%	11	12.5%
	Very likely	111	36.3%	31	35.2%
	Extremely likely	154	50.3%	41	46.6%

Source: The evaluation team

Table 57. Participant Survey – Demographics by Owner/Renter Status

Question	Choices	Own		Rent	
		Count	% of Owner	Count	% of Renter
How many years have you lived in your current home?	One year or less	3	1.0%	3	3.4%
	2-3 years	24	7.7%	6	6.9%
	4-5 years	29	9.3%	22	25.3%
	6-10 years	46	14.7%	24	27.6%
	More than 10 years	211	67.4%	32	36.8%
What language(s) do you speak at home?	English	299	95.8%	89	97.8%
	Spanish	19	6.1%	15	16.5%
	Portuguese/Cape Verdean	7	2.2%	2	2.2%
	Mandarin	4	1.3%	0	0.0%
	Cantonese	6	1.9%	2	2.2%
	Haitian Creole	3	1.0%	3	3.3%
	French	2	0.6%	4	4.4%
	Arabic	3	1.0%	0	0.0%
	Vietnamese	1	0.3%	0	0.0%
	Russian	1	0.3%	0	0.0%
	Hindi	1	0.3%	0	0.0%
	Italian	2	0.6%	0	0.0%
	Korean	0	0.0%	0	0.0%
	Other, please specify	3	1.0%	3	3.3%
What language do you speak most often at home?	English	20	66.7%	15	71.4%
	Spanish	3	10.0%	4	19.0%

Question	Choices	Own		Rent	
	Portuguese/Cape Verdean	0	0.0%	1	4.8%
	Mandarin	0	0.0%	0	0.0%
	Cantonese	3	10.0%	1	4.8%
	Haitian Creole	1	3.3%	0	0.0%
	French	0	0.0%	0	0.0%
	Arabic	1	3.3%	0	0.0%
	Vietnamese	0	0.0%	0	0.0%
	Russian	1	3.3%	0	0.0%
	Hindi	1	3.3%	0	0.0%
	Italian	0	0.0%	0	0.0%
	Korean	0	0.0%	0	0.0%
	Other, please specify	0	0.0%	0	0.0%
What is your race/ethnicity?	White	234	80.7%	51	60.7%
	Black or African American	32	11.0%	20	23.8%
	American Indian or Alaska Native	11	3.8%	2	2.4%
	Asian Indian	1	0.3%	1	1.2%
	Chinese	9	3.1%	3	3.6%
	Filipino	0	0.0%	0	0.0%
	Japanese	0	0.0%	0	0.0%
	Korean	0	0.0%	0	0.0%
	Vietnamese	2	0.7%	0	0.0%
	Hmong	0	0.0%	0	0.0%
	Asian, please specify:	3	1.0%	1	1.2%

Question	Choices	Own		Rent	
	Native Hawaiian	0	0.0%	0	0.0%
	Guamanian or Chamorro	0	0.0%	0	0.0%
	Samoan	1	0.3%	0	0.0%
	Pacific Islander	0	0.0%	0	0.0%
	Somali	0	0.0%	0	0.0%
	Latino, Hispanic, or of Spanish origin	26	9.0%	16	19.0%
	Other, please specify:	7	2.4%	3	3.6%

Source: The evaluation team

Appendix D. Property Manager Survey Results

This section shows results from the property manager/landlord survey.

Table 58. Property Manager Survey Response Rates

Recruitment Status	Count
Emails Sent	728
Emails Failed	0
Emails Bounced	73
Emails Received	655
Entered Survey	20
Completes	10
Completed Response Rate	1.5%

Source: The evaluation team

Table 59. Property Manager Survey – Screener

		Count	% of Property Managers
Our records show the building you manage and/or own at [Field-ADDRESS] received an energy assessment and building improvements through the Mass Save Income Eligible Program. Is that correct?	Yes	13	92.9%
	No	1	7.1%
	Don't know	0	0.0%
Do you own and/or manage, or rent the building/unit(s) at [Field-ADDRESS]?	Own and/or manage the property	14	22.6%
	Own my unit but do not own and/or manage the property	4	6.5%
	Rent	38	61.3%
	Other	3	4.8%
	Don't know	3	4.8%
Were you present during the energy assessment completed at the building you own or manage at [Field-ADDRESS]?	Yes	8	80.0%
	No, but another property staff member was	2	20.0%
	No, only the tenant was	0	0.0%

		Count	% of Property Managers
	Don't know	0	0.0%
Were you present during the follow-up visits where energy efficient equipment and/or materials were installed through the program?	Yes	5	62.5%
	No, but another property staff member was	3	37.5%
	No, only the tenant was	0	0.0%
	Don't know	0	0.0%
Who primarily handled communications about the project with program staff during the participation process?	I did	8	80.0%
	Another property staff member did	2	20.0%
	The tenant did	0	0.0%
	Both the tenant and I did	0	0.0%
	Don't know	0	0.0%
Are you a resident of the building at [Field-ADDRESS] that received an energy assessment?	Yes	3	30.0%
	No	7	70.0%
	I am not but other management staff is	0	0.0%
	Don't know	0	0.0%
In total, how many buildings do you own and/or manage?	1	2	20.0%
	2 to 4	2	20.0%
	5 to 10	1	10.0%
	10 or more	5	50.0%
	Don't know	0	0.0%
About what proportion of tenants living at [Field-ADDRESS] when the building received Income Eligible Program services would have met income eligibility requirements (household income at or below 60% of the Area Median Income)? You may have seen applications for housing assistance from some of these tenants. If you are not sure, your best guess is fine.	All	4	40.0%
	More than half	2	20.0%
	About half	2	20.0%
	Less than half	1	10.0%
	None	0	0.0%

		Count	% of Property Managers
	Don't know	1	10.0%

Source: The evaluation team

Table 60. Property Manager Survey – Awareness and Motivation

		Count	% of Property Managers
How did you learn about the Mass Save Income Eligible Program? Select all that apply.	Tenant(s) told me about the program	0	0.0%
	A professional energy assessor	0	0.0%
	A Community Action Program agency	3	30.0%
	A local government agency	2	20.0%
	Previous experience with other utility services	1	10.0%
	Previous experience with Mass Save services	4	40.0%
	Social group text message (WhatsApp, WeMeet, Nextdoor, other)	0	0.0%
	A family member or friend	1	10.0%
	An internet search	1	10.0%
	An ad from a Mass Save Sponsor	1	10.0%
	An ad from my utility	1	10.0%
	Contacting my utility for help with something else and they told me about it	1	10.0%
	A professional heating/cooling/insulation contractor	1	10.0%
	My community or a community organization (Community First Partnerships Program)	0	0.0%
	The LEAN Statewide Customer Services Center (SCSC)	0	0.0%
	From another building property manager and/or owner	0	0.0%

		Count	% of Property Managers
	From a professional organization of other building owners, real estate, or property managers, please specify:	0	0.0%
	Other, please specify:	0	0.0%
Why did you choose to sign up for an energy assessment? Select all that apply.	Tenant was interested in the program	1	10.0%
	To improve indoor air quality in my building	2	20.0%
	To make building safer for tenants	2	20.0%
	To increase the building's property value	1	10.0%
	To improve the building/unit's appearance	1	10.0%
	To address a health issue for my tenants	1	10.0%
	To upgrade major appliances (like furnace or A/C)	4	40.0%
	To make building more comfortable for tenants	6	60.0%
	It was free	6	60.0%
	To address a specific issue(s) in my building	4	40.0%
	To make unit more attractive to prospective tenants	2	20.0%
	To save energy to protect the environment	5	50.0%
	To help tenant(s) save money on energy bills	7	70.0%
	To save money on my energy bills for the property	8	80.0%
	Other, please specify:	0	0.0%
Which of the following was most important in your decision to sign up for an energy assessment?	Tenant was interested in the program	0	0.0%
	To improve indoor air quality in my building	0	0.0%
	To make building safer for tenants	0	0.0%
	To increase the building's property value	0	0.0%
	To improve the building/unit's appearance	0	0.0%
	To address a health issue for my tenants	0	0.0%
	To upgrade major appliances (like furnace or A/C)	2	22.2%
	To make building more comfortable for tenants	1	11.1%
	It was free	2	22.2%

		Count	% of Property Managers
	To address a specific issue(s) in my building	0	0.0%
	To make unit more attractive to prospective tenants	0	0.0%
	To save energy to protect the environment	1	11.1%
	To help tenant(s) save money on energy bills	2	22.2%
	To save money on my energy bills for the property	1	11.1%
What, if any, issues did you have in your building before participating in the program? Please select all that apply.	There were no issues with my building	0	0.0%
	My/my tenant's energy bills were too high	3	30.0%
	Building was drafty	3	30.0%
	Unit(s) were drafty	3	30.0%
	Building doors and windows felt leaky	2	20.0%
	Tenant's doors and windows felt leaky	1	10.0%
	Building heating and/or cooling system ran frequently	2	20.0%
	Building heating and/or cooling system heated or cooled the building and/or units unevenly	3	30.0%
	Some of my building's equipment/appliances were unreliable, broken, or didn't work well	3	30.0%
	Some of my tenant's equipment/appliances were unreliable, broken, or didn't work well	3	30.0%
	Other, please specify	0	0.0%
Since participating in the program, would you say the building or unit conditions generally...	Improved	8	80.0%
	Stayed the same	2	20.0%
	Worsened	0	0.0%

Source: The evaluation team

Table 61. Property Manager Survey – Enrollment and Scheduling

		Count	% of Property Managers
After you learned about the program, how did you sign-up to participate?	Through a Community Action Program agency	3	30.0%
	The LEAN multifamily website	4	40.0%

		Count	% of Property Managers
	My property management board/condo association signed up	1	10.0%
	Something else, please specify:	1	10.0%
	Don't know	1	10.0%
How easy or difficult was it to complete your application for the energy assessment? (Mean = 3.6)	Very difficult	0	0.0%
	Difficult	2	20.0%
	Neither difficult nor easy	3	30.0%
	Easy	2	20.0%
	Very easy	3	30.0%
	Don't know	0	0.0%
How easy or difficult was it to provide the required documentation for the application for the assessment? (Mean = 3.7)	Very difficult	0	0.0%
	Difficult	0	0.0%
	Neither difficult nor easy	5	50.0%
	Easy	3	30.0%
	Very easy	2	20.0%
	Don't know	0	0.0%
How easy or difficult was it to schedule the assessment? (Mean = 3.6)	Very difficult	1	10.0%
	Difficult	0	0.0%
	Neither difficult nor easy	3	30.0%
	Easy	4	40.0%
	Very easy	2	20.0%
	Don't know	0	0.0%
About how long did it take to hear official confirmation that you had qualified for the program? Starting with when you signed up...	Less than one month	2	20.0%
	One to two months	4	40.0%
	Three to six months	3	30.0%
	Seven to nine months	0	0.0%
	More than nine months	1	10.0%
	Don't know	0	0.0%
	Less than one month	1	10.0%

		Count	% of Property Managers
About how long did you have to wait to have the assessment? Starting with when you received notice that you qualified…	One to two months	6	60.0%
	Three to six months	0	0.0%
	Seven to nine months	1	10.0%
	More than nine months	1	10.0%
	Don't know	1	10.0%

Source: The evaluation team

Table 62. Property Manager Survey – Assessment Experience

		Count	% of Property Managers
How much do you agree or disagree with the following statements about your energy assessment. - I understood the information I got from the assessor after the assessment. (Mean = 4.3)	Strongly disagree	0	0.0%
	Disagree	1	10.0%
	Neither agree nor disagree	1	10.0%
	Agree	2	20.0%
	Strongly agree	6	60.0%
My tenants were happy with how the assessor explained what they were doing during the assessment. (Mean = 3.7)	Strongly disagree	0	0.0%
	Disagree	0	0.0%
	Neither agree nor disagree	4	57.1%
	Agree	1	14.3%
	Strongly agree	2	28.6%
I was happy with how the assessor explained what they were doing during the assessment. (Mean = 4.1)	Strongly disagree	0	0.0%
	Disagree	0	0.0%
	Neither agree nor disagree	3	37.5%
	Agree	1	12.5%
	Strongly agree	4	50.0%
The assessor told me about other programs my building or tenants might qualify for. (Mean = 2.8)	Strongly disagree	3	33.3%
	Disagree	1	11.1%
	Neither agree nor disagree	2	22.2%
	Agree	2	22.2%
	Strongly agree	1	11.1%

		Count	% of Property Managers
The assessor handled communication between me and my tenants effectively. (Mean = 3.3)	Strongly disagree	0	0.0%
	Disagree	2	28.6%
	Neither agree nor disagree	2	28.6%
	Agree	2	28.6%
	Strongly agree	1	14.3%
How helpful were the recommendations provided through the assessment in helping you determine your next steps with the program?	Not very helpful	1	11.1%
	Not helpful	0	0.0%
	Neither helpful or unhelpful	2	22.2%
	Helpful	3	33.3%
	Very helpful	3	33.3%
Did you choose not to move forward with any of the recommendations the assessor gave you?	Yes	3	33.3%
	No	6	66.7%

Source: The evaluation team

Table 63. Property Manager Survey – Installer Experience

		Count	% of Property Managers
How easy or difficult was it to schedule follow-up visits to install equipment in your building?	Very difficult	0	0.0%
	Difficult	2	25.0%
	Neither difficult nor easy	3	37.5%
	Easy	1	12.5%
	Very easy	2	25.0%
How long did it take to schedule a follow-up visit to install equipment or weatherization (insulation) in your building after having an energy assessment completed?	Less than one month	1	12.5%
	One to two months	3	37.5%
	Three to six months	1	12.5%
	Seven to nine months	1	12.5%
	More than nine months	1	12.5%
	Don't know	1	12.5%
Did the installer who visited your building explain the benefits of the new efficient equipment installed at your building?	Yes	6	75.0%
	No	2	25.0%
In your experience with the products or equipment you received, have you seen these benefits?	Yes	4	66.7%
	I have not received any feedback from tenants or used the new equipment	2	33.3%

Source: The evaluation team

Table 64. Property Manager Survey – Installer Agreement Statements

		Count	% of Property Managers
How much do you agree or disagree with the following statements about the follow-up visit to install products or equipment in your building? - My tenants were happy with how the installer explained what they were doing during installation. (Mean = 3.4)	Strongly disagree	0	0.0%
	Disagree	0	0.0%
	Neither agree nor disagree	3	60.0%
	Strongly agree	2	40.0%
I understood the information I got from the installer after the installation. (Mean = 3.8)	Strongly disagree	0	0.0%
	Disagree	0	0.0%
	Neither agree nor disagree	2	25.0%
	Strongly agree	6	75.0%
All equipment was properly installed. (Mean = 3.9)	Strongly disagree	0	0.0%
	Disagree	0	0.0%
	Neither agree nor disagree	1	12.5%
	Strongly agree	7	87.5%
All equipment worked well after I participated in the program. (Mean = 3.9)	Strongly disagree	0	0.0%
	Disagree	0	0.0%
	Neither agree nor disagree	1	12.5%
	Strongly agree	7	87.5%
The installer handled communication between me and my tenants well. (Mean = 3.3)	Strongly disagree	0	0.0%
	Disagree	1	16.7%
	Neither agree nor disagree	2	33.3%
	Strongly agree	3	50.0%
I was happy with how the installer explained what they were doing during the installation. (Mean = 3.6)	Strongly disagree	0	0.0%
	Disagree	0	0.0%
	Neither agree nor disagree	2	40.0%
	Strongly agree	3	60.0%

Source: The evaluation team

Table 65. Property Manager Survey – Program Satisfaction

		Count	% of Property Managers
Using a scale of 1 to 5, with 1 meaning "Very Dissatisfied" and 5 meaning "Very satisfied", how satisfied are you with the following program experiences? - Communication with program staff about timeline, next steps, and program processes (Mean = 3.8)	Very dissatisfied	0	0.0%
	Dissatisfied	1	10.0%
	Neither satisfied nor dissatisfied	4	40.0%
	Satisfied	1	10.0%
	Very satisfied	4	40.0%
The information you received from the program representative about how to operate the new equipment (Mean = 3.8)	Very dissatisfied	0	0.0%
	Dissatisfied	1	10.0%
	Neither satisfied nor dissatisfied	4	40.0%

		Count	% of Property Managers
	Satisfied	1	10.0%
	Very satisfied	4	40.0%
The information you received from the program representative about energy efficiency and savings (Mean = 3.8)	Very dissatisfied	0	0.0%
	Dissatisfied	1	10.0%
	Neither satisfied nor dissatisfied	3	30.0%
	Satisfied	3	30.0%
	Very satisfied	3	30.0%
How the program staff coordinated with you and your tenants (Mean = 3.8)	Very dissatisfied	0	0.0%
	Dissatisfied	0	0.0%
	Neither satisfied nor dissatisfied	4	44.4%
	Satisfied	3	33.3%
	Very satisfied	2	22.2%
The energy savings you've seen since participating (Mean = 3.7)	Very dissatisfied	1	10.0%
	Dissatisfied	1	10.0%
	Neither satisfied nor dissatisfied	2	20.0%
	Satisfied	2	20.0%
	Very satisfied	4	40.0%
The program overall (Mean = 4.0)	Very dissatisfied	0	0.0%
	Dissatisfied	2	20.0%
	Neither satisfied nor dissatisfied	1	10.0%
	Satisfied	2	20.0%
	Very satisfied	5	50.0%
How likely are you to recommend the program to a property manager / landlord colleague? Would you say...	Not at all likely	2	20.0%
	Slightly likely	0	0.0%
	Moderately likely	1	10.0%
	Likely	2	20.0%
	Very likely	5	50.0%
Were there any issues in the units and buildings serviced through the program that you hoped the program would address, but did not?	No	7	70.0%
	Yes, please specify:	3	30.0%

Source: The evaluation team

Table 66. Property Manager Survey – Building Characteristics

		Count	% of Property Managers
What are the building's common areas? Select all that apply.	Lobby	5	50.0%
	Laundry room	5	50.0%
	Stairwell	8	80.0%
	Hallway	4	40.0%
	Pool room	0	0.0%
	Entertainment room	0	0.0%
	Other, please specify:	2	20.0%
	None	1	10.0%
What is the building's primary fuel source for heating? - Selected Choice	Electric	1	10.0%
	Natural gas	6	60.0%
	Fuel oil	1	10.0%
	Propane	1	10.0%
	Wood	0	0.0%
	Other, please specify:	1	10.0%

Source: The evaluation team

Table 67. Property Manager Survey – Heating System

		Count	% of Property Managers
Which types of heating equipment does the building use? Select all that apply.	Central furnace	3	30.0%
	Central heat pump	1	10.0%
	Central boilers (radiator, central air handling system)	4	40.0%
	Individual unit/common area heat pumps	2	20.0%
	Individual unit/common area furnaces (freestanding or floor-mounted)	0	0.0%
	Individual boilers (fan coil units in tenant units/common areas)	2	20.0%
	Individual unit/common area heaters other than furnances or heat pumps	0	0.0%
	Individual unit/common area electric baseboard/resistance heaters	1	10.0%
	Other, please specify:	0	0.0%
	Central furnace	1	100.0%

		Count	% of Property Managers
Which do you consider to be the building's main heating equipment?	Central heat pump	0	0.0%
	Central boilers (radiator, central air handling system)	0	0.0%
	Individual unit/common area heat pumps	0	0.0%
	Individual unit/common area furnaces (freestanding or floor-mounted)	0	0.0%
	Individual boilers (fan coil units in tenant units/common areas)	0	0.0%
	Individual unit/common area heaters other than furnances or heat pumps	0	0.0%
	Individual unit/common area electric baseboard/resistance heaters	0	0.0%
	Other	0	0.0%
Which do you consider to be the building's secondary heating equipment?	Central furnace	0	0.0%
	Central heat pump	1	100.0%
	Central boilers (radiator, central air handling system)	0	0.0%
	Individual unit/common area heat pumps	0	0.0%
	Individual unit/common area furnaces (freestanding or floor-mounted)	0	0.0%
	Individual boilers (fan coil units in tenant units/common areas)	0	0.0%
	Individual unit/common area heaters other than furnances or heat pumps	0	0.0%
	Individual unit/common area electric baseboard/resistance heaters	0	0.0%
	Other	0	0.0%

Source: The evaluation team

Table 68. Property Manager Survey – Cooling

		Count	% of Property Managers
What type of cooling equipment does the building use? Please select all that apply.	Central air conditioners other than heat pumps	2	22.2%
	Central heat pumps (with air ducts)	1	11.1%
	Individual unit/common area air conditioners other than heat pumps	5	55.6%
	Individual unit/common area heat pumps	1	11.1%
	Evaporative coolers	0	0.0%
	Other, please specify:	1	11.1%

Source: The evaluation team

Table 69. Property Manager Survey – Water Heater

		Count	% of Property Managers
What type of water heating equipment does the building use? Please select all that apply.	Centralized boiler for hot water	6	60.0%
	Centralized heat pump water heaters	1	10.0%
	Centralized condensing water heaters	1	10.0%
	Individual unit/common area heat pump water heaters	3	30.0%
	Individual unit/common area point-of-use water heaters	0	0.0%
	Other, please specify:	0	0.0%
Does the building store hot water in tanks prior to use, or does the building provide on-demand tankless water heating? Select all that apply.	Central tank	5	55.6%
	Central tankless	1	11.1%
	Individual unit/common area tank	2	22.2%
	Individual unit/common area tankless	2	22.2%

Source: The evaluation team

Table 70. Property Manager Survey – Firmographics

		Count	% of Property Managers
How many full time employees are part of the property management team?	1, the owner	4	40.0%
	2 to 15	4	40.0%
	16 to 25	0	0.0%
	26 to 50	2	20.0%
	51 or more	0	0.0%
On average, how many years do your tenants stay in this particular building?	One year or less	0	0.0%
	2 to 3 years	1	11.1%
	4 to 5 years	4	44.4%
	6 to 10 years	0	0.0%
	More than 10 years	4	44.4%
When was this building built? Your best guess is fine.	Before 1900	2	22.2%
	1900 to 1939	2	22.2%
	1940 to 1959	2	22.2%
	1960 to 1979	1	11.1%
	1980 to 1989	1	11.1%
	1990 to 1999	0	0.0%
	2000 to 2004	0	0.0%
	2005 or later	1	11.1%

Source: The evaluation team

Table 71. Property Manager Survey – Building Size

	Mean
About how many square feet is this building? If you are unsure, an estimate is fine.	27338.70
About how many square feet is the average unit in this building? If you are unsure, an estimate is fine.	2797.78

Source: The evaluation team

Table 72. Property Manager Survey – Languages

	Count	% of Property Managers
English	10	100.0%

		Count	% of Property Managers
What language(s) do you speak at home? Please select all that apply.	Spanish	1	10.0%
	Portuguese	1	10.0%
	Mandarin	0	0.0%
	Cantonese	1	10.0%
	Haitian Creole	0	0.0%
	Hmong	0	0.0%
	Somali	0	0.0%
	German	0	0.0%
	Vietnamese	0	0.0%
	Chinese	0	0.0%
	French	0	0.0%
	Russian	0	0.0%
	Other, please specify:	0	0.0%
Would you have preferred to take this survey in a language other than English?	Yes	0	0.0%
	No	10	100.0%
What language(s) do your tenants speak? Please select all that apply.	English	10	100.0%
	Spanish	6	60.0%
	Portuguese	1	10.0%
	Mandarin	2	20.0%
	Cantonese	1	10.0%
	Haitian Creole	2	20.0%
	Hmong	0	0.0%
	Somali	0	0.0%
	German	0	0.0%
	Vietnamese	0	0.0%
	Chinese	1	10.0%
	French	0	0.0%
	Russian	2	20.0%
	Other, please specify:	1	10.0%

Source: The evaluation team

Appendix E. Detailed List of CAP Agencies Supporting the Program

Table 73 outlines the CAP agencies participating in the IE program during the evaluation period. It indicates which serve as lead agencies, which participate in the SF and MF pathways, and PA service territories within which the CAP agency delivers the IE program.

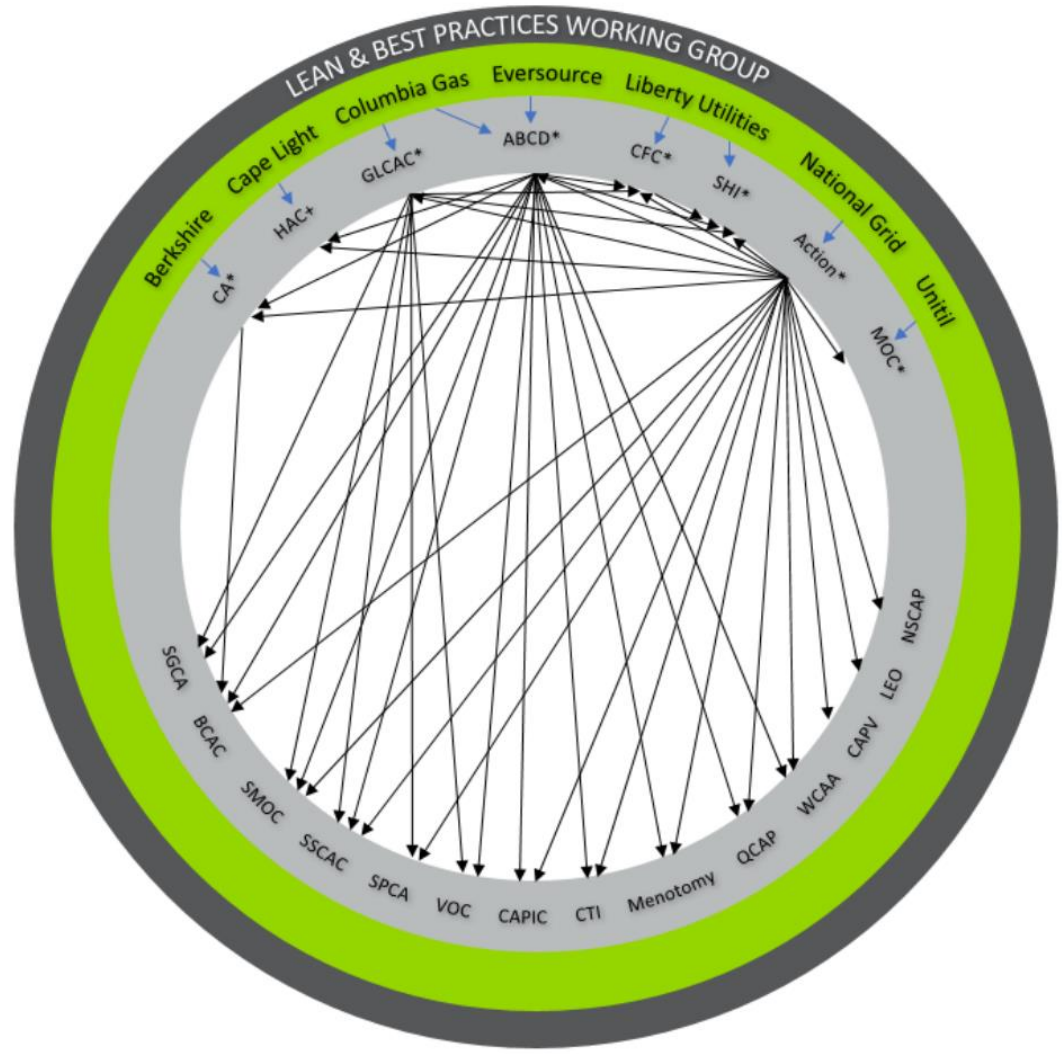
Table 73. Participating CAP Agencies

CAP Agency	Associated PA(s)	Pathway	Lead Agency
Action for Boston Community Development (ABCD)	Eversource, National Grid	SF, MF	Yes
Action Inc.	National Grid	SF, MF	Yes
Berkshire Community Action Council, Inc (BCAC)	Berkshire Gas, Eversource, National Grid	SF	
Community Action Pioneer Valley (CAPV)	National Grid, Berkshire Gas	SF, MF	Yes
Housing Assistance Corporation of Cape Cod (HAC)	Cape Light Compact, Eversource, National Grid	SF, MF	Yes
South Middlesex Opportunity Council (SMOC)	Eversource, Liberty, National Grid	SF	
Springfield Partners for Community Action, Inc.		SF	
Valley Opportunity Council (VOC)	National Grid	SF	
Worcester Community Action Council (WCAC)	Eversource, National Grid	SF	
Citizens for Citizens (CFC)	Liberty, Eversource, National Grid	SF, MF	Yes
Community Action, Inc. (CAI)	National Grid	SF	
Community Teamwork (CTI)	Eversource, National Grid	SF	
Greater Lawrence Community Action Council (GLCAC)	National Grid, Eversource Gas	SF	Yes
Making Opportunity Count (MOC)	National Grid, Unitil	SF, MF	Yes
Quincy Community Action Programs, Inc. (QCAP)	National Grid	SF	
Self Help, Inc. (SHI)	Eversource, National Grid, Eversource Gas	SF	
South Shore Community Action Council (SSCAC)	National Grid, Eversource, Eversource Gas	SF	
Community Action Programs Inter-City (CAPIC)	Eversource, National Grid	SF	

Source: LEAN

Figure 24 is a demonstration of the interrelationship between the lead agencies and other CAP agencies that serve as implementing agencies within the IE program. This figure is from the previous evaluation conducted in 2017 and some elements are out of date, however it importantly shows the complex network of implementing agencies that deliver the IE program.

Figure 24. Income Eligible Implementation Stakeholder Diagram



Note: Lead agencies act as both lead agencies and implementers in at least part of their service territories.

Source: 2017 Income Eligible Process Evaluation Findings (Res 38), representing information as of August 2018. Finalized 2019 (RES-38-Income-Eligible-Evaluation-Report_FINAL_7Feb2019.pdf (ma-eeac.org))

Appendix F. DOE WAP Participant Privacy Guidance

The following document was provided to the evaluation team on May 4 2023, regarding DOE requirements for ensuring the confidentiality of personal information for those participating in the WAP program.

Department of Energy
Washington, DC 20585

WEATHERIZATION PROGRAM NOTICE 10-08
ISSUANCE DATE: FEBRUARY 1, 2010

SUBJECT: Weatherization Guidance on Maintaining the Privacy of Recipients of Services

PURPOSE: To issue guidance for the Low-Income Weatherization Assistance Program (WAP) on maintaining the privacy of recipients.

SCOPE: This guidance is provided to States or other entities named in the Notification of Grant Award as the recipients of financial assistance under the WAP, including the recently added Territories.

LEGAL AUTHORITY: Title IV, Energy Conservation and Production Act, as amended, authorizes DOE to administer the WAP. All grant awards made under this Program shall comply with applicable law including the Energy Policy Act of 2005, the Energy Independence and Security Act of 2007, the American Recovery and Reinvestment Act (ARRA) of 2009 and regulations contained in 10 CFR Part 440, 10 CFR Part 600 and other procedures applicable to this regulation as DOE may, from time-to-time, prescribe for the administration of financial assistance.

BACKGROUND: States receiving funds under WAP have been receiving numerous requests for information regarding the implementation of programs funded through the ARRA. The information requests range from informal inquiries by local elected officials and other community leaders to requests for specific information about recipients from local and regional press outlets. Due, in part, to the increased levels of funding for the WAP - $5 billion over three years – we anticipate that there will be a number of similar such requests. Therefore, the Department has concluded that it would be prudent to provide guidance for responding to such requests.

POLICY: DOE adheres to the transparency requirements placed on these and other government financial assistance programs instituted by the Administration. DOE will work diligently with any state WAP or local service provider to gather the required information and provide it to the requestor. However, the DOE must comply with all requirements on the Government to protect the privacy interests of individuals who participate in these financial assistance programs.

In accordance with 10 CFR 600.153(f), *Retention and access requirements for records*, "Unless required by statute, DOE shall place no restrictions on recipients that limit public access to the records of recipients that are pertinent to an award, *except when DOE can*

demonstrate that such records shall be kept confidential and would have been exempted from disclosure pursuant to the Freedom of Information Act (5 U.S.C. 552) if the records had belonged to DOE." (emphasis added) DOE would be legally required, pursuant to 5 U.S.C. 552(b)(6), of the Freedom of Information Act, to keep confidential any specifically identifying information related to an individual's eligibility application for WAP, or the individual's participation in WAP, such as name, address, or income information. Thus, states and local service providers should extend that same protection to their client records for WAP. States may release information about recipients in the aggregate and which does not identify specific individuals. For example, information on the number of recipients in a county, city or a zip code does not compromise the privacy of the recipients.

CONCLUSION: Please do not hesitate to contact your Project Officer in the appropriate Project Management Center or Robert Adams at DOE Headquarters if you have questions regarding this issue. As always, thanks for everything you do for the WAP and the citizens you serve. Because of your efforts Weatherization Works!

Claire Broido Johnson

Claire Broido Johnson
Acting Program Manager
Office of Weatherization and Intergovernmental Program
Energy Efficiency and Renewable Energy