Massachusetts Residential Programs Net-to-Gross Research of RCD and Select Products Measures

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Prepared for:

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Executive Summary

In preparation for the 2022-2024 Three-Year Energy Efficiency Plan, the Massachusetts Program Administrators (PAs), Energy Efficiency Advisory Council consultants (EEAC), and their team of evaluation contractors (including the cross-cutting team led by NMR and the Guidehouse Inc., ILLUME, and Cadeo team) are completing net-to-gross (NTG) studies across the various PA initiatives. The PAs will use the results from these studies to inform planning estimates and net impacts for Residential Coordinated Delivery (RCD) and the Residential Single-Family Products programs during the 2022-2024 program cycle.

Overall NTG Estimates

Table 1 shows the recommended NTG scores that the research team calculated as a part of this study by measure group (Current Study NTG)[1]. It also presents the NTG scores the PAs are using for 2021 based on the BCR model for each measure group (BCR Model NTG). The Analysis and Results sections of this report detail how the team calculated these scores.

Table 1. NTG Results for RCD and Select Products Measures

Measure Group	Fuel Type	BCR Model NTG*	Current Study NTG
From Current Single Family NTG Study			
Direct Install	All	100%	108%
Electric HVAC	Electric	78%	88%
Non-Electric HVAC	Electric	80%	80%
	Natural Gas	86%	76%
Thermostats	Electric	83%	99%
	Natural Gas	83%	87%
Water Heaters	Electric	81%	93%
	Natural Gas	79%	76%
Weatherization	Electric	123%	104%
	Natural Gas	126%	97%
From Energy Optimization Study**			
Heat Pumps, Fuel Switching	Electric	87%	91%
From Current Multifamily NTG Study***			
All Measures	All	107%	86%

*BCR Model NTG is the average NTG of all measures falling within each measure group using the PAs' BCR Model NTG for 2021.

**Survey responses for fuel switching heat pumps were collected through the Energy Optimization study conducted by a separate Guidehouse/ILLUME research team. Details regarding this study and how the NTG results were calculated can be found in Section 3.1 of this report.

[1] Recommended NTG estimates are at the fuel level, except when fuel level estimates did not meet relative precision requirements (25%, except the non-electric HVAC electric savings group with 26% precision that was accepted to use in planning).

*** Due to similarities between attached low-rise multifamily and single-family buildings, we recommend using single-family NTG values for attached low-rise buildings.

Prospective Use of this Study's Results

As noted above, the results of this study are intended to be used for residential RCD, retail products and other similar market rate programs targeting the EE measures assessed here. The evaluation team also understands that the PAs and EEAC are considering new program initiatives targeting moderate income customers whose income is in the next tier above those qualifying for income eligible PA programs. As the results reported here cover all income levels above the income qualifying program tier, they may – all other things equal – slightly understate the NTG levels for new programs limited to moderate income households. We therefore recommend the PAs and EEAC consider studying NTG in any new programs targeted to moderate income customers in 2022 to 2024.

1. Introduction

This section discusses this study's objectives and summarizes the programs.

1.1 Study Description and Objectives

The study used the self-report approach (SRA) to measure and report net-to-gross (NTG), reflecting the important elements of the program theory and related points of influence (e.g., contractor and assessor influences). The approach follows the *Consistent Approach for Self-reported Residential NTG Measurement* report finalized May 28, 2020 (referred to herein as the Consistent Residential SRA).

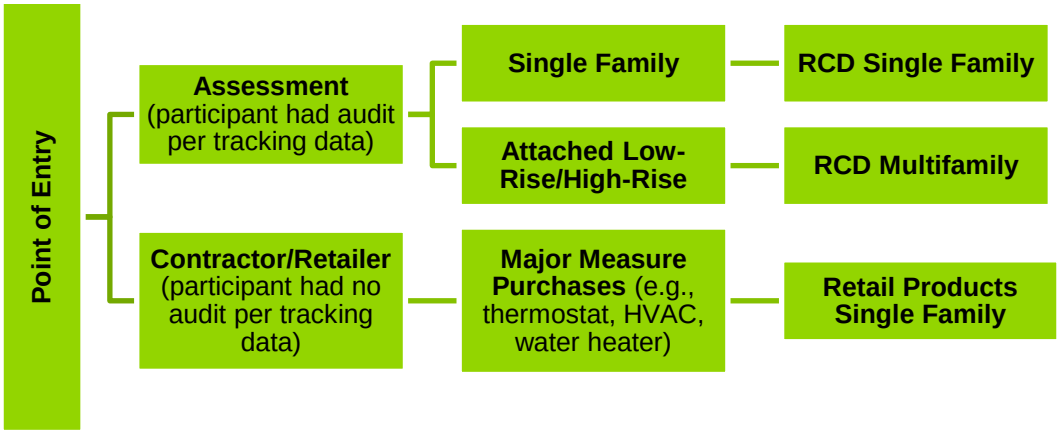
The goals of this study were to:

- Develop NTG estimates at the measure group level, inclusive of participant free ridership and spillover, contractor free ridership (where the contractor is an influential market actor per program theory), and contractor spillover.
- Provide any market-related or process-related insights to inform program design.
- Identify experience-based enhancements to the recently developed self-report methodology outlined within Massachusetts' Consistent Residential SRA methodology.
- Updating event type parameters to apply to the TRM.

1.2 Program Overview

This NTG study analyzed NTG for measures offered through residential coordinated delivery (RCD) and select residential retail measures (excluding select products being researched by NMR such as room air conditioners, pool pumps, and dehumidifiers). Any customer that received an assessment per the tracking data or self-report was considered an RCD participant. All others were considered a participant in the retail initiative. Both initiatives offer incentives for installing energy efficient equipment. The RCD initiative also provided free equipment, directly installed into the participant's home.

Figure 1-1. Program Initiative by Point of Entry



2. Methodology

There are three data collection efforts that informed the NTG measurement: a single-family RCD and retail participant survey, a multifamily RCD participant survey, and a participating contractor survey. Table 2-1 lays out these activities along with their rationale for NTG research.

Table 2-1. Summary of NTG Survey Activities

Activity	Rationale
Single-family participant survey	Gather data to estimate free ridership and spillover from RCD and retail participants who received measures through an assessment or an incentive for installation of select measures (HVAC, water heating, weatherization, and thermostats).
Multifamily participant survey	Gather data to estimate free ridership and spillover from property managers and owners whose buildings received measures installed through assessments or an incentive for installation measures as a result of their participation in RCD.
Participating contractor survey	Gather data to estimate contractor free ridership (to integrate with participant free ridership when responding customers indicate the contractor was influential in their decision-making process), as well as estimate contractor spillover.

The following sub-sections describe the approach to each task.

2.1 Single-Family Participant Surveys

The following sections describe the approach for sampling and data collection for the single-family participant surveys.

2.1.1 Single-Family Sampling

The research team received tracking data from the PAs on December 8, 2020, containing 624,294 records, representing 238,667 participants from program year 2019. This sample was allocated across four studies being completed as a part of this research effort: the single-family and multifamily studies this memo describes, along with Appliance Recycling and Energy Products NTG studies NMR is completing. Sample was also allocated for the fuel displacement research effort, which includes NTG questions for fuel-switching heat pump measures. Sample allocation procedures are described in full in the sampling memo delivered to the PAs on March 18, 2021.

After allocating the sample, the team identified 127,790 single-family participants for inclusion as part of our sample frame. After dropping records and participants associated with measures outside the scope of this NTG study, 121,879 unique participants remained.[2]

Our team categorized the data into measures and measure groups to facilitate both the sampling and survey processes. Our team sampled and reported at the measure group. However, as the approved Stage 3 research plan notes, we prepped our sample and survey to ask customers about individual measures (i.e., furnaces, boilers, Wi-Fi thermostats, etc.) because the measure level is more tangible for responding participants. For example, it makes

[2] Measures that are not being evaluated as part of the NTG study include controls, tune-ups, smaller appliances (e.g., dehumidifiers, clothes washers, clothes dryers), smart strips, and recycled appliances.

more sense to ask participants about their new furnace than to ask regarding the non-electric heating equipment they installed in their home.

Table 2-2. Single-Family Measure Mapping

Measure Group	Measure
Weatherization	Air Sealing
	Insulation
Direct Install Measures	Duct Sealing/Insulation
	Water Saving Devices
	Pipe Wrap
Non-Electric Heating Equipment (Gas and Delivered Fuels)	Boilers
	Furnaces
Electric Heating/Cooling Equipment	Central ACs
	Heat Pumps, No Fuel Switching
Water Heaters (Gas and Electric)	Water Heaters
Thermostats	Wi-Fi
	Programmable

There was some overlap among participants across both the RCD and retail program pathways, as well as participants that installed multiple measures within these respective programs. To streamline the survey process for participants that participated in both the RCD and retail program pathways, we selected the pathway in which they installed the most measures.

To reduce respondent burden, we randomly selected three measures per participant to ask about in the survey, ensuring coverage across the measure groups. We then selected our sample at the measure group level, assuming a 25% response rate to achieve the desired number of completes.

2.1.2 Single-Family Data Collection

The research team fielded the single-family NTG survey as a mixed-mode survey, collecting responses via an online survey and over the phone. The team launched the single-family survey in full on May 19, 2021, via a postcard mailing, with an email invitation on May 24, 2021. All sampled participants received a postcard, and everyone with a valid email address also received an email invitation. To encourage participation in the survey, the team sent three reminder emails and made phone calls to non-responders beginning a week after the postcard was delivered.

During fielding, there were a couple of measure categories that received lower response rates than the others, specifically direct install and water heating measures. As a result, the team sent email invitations to an additional sample on June 14, with a reminder email on June 17, 2021.

Table 2-3 shows the final sample sizes and achieved number of useable completes by measure group for the single-family survey. Appendix B includes a full response rate table, including counts of all survey returns, and breakdowns by specific measures.

Table 2-3. Single-Family Survey Population, Sample Frame, Sample Size, and Number of Completes

Measure Group	Population*	Sample Size	Targeted number of completes	Achieved number of useable completes**
Direct Install Measures	28,692	697	100	15
Electric HVAC	10,396	916	140	159
Non-Electric HVAC	19,798	1,310	200	147
Thermostats	57,897	1,188	140	122
Water Heaters	10,629	909	140	80
Weatherization	61,611	1,312	100	97

*Allocated single family population from NMR

**Non-useable surveys included surveys completed for measures with no program savings, surveys where the respondent could not confirm measure-level participation, and surveys that were dropped due to inconsistent survey responses.

Note: if a customer installed more than one measure, they are included multiple times in this table

2.2 Multifamily Participant Surveys

The following sections describe the approach for sampling and data collection for the multifamily participant surveys.

2.2.1 Multifamily Sampling

The research team received tracking data containing measure installation detail for property managers and building owners across the State of Massachusetts who participated in the RCD and retail programs. The dataset included customer contact information, utility provider, measures installed, and energy savings. Like the single-family survey, we categorized multifamily measures into two different categories: one for sampling (measure group), and one to use in the survey (measure). Table 2-4 shows these measure mappings.

Table 2-4. Multifamily Measure Mapping

Measure Group	Measure
Direct Install Measures	Air Sealing
	Dehumidifier
	Duct Sealing
	Faucet Aerator
	Insulation
	Low Flow Showerhead
	Pipe Wrap
	Programmable Thermostat
	Smart Strip
Rebated Measures	Boiler
	Central AC
	Clothes Dryer
	Clothes Washer
	Combination Boiler/Water Heater
	Ductless Mini-Split Heat Pump
	Furnace
	Heat Pump
	Heat Pump Water Heater
	Low Flow Showerhead
	Programmable Thermostat
	Water Heater
	Wi-Fi Thermostat

The research team selected a random sample from the tracking data for each measure group, assuming a 10% response rate to achieve the desired number of completes. The sample was checked for representativeness by ensuring the same utility proportionality as the population.

2.2.2 Multifamily Data Collection

The research team fielded the multifamily NTG survey as a mixed-mode survey, collecting responses via an online survey and over the phone. The team launched the multifamily survey in full on May 24, 2021, via an email invitation. To encourage participation in the survey, the team sent three reminder emails and made phone calls to non-responders beginning a week after the email invitation.

Table 2-5 shows the final sample sizes and achieved number of completes by measure group for the multifamily survey. As the table shows, the number of achieved completes was low. During survey fielding, despite many call attempts, the evaluation team found it difficult to reach property managers to complete the survey. Often, the contact person in our sample file was a tenant who was not eligible to complete the multifamily survey, indicating that actual participation among property owners or managers is low. Despite multiple email and telephone

contacts, we only achieved 23 total useable completed multifamily property managers and building owners surveys.

Table 2-5. Multifamily Survey Population, Sample Size, and Number of Completes

Measure Group	Population	Sample Size	Targeted number of completes	Achieved number of completes
Direct Install Measures	12,135	700	70	9
Rebated Measures	9,317	700	70	14

Note: if a customer installed more than one measure group, they are included multiple times in this table

2.3 Contractor Surveys

The following sections describe the approach for sampling and data collection for the contractor surveys.

2.3.1 Contractor Sampling

As the Consistent Residential SRA report details, it was necessary for the evaluation team to consider contractor-based free ridership and spillover perspectives for the "measures or programs where program theory shows contractors play a prominent role in delivering and promoting the program." Per this study's Stage 3 evaluation plan, the following four residential measure groups meet this definition:

- Weatherization
- Non-Electric Heating Equipment
- Electric Heating/Cooling Equipment
- Water Heaters

The PAs incentivize all four measure groups for both single-family (1-4 unit) and multifamily (attached low rise and high-rise buildings) customers and deliver all but weatherization through both the RCD and retail channels (weatherization is exclusive to RCD). These four contractor-served, high-level measure groups encompass 64 fuel-, core initiative-, sub offering-, and measure-specific BCR Measure IDs. Given the team's limited survey time with responding contractors it was not feasible to explicitly ask NTG questions for each of these measures.

The evaluation team reviewed 2019 program data to identify the most prevalent measures for inclusion in the participating contractors survey. Based on this exercise, the research team identified the measures (and associated fuel types) in Table 2-6 with sufficient participation to merit direct questioning as part of this contractor inquiry.

Table 2-6. Contractor-Relevant Measure Groups and Measures

Measure Group and Measures	Electric	Gas	Oil	Propane
Weatherization				
Air Sealing		**All** (Fuel-Neutral)		
Insulation		**All** (Fuel-Neutral)		

Measure Group and Measures	Electric	Gas	Oil	Propane
Non-Electric Heating Equipment				
Boilers	N/A	**Yes**	No*****	No
Furnaces	N/A	**Yes**	**Yes***	No
Combination Boilers	N/A	**Yes**	No	No
Electric Heating/Cooling Equipment				
Central ACs	**Yes**	N/A	N/A	N/A
Central/Ducted Heat Pumps (No Fuel Switching)	**Yes**	N/A	N/A	N/A
Ductless Mini-Split Heat Pumps (No Fuel Switching)	**Yes**	N/A	N/A	N/A
Ductless Mini-Split Heat Pumps (Fuel Switching)	**Yes**	N/A	N/A	N/A
Water Heaters				
Indirect	N/A	**Yes**	**Yes**	No
On Demand/Instant		**All** (Fuel-Neutral)		

*Historically, PAs incentivized substantially more oil boilers than furnaces. However, beginning in 2022, the PAs will stop offering incentives for oil boilers but continue them for oil furnaces. Given the prospective application of this study's results we excluded oil boilers and included oil furnaces.

The research team developed a sampling plan to complete 60 contractor surveys (15 per measure group), with the anticipation that many responding contractors could provide insight into multiple measures or measure groups. The team stratified the contractor sample by program volume (i.e., the number of installations each contractor completed in 2019).

To maximize the impact of the team's outreach (only 15 surveys per measure group), the team excluded low volume contractors, (i.e., those that installed less than five program rebated units). It is likely that these are not actually HVAC or water heating contractors but rather homeowners who purchased and potentially self-installed the rebated equipment. Although these individuals collectively reflect a meaningful portion of total participation, especially for water heaters, the research team did not contact them as part of this contractor-focused effort due because this study's concurrent participant survey sufficiently captures their input on NTG.

2.3.2 Contractor Data Collection

The research team also fielded the contractor NTG survey as a mixed-mode survey, collecting responses via the web and over the phone. The team fielded the survey between June 8 and June 24, 2021. The program implementer, ICF, emailed invitations to HVAC and water heater contractors with a direct link to the survey, and the research team sent invitations to weatherization contractors. The team also made follow-up phone calls to non-responders.

Table 2-7 shows the number of responses by measure group that our team collected from the 69 HVAC, water heating, and weatherization single-family and multifamily contractors that completed our survey. Since we asked each responding contractor questions regarding up to three different measures, the contractors collectively provided input for 164 different measures.

Table 2-7. Contractor Survey Targeted and Actual Completes

Measure Group and Measures	Targeted number of completes	Achieved number of completes*
Weatherization		
Air Sealing	15	38
Insulation		
Total		
Non-Electric Heating Equipment		
Boilers	15	54
Furnaces		
Combination Boilers		
Total		
Electric Heating/Cooling Equipment		
Central ACs	15	51
Central/Ducted Heat Pumps (No Fuel Switching)		
Central/Ducted Heat Pumps (Fuel Switching)		
Ductless Mini-Split Heat Pumps (No Fuel Switching)		
Ductless Mini-Split Heat Pumps (Fuel Switching)		
Total		
Water Heaters		
Indirect	15	21
On Demand/Instant		
Total		
Total	60	164

* If a contractor installed more than one measure type, they are included multiple times in this table.

2.4 NTG Analysis

The following sections describe the analysis procedures the research team used to calculate free ridership, spillover, and NTG. The analysis procedures closely follow the guidance in the Consistent Residential SRA. Although we do not go into detail about the methodology here since it is contained in the Consistent Residential SRA, Appendix A includes a flowchart depicting the full NTG analysis procedure.

2.4.1 Free Ridership

Following the Consistent Residential SRA, the team determined free ridership from a combination of self-report-based intention and influence scores. Where a respondent's intention and influence score contradicted, we asked a series of consistency check questions to determine the program's influence on the respondent's decision to install the equipment. Where

the answers to the consistency checks contradicted the respondent's free ridership score, we dropped the individual from the free ridership analysis. An example of this would be an instance in which a respondent rated an aspect of the program as extremely influential on their decision to install the equipment, but when asked to describe the influence of the program on their decision, they indicated that the program had no influence.

To calculate participant free ridership, the team used the following formula:

$$Participant\ Free\ Ridership = (Intention\ Score + Influence\ Score) \div 2$$

Source: Consistent Residential SRA, page 30

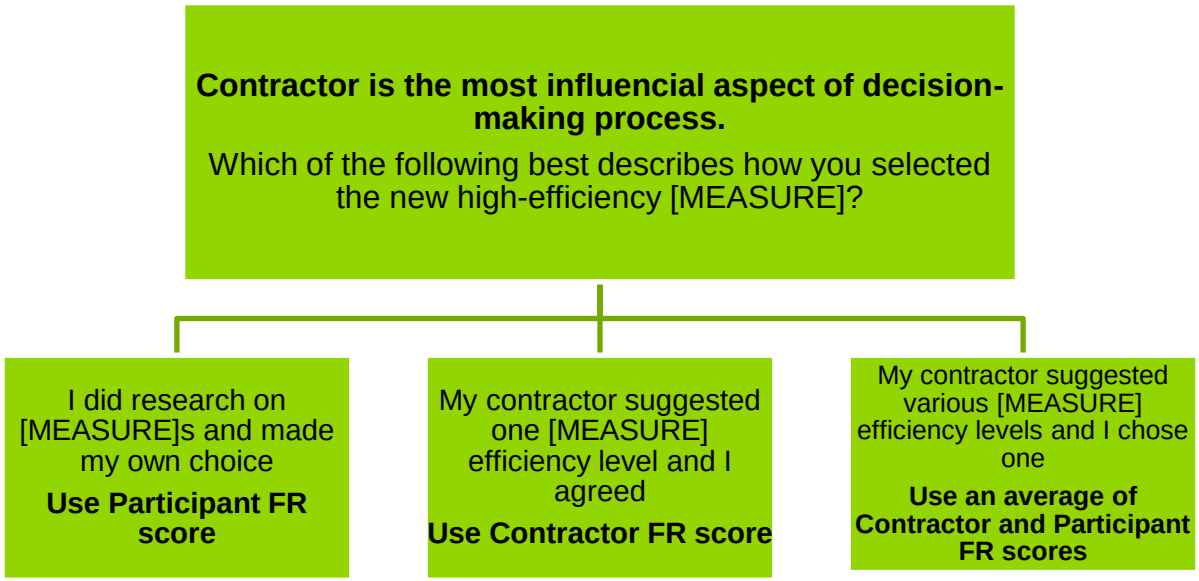
The team also calculated contractor free ridership following the guidance in the Consistent Residential SRA. To calculate contractor free ridership, the team used the following formula:

$$Contractor\ Free\ Ridership = Number\ of\ Measures\ Would\ Have\ Sold\ Without\ Program\ Rebate \div Program\ Sales$$

Source: Consistent Residential SRA, page 35

When a respondent indicated that their contractor was the most influential factor in their decision to select the high-efficiency equipment, we followed up with a series of questions to determine the contractor's involvement in their decision-making. As Figure 2-1 shows, when the customer was the sole decision maker, the participant free ridership score was used; when the customer and contractor made the decision together, an average of the participant and contractor free ridership score was used; when the contractor was the primary decision-maker, the contractor free ridership score was used. We did not survey contractors about direct install measures or thermostats, so we used participant free ridership for all these measures despite how influential the contractor was.

Figure 2-1. Process for Incorporating Contractor Free Ridership into Overall Free Ridership Score



To calculate free ridership for each measure group, we averaged free ridership scores for each respondent who installed a measure falling within the measure group, weighting by measure savings.

2.4.2 Spillover

The team calculated participant spillover following the approach laid out in the Consistent Residential SRA. We asked single-family and multifamily participants what energy saving measures, if any, they had installed without receiving a rebate since participating in the program. If they indicated that the program was influential in their decision to install this equipment, they were included in the spillover analysis. Since participants can be asked about spillover for any efficient measure installed outside the program, savings do not necessarily correspond to measure groups, and so we calculated participant spillover at the customer-level by fuel type (electric and natural gas).

The team calculated savings for all measures included in the spillover analysis using the Massachusetts Technical Reference Manual (MA TRM). We excluded the following from our spillover analysis:

- Air sealing and insulation measures, as savings for these measures could not be determined with the available data.
- Any measures that were not in the MA TRM (which included solar measures and dishwashers).
- Measures where participants who were unable to specify how they determined that the equipment they installed was efficient.

To calculate participant spillover, the team used the following formula:

$$Participant\ Spillover = Spillover\ Savings \div Total\ Program\ Savings\ (Surveyed\ Participants)$$

Source: Communication with Consistent Residential SRA team

Using the guidance laid out in the Consistent Residential SRA, the team calculated contractor spillover based on the number of sales of qualifying high efficiency equipment that contractors reported installing through the program and the number they installed outside of the program that did not receive a rebate. We asked spillover questions for each measure that was included in the survey, and calculated contractor spillover at the measure-level. We did not calculate fuel-specific contractor spillover per the Consistent Residential SRA guidance.

To calculate contractor spillover, the team used the following formula:

$$Contractor\ Spillover = \left(Non\text{-}Program\ Sales \times (Influence\ score \div 10)\right) \div Program\ Sales$$

Source: Consistent Residential SRA, page 38

2.4.3 Net-to-Gross (NTG)

The team calculated NTG based on the guidance in the Consistent Residential SRA using the following formula:

$$NTG = (1 - Free\ Ridership) + Participant\ Spillover + Contractor\ Spillover$$

Source: Consistent Residential SRA, page 25

3. NTG Results

The following section presents NTG results for the single-family and multifamily surveys, with contractor results incorporated per the Consistent Residential SRA.

3.1 Single Family

We calculated NTG for the single-family study at an overall measure group level and by fuel type. In Table 3-1, we present our calculated overall free ridership, spillover, and NTG scores (Current Study NTG). The table also presents the NTG scores the PAs are currently using for 2021 based on the BCR model for each measure group (BCR Model NTG).

This section also includes the NTG results for fuel-switching heat pumps from the Energy Optimization Study completed by a separate Guidehouse and ILLUME research team. The main purpose of this study was to address baseline issues with fuel switching heat pumps, however since baseline issues tend to be interwoven with NTG issues, it made sense to address both in the same survey effort. The Energy Optimization team included the same battery of NTG questions in their survey as was included in the single-family NTG survey, and the NTG research team analyzed the results to ensure consistency with other single-family measures. We present the NTG results from this effort in Table 3-1, while the baseline results are included in the Energy Optimization study report.

Table 3-1. Overall Free Ridership, Spillover, and NTG Scores by Measure Group

Measure Group	Number of Useable Participant Survey Responses	Number of Useable Contractor Survey Responses	Weighted FR (Measure Level)	Participant SO (Program Level)	Contractor SO (Measure Level)	BCR Model NTG*	Current Study NTG	Relative Precision (90% Confidence at the Measure Level)**
From Current NTG Study								
Direct Install	15	-	4%	12%	-	100%	108%	19%
Electric HVAC	159	51	34%	12%	10%	78%	88%	8%
Non-Electric HVAC	147	54	36%	12%	1%	83%	76%	12%
Thermostats	122	-	24%	12%	-	83%	87%	9%
Water Heaters	80	21	30%	12%	0%	80%	81%	14%
Weatherization	97	38	19%	12%	4%	123%	97%	5%
Heat Pumps, Fuel Switching	320	51	31%	12%	10%	87%	91%	5%

* BCR Model NTG is the average NTG of all measures falling within each measure group using National Grid's BCR model NTG for 2021.

** We calculated precision for NTG scores above 100% by taking the absolute value of the NTG score.

To calculate NTG at the overall level, we weighted the free ridership scores by total program savings (converted to MMBtu). However, we also weighted by electric and gas separately where possible, calculating two free ridership scores per measure group: one for electric savings and one for gas savings. Table 3-2 presents these scores along with participant spillover, contractor spillover, and the NTG score by fuel type and measure group (Current Study NTG). It also presents the NTG scores the PAs are using for 2021 based on the BCR model for each measure group and fuel type (BCR Model NTG).

The discrepancy between NTG scores for electric and gas direct install measures is in large part due to the small number of useable surveys for this measure group. Many of the completed surveys for direct install measures had zero program savings and so were

excluded from analysis. Given the small number of useable surveys for direct install measures, we recommend NTG results at the overall measure group level, instead of at the fuel type level.[3]

Table 3-2. Single Family Free Ridership, Spillover, and NTG Scores by Fuel Type and Measure Group

Fuel Type	Measure Group	Number of Useable Participant Survey Responses	Number of Useable Contractor Survey Responses	Weighted FR (Measure Level)	Participant SO (Program Level)	Contractor SO (Measure Level)	BCR Model NTG*	Current Study NTG	Relative Precision (90% Confidence at the Measure Level)***
From Current NTG Study									
Electric	Direct Install**	1	-	25%	12%	-	100%	87%	105%
	Electric HVAC	159	51	34%	12%	10%	78%	88%	8%
	Non-Electric HVAC	26	54	33%	12%	1%	80%	80%	26%
	Thermostats	53	-	13%	12%	-	83%	99%	4%
	Water Heaters	38	21	19%	12%	0%	81%	93%	12%
	Weatherization	50	38	12%	12%	4%	123%	104%	7%
Natural Gas	Direct Install**	14	-	3%	12%	-	100%	109%	21%
	Non-Electric HVAC	140	54	36%	12%	1%	86%	76%	13%
	Thermostats	82	-	25%	12%	-	83%	87%	12%
	Water Heaters	58	21	36%	12%	0%	79%	76%	20%
	Weatherization	60	38	19%	12%	4%	126%	97%	6%
From Energy Optimization Study									
Electric	Heat Pumps, Fuel Switching	320	50	31%	12%	10%	87%	91%	5%

* BCR Model NTG is the average NTG of all measures falling within each measure group using National Grid's BCR model NTG for 2021.

** We recommend using the overall NTG estimates for this measure groups due to the high relative precision.

[3] Non-useable surveys included surveys completed for measures with no program savings, surveys where the respondent could not confirm measure-level participation, and surveys that were dropped due to inconsistent survey responses.

*** We calculated precision for NTG scores above 100% by taking the absolute value of the NTG score.

The NTG scores calculated as a part of this study were largely like the previously modeled NTG scores. The largest discrepancies occurred among weatherization measures, electric thermostat measures, and non-electric direct install measures. The differences in weatherization were largely due to the methodology used and contractor spillover values drive the differences between the current NTG and BCR model NTG. The previous NTG calculations applied a nonparticipant spillover value of 25%, whereas our study used a contractor spillover value of only 4% because the Consistent Residential SRA guidance recommends applying contractor spillover instead of nonparticipant spillover.

3.1.1 Measure-Specific NTG Results

Table 3-3 presents breakouts for measure types with enough sample to support meaningful results. These results are informational only and should not be used for planning purposes. The study was designed to be directional, and, as such, we recommend combining NTG by measure groups to improve precision and for ease of application. However, we wanted to provide this detail for information purposes and to potentially inform future NTG research.

Table 3-3. NTG Results by Specific Measure

Measure	Number of Useable Participant Survey Responses	Number of Useable Contractor Survey Responses	Weighted FR (Measure Level)	Participant SO (Program Level)	Contractor SO (Measure Level)	NTG Score	Relative Precision (90% Confidence at the Measure Level)
Electric HVAC							
Central AC	74	51	35%	12%	10%	87%	12%
Heat Pumps, No Fuel Switching	85	51	34%	12%	10%	88%	11%
Heat Pumps, Fuel Switching	320	51	31%	12%	10%	91%	5%
Non-Electric HVAC							
Boiler	62	54	37%	12%	1%	76%	19%
Furnace	85	54	36%	12%	1%	77%	16%
Thermostats							
Programmable	55	-	22%	12%	-	90%	12%
Wi-Fi	67	-	26%	12%	-	86%	13%

Measure	Number of Useable Participant Survey Responses	Number of Useable Contractor Survey Responses	Weighted FR (Measure Level)	Participant SO (Program Level)	Contractor SO (Measure Level)	NTG Score	Relative Precision (90% Confidence at the Measure Level)
Water Heaters							
Electric Water Heaters	30	21	19%	12%	0%	92%	14%
Gas Water Heaters	50	21	35%	12%	0%	76%	21%
Weatherization							
Air Sealing	40	38	12%	12%	4%	103%	8%
Insulation	57	38	20%	12%	4%	95%	8%

3.2 Multifamily

We calculated NTG at the measure group level for the multifamily study. The results for rebated measures include the contractor free ridership score when appropriate, per the Consistent Residential SRA. The multifamily contractor survey had a relatively low response, so the team calculated multifamily contractor free ridership for all rebated measures instead of assigning them separately for different measure groups like in the single-family study.

Table 3-4 shows the free ridership and NTG results for the multifamily study, including the combined participant and contractor estimates, participant only, and contractor only. We included the range of free ridership scores for all three groups to show the variance across free ridership scores.

There was only one instance of spillover in the contractor and participant multifamily studies, so we did not include it in the results, and it is excluded from Table 3-4. Given the small number of responses to the Multifamily survey, we recommend applying the total participant + contractor scores to multifamily high-rise measures.[4]

Table 3-4. Multifamily Free Ridership and NTG Scores by Measure Group

Measure Group	Number of Useable Responses	Minimum FR	Median FR	Maximum FR	Average Weighted FR	Weighted NTG	Relative Precision (90% confidence)
Participant + Contractor							
Direct Install Measure	9	0%	5%	55%	17%	83%	40%
Rebated Measure	14	5%	12%	48%	11%	89%	25%
Total	**23**	**0%**	**12%**	**55%**	**14%**	**86%**	**23%**
Participant Only							
Direct Install Measure	9	0%	5%	55%	17%	83%	40%
Rebated Measure	14	0%	5%	48%	5%	95%	17%
Total	**23**	**0%**	**5%**	**55%**	**11%**	**89%**	**20%**
Contractor Only							
All Measures	23	0%	5%	100%	12%	82%	-*

* We could not calculate standard error for contractors because the true multifamily contractor population is unknown.

[4] Due to similarities between attached low-rise multifamily and single-family buildings, we recommend using single-family NTG values for attached low-rise buildings.

4. Experience Using the Consistent Residential SRA Methodology

The evaluation team followed the NTG methodology per the Consistent Residential SRA, which was completed by a team of researchers from NMR Group, Inc., and Tetra Tech, Inc. of the following sections detail the Consistent Residential SRA methodology as it relates to the single-family, multifamily, and contractor surveys.

4.1 Approach for Incorporating Contractor Free Ridership

In the Consistent Residential SRA approach, contractors influenced participant's decision-making and so also influenced overall free ridership scores. As Section 2.4.1 describes, the Consistent Residential SRA specified incorporating the contractor free ridership score into the overall free ridership score when the participant indicated that their contractor was the most influential aspect on their decision to install the equipment they did.

As Figure 4-1 shows, a large proportion of customers, particularly for weatherization, indicated that their contractor was the influencing decision maker during their participation. The figure indicates by measure group when our team used the contractor score, the participant score, or a combination of both scores.

Figure 4-1. Distribution of Free Ridership Score Combinations

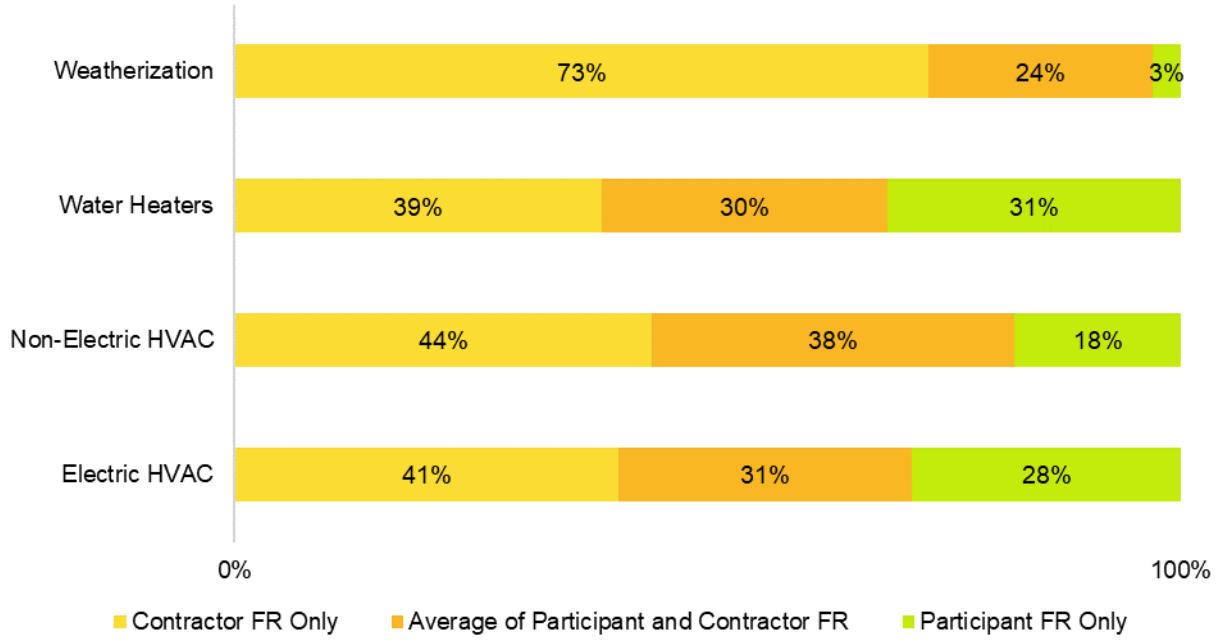
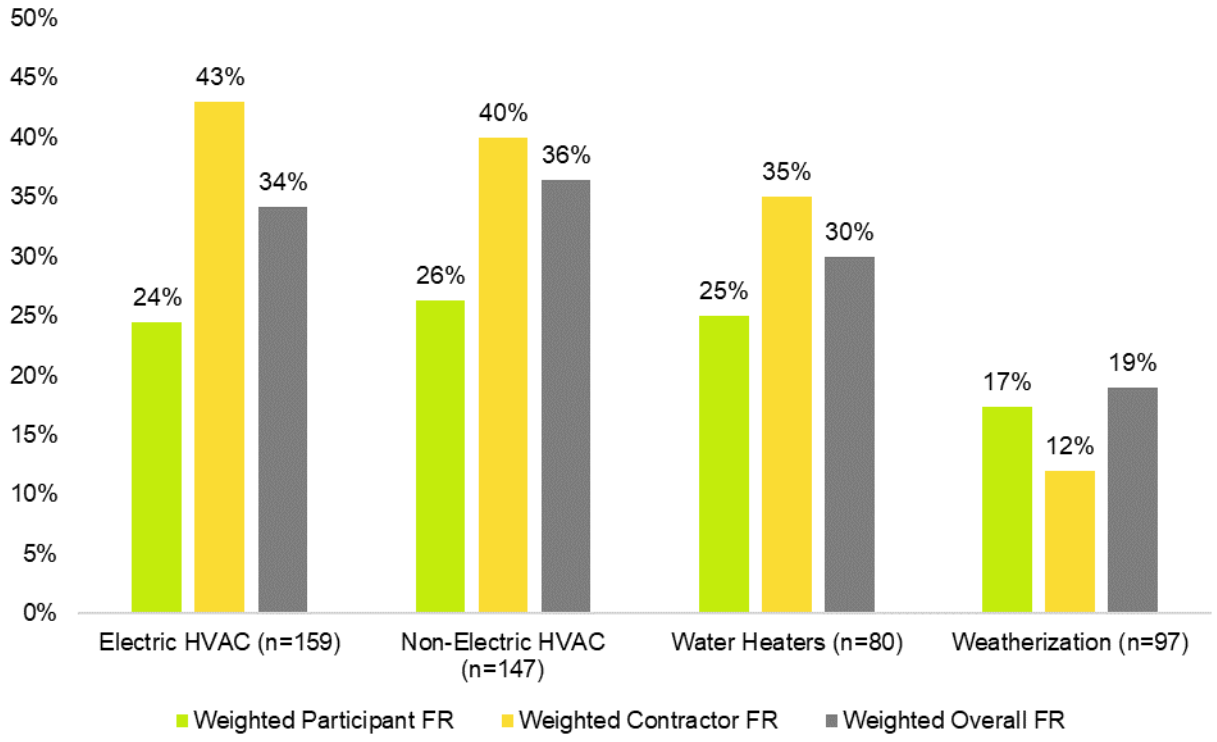


Figure 4-2 compares participant, contractor, and overall free ridership, for the measure groups in which we gathered contractor data. Across all measure groups, the contractor free ridership score was higher than the participant score, resulting in a higher free ridership score overall. While we would expect the overall free ridership estimate to be between the participant and contractor scores, this is not always the case. For example, the overall free ridership score for weatherization was higher than both the participant and contractor scores. This was a result of a

number of participant scores changing from 0% to 12% when the contractor score was incorporated, therefore driving overall free ridership up a couple points.

Figure 4-2. Comparison of Participant, Contractor and Overall Free Ridership Scores



4.2 The Spillover Algorithm

The Consistent Residential SRA provides guidance on how to calculate the spillover influence score based on the participant's responses to questions about how influential their rebate was on the decision to install additional equipment outside of the program. However, the guidance does not delineate how to calculate the actual spillover rate used in the NTG formula.

After deliberation with the Consistent Residential SRA research team, the evaluation team determined the best approach would be to calculate program level spillover by summing deemed savings for all spillover measures, converting to MMBtu, and dividing spillover savings by program savings, as Section 2.4.2 notes.

The guidance for calculating contractor spillover in the Consistent Residential SRA was comprehensive and did not require any decisions outside of the guidance.

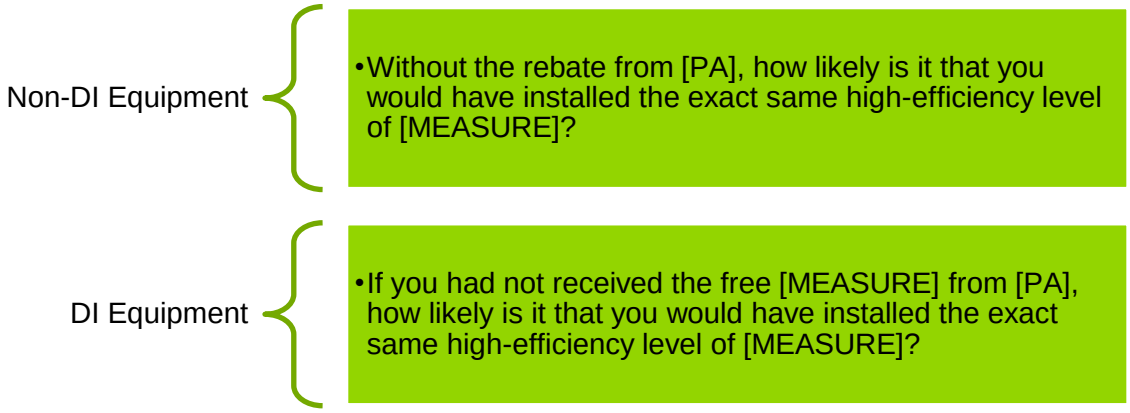
4.3 Decisions Made Outside of SRA Guidance

When we drafted the NTG study survey guide, there were a few areas where the evaluation team had to make decisions outside of the Consistent Residential SRA. Although these were approved by the Consistent Residential SRA research team, they were not clearly stated in the Consistent Residential SRA guidance.

4.3.1 Residential (Single Family and Multifamily)

For the single family and multifamily surveys, the wording of some questions had to be changed slightly for direct install equipment. The Consistent Residential SRA survey questions referred to equipment that the customer received a rebate for; however, for direct install equipment, which customers get for free, we had to change the wording to highlight the free-nature of the equipment. Figure 4-3 shows an example of this:

Figure 4-3. Example of Non-Direct Install vs. Direct Install Question Wording



4.3.2 Contractor

For the contractor survey, the evaluation team made the following revisions to the Consistent Residential SRA guidance:

- **Removed a spillover question for weatherization measures.** Because there is no distinction in weatherization measures between standard and high-efficiency, we removed the question “About how many of the sales of residential <measure> in <year> were high-efficiency, including rebated and non-rebated units?” (NS2) for all weatherization measures.
- **Free ridership was not applicable if the estimated measure quantity sold without the program was greater than program sales.** During the analysis, we recoded the estimated measure quantity sold without the program for each measure to be not applicable (N/A) (making the free ridership score N/A) if the value provided was greater than program sales because this would be logically false. Even though these illogical reports were rare (n=2), this correction was a necessary quality assurance step.
- **Replaced estimated measure quantity of high-efficiency units sold.** During the analysis, we replaced the estimated measure quantity of high-efficiency units sold (NS2) with the total measure quantity sold (NS1), if NS2 was greater than NS1. We replaced NS2 with program sales if NS2 was less than program sales. Similar to the previous issue, this erroneous reporting was rare (n=2); however, this is a logical quality assurance practice, without reducing the number of valid responses.
- **Focused on the most active housing sector for each measure.** To limit the survey length and reduce response fatigue, we kept the contractors focused on the housing sector they were most active in (single family or multifamily). We added a question, “Which housing type does your company specialize or focus on?” which was asked if the contractor indicated that they installed measures in both single-family and multifamily

dwellings. We then asked about only one of the housing types for each measure, prioritizing multifamily over single family after noticing fewer instances of multifamily contractors compared to single family.

Although we did not make the following changes to the survey, we identified an area with some redundancy in the questions laid out in the Consistent Residential SRA.

Figure 4-4 and Figure 4-5 show the first two questions of the contractor free ridership battery, and the first four questions of the spillover battery. By asking questions CF0 and, if needed, CF0a, it is not necessary to ask NS3 or NS4. By asking how many measures received a rebate in CF0/CF0a, and how many total measures were installed in NS2, we could calculate whether all measures received a rebate (NS3), and if not, what percent received a rebate (NS4).

Figure 4-4. Contractor Free Ridership Questions CF0 and CF0a

Table 8: Contractor Free-ridership Questions

Contractor Free-ridership			
CF0	For the next set of questions, we are going to ask you to think about your company's experiences with Mass Save rebates. Our records show that in <year> your company sold <QTY> residential high-efficiency <measure> that received rebates from Mass Save. Does this sound right?		
	01	Yes	[program sales = QTY] skip to CF1
	02	No	
	88	Don't know	[program sales = QTY] skip to CF1
CF0a	About how many residential <measures> that received rebates from Mass Save did your company sell in <year>?		
	____	[0 TO 1000]	[program sales = CF0a]
	8888	Don't know	[skip to next section]
	9999	Refused	[skip to next section]

Figure 4-5. Contractor Spillover Questions NS1-NS4

Table 9: Participating Contractor Spillover Questions

NS1 Think of all your sales of residential <measure>, including standard-efficiency and high-efficiency and rebated and non-rebated units. About how many did your company sell **in total** in <year>?

____	Total installations	
8888	Don't know	[skip to next section]
9999	Refused	[skip to next section]

NS2 About how many of the sales of residential <measure> in <year> were high-efficiency, including rebated and non-rebated units?

___	Number of installs	
8888	Don't know	[skip to next section]
9999	Refused	[skip to next section]

NS3 Did all the high-efficiency <measure> that your company sold in <year> receive a Mass Save rebate of some kind?

01	Yes	[skip to next section]
02	No	
88	Don't know	[skip to next section]
99	Refused	[skip to next section]

Can be determined by comparing NS2 to CF0/CF0a

NS4 About what percentage of the high-efficiency <measure> that your company sold in <year> did not receive a Mass Save rebate even though they would have qualified for one?

___	Percent [0 TO 100]
888	Don't know
999	Refused

Can be calculated as follows: (NS2-CF0/CF0a) / NS2

5. Event Type, Equipment Replacement and Participant Demographics

The following sections present additional analysis from the single-family survey, including information about the equipment that was replaced through the program and demographic information.

5.1 Event Type

Per the Consistent Residential SRA guidance, we included a series of questions of certain measure groups in the single-family surveys to determine the event that initiated the equipment replacement through the program. A participant could be assigned one of four categories:

1. New construction (the equipment was installed as part of a new construction project)
2. New equipment (a new type of equipment was installed that wasn't previously installed in the home)
3. Replace on failure (the old equipment failed and was replaced with new equipment)
4. Early replacement (the old equipment was replaced with new equipment before it failed.

Below are results from the single-family survey, by measure group for non-electric HVAC, electric HVAC, and water heaters. Per the Consistent Residential SRA, we did not ask market event questions for Weatherization, Direct Install, or Thermostats.

Table 5-1. Event Type by Measure Group

Event Type	Non-Electric HVAC	Electric HVAC	Water Heaters
New construction	27%	28%	24%
New equipment	2%	31%	5%
Replace on failure	47%	28%	55%
Early replacement	24%	13%	17%

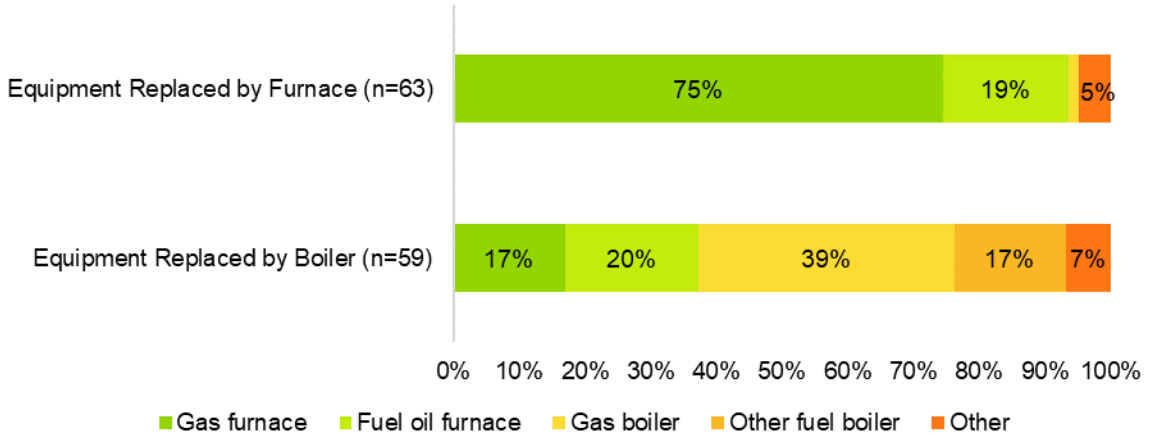
5.2 Replaced Equipment

The following sections describe the type of equipment that was replaced by the equipment installed through the program for certain equipment types.

5.2.1 Heating Equipment

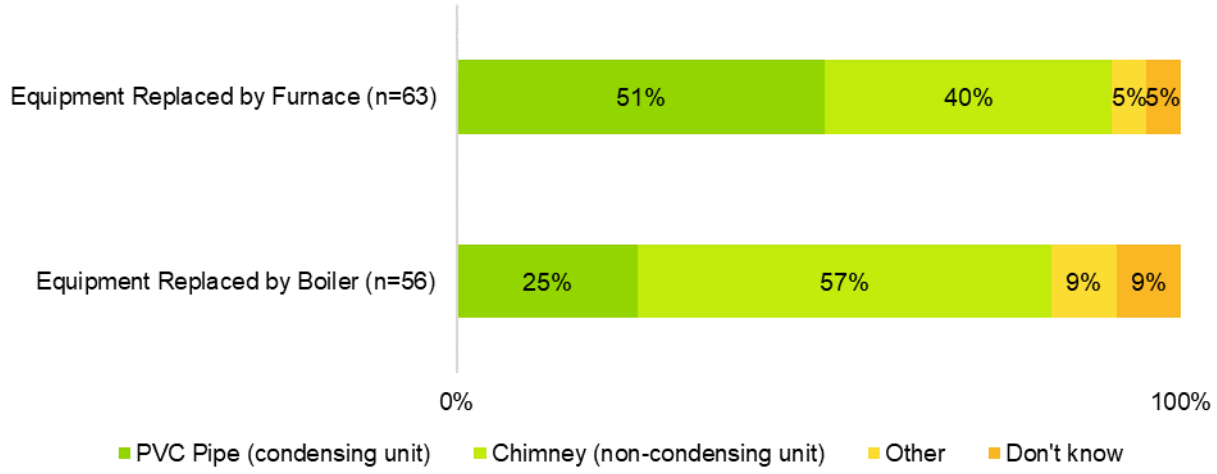
New, efficient furnaces and boilers were most likely to have replaced an older version of the same equipment. Three-fourths of those who installed a new gas furnace replaced an old gas furnace. For boilers, 39% replaced an old gas boiler and another 17% replaced a fuel oil or propane boiler. Notably, 20% of new boilers replaced an old fuel oil furnace, deviating from the trend of new equipment replacing the same equipment type. More details of the equipment replaced by boilers and furnaces follow.

Figure 5-1. Equipment Replaced by New Heating Equipment



New furnaces were more likely to have replaced condensing units than boilers. To determine if the replaced unit was condensing or not, we asked customers which way their old heating unit vented out of their house: through the chimney (non-condensing unit) or through a PVC pipe (condensing unit). Over one-half of the equipment replaced by a new furnace was condensing (i.e., it vented out of the home through a pipe). In contrast, one-quarter of equipment replaced by a new boiler was condensing.

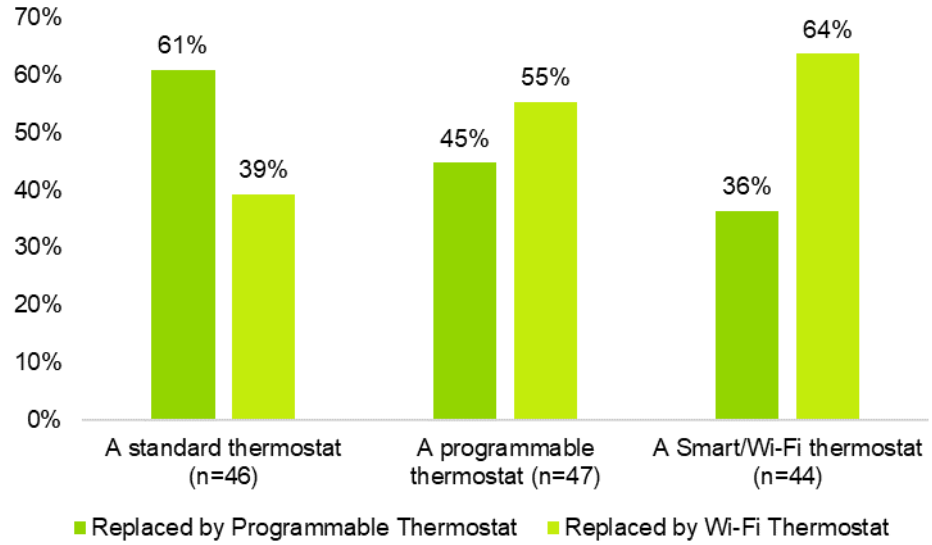
Figure 5-2. Venting Method of Equipment Replaced by New Heating Equipment



5.2.2 Thermostats

Participants who replaced standard thermostats were most likely to upgrade to a programmable thermostat (61%) and participants with an old smart/Wi-Fi thermostat were most likely to upgrade to a new Wi-Fi thermostat (64%). For participants with an old programmable thermostat, it was close to a 50-50 split between those who upgraded to a programmable versus a Wi-Fi thermostat.

Figure 5-3. Equipment Replaced by New Thermostats



5.3 Home Characteristics and Demographics

Most survey respondents lived in single-family homes (81%) that they own (98%). Homes tended to be older, with about one-quarter being built before 1950 (27%). Most respondents heat their homes with natural gas (66%), followed by fuel oil (20%). Most have natural gas water heaters (61%), followed by electric water heaters (18%).

Table 5-2. Home Characteristics of Respondents

	Frequency
Type of Home	
A single-family house detached from any other house	81%
A row home	4%
A building with 2 units	6%
A building with 3 or 4 units	5%
A building with 5 to 9 units	1%
A building with 10 to 19 units	1%
A building with 20 to 49 units	1%
A building with 50 or more units	0%
Other	1%
Respondents (n)	503
Own or Rent Home	
Own	98%
Rent	2%
Other	0%
Respondents (n)	499
Year Home Was Built	

	Frequency
Before 1950	27%
Between 1950 and 1959	13%
Between 1960 and 1969	9%
Between 1970 and 1979	10%
Between 1980 and 1989	13%
Between 1990 and 1999	14%
Between 2000 and 2009	11%
2010 or later	4%
Respondents (n)	495
Primary Space Heating Fuel in Home	
Natural gas	66%
Fuel oil	20%
Propane	6%
Electricity	6%
Wood	0%
Pellet wood	0%
Other	1%
Respondents (n)	498
Primary Water Heating Fuel in Home	
Natural gas	61%
Electricity	18%
Fuel oil	14%
Propane	5%
Other	1%
Respondents (n)	495

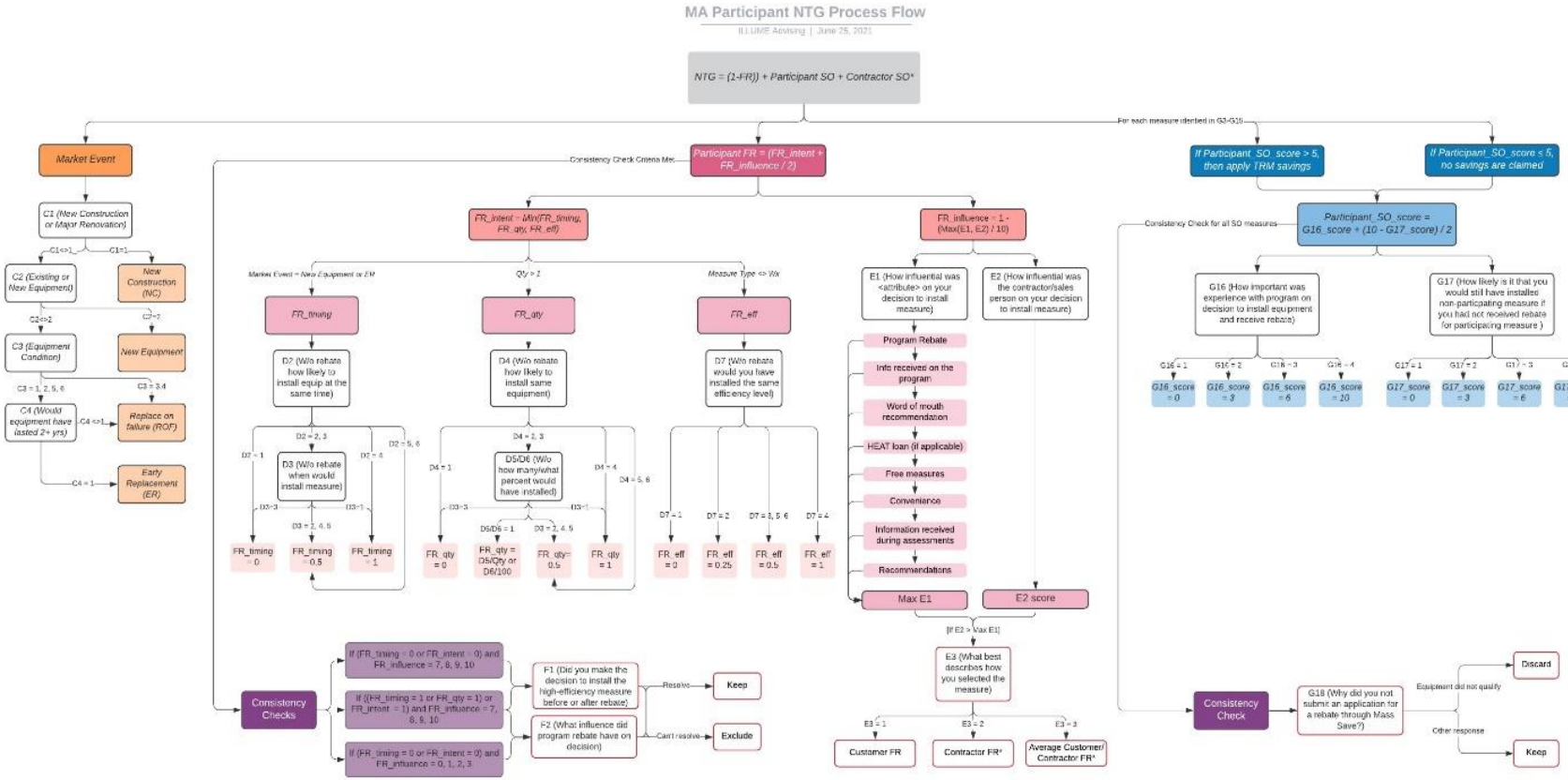
Participants are more likely to be older, well educated, middle to upper class, and English speakers. Most survey respondents had at least a bachelor's degree (81%) and three-quarters were over 45 years old (74%). Over half of respondents reported a total annual household income of more than $100,000 (60%). Most respondents spoke English in their home (90%), with a small minority speaking Spanish, Russian, Polish, or other Slavic languages, and French, Haitian, or Cajun (2% each) in their homes. A small number also reported speaking Mandarin, Cantonese, and Korean (1% each).

Table 5-3. Demographic Characteristics of Respondents

	Frequency
Highest Level of Education Completed	
Less than a high school diploma	0%
Completed high school diploma or equivalent (GED)	6%
Some college	9%
Completed a 2 year or technical degree/certification	4%

	Frequency
Bachelor's degree	35%
Graduate or professional degree	46%
Respondents (n)	481
Age Category	
18 to 24	0%
25 to 34	7%
35 to 44	18%
45 to 54	21%
55 to 64	22%
65 or over	31%
Respondents (n)	481
Total Household Income in 2019	
Less than $35,000	3%
$35,000 to less than $50,000	7%
$50,000 to less than $75,000	14%
$75,000 to less than $100,000	17%
$100,000 to less than $150,000	22%
$150,000 to less than $200,000	18%
$200,000 or more	20%
Respondents (n)	381
Language Spoken in Home	
English	90%
Spanish	2%
Russian, Polish, or other Slavic languages	2%
French, Haitian, or Cajun	2%
Mandarin	1%
Cantonese	1%
Korean	1%
Portuguese	0%
German	0%
Arabic	0%
Other	2%
Respondents (n)	518

Appendix A. NTG Flowchart



*Contractor FR and SO Process Flow to be presented at a later date

Appendix B. Detailed Single-Family Survey Response Rate

Table B-1 summarizes the population, sample frame, sample size, and targeted and achieved number of completes for the detailed measure categories. As the report discussed, not all completes received through the survey were useable for analysis and they were excluded from analysis if the survey was completed for measures with no program savings, the respondent could not confirm measure-level participation, or there were inconsistent survey responses.

Table B-1. Detailed Single-Family Survey Response Rate

Measure	Population*	Sample Frame**	Sample Size	Targeted number of completes	Achieved number of completes
Weatherization					
Air Sealing	31,038	30,089	654	100	78
Insulation	30,573	29,611	658		73
Total	**61,611**	**59,700**	**1,312**		**151**
Direct Install Measures					
Duct sealing/Insulation	1,963	1,727	51	100	6
Water Saving Devices	26,090	25,652	632		49
Pipe Wrap	639	606	14		1
Total	**28,692**	**27,985**	**697**		**56**
Non-Electric Heating Equipment (Gas and Delivered Fuels)					
Boilers	11,551	10,811	775	200	90
Furnaces	8,247	7,708	535		90
Total	**19,798**	**18,519**	**1,310**		**180**
Electric Heating/Cooling Equipment					
Central ACs	3976	3527	348	140	78
Heat Pumps, no fuel switching	6,420	5,830	568		97
Total	**10,396**	**9,357**	**916**		**175**
Water Heaters (Gas and Electric)					
Gas Water Heaters	7174	6701	485	140	60
Electric Water Heaters	3455	3105	424		50

Measure	Population*	Sample Frame**	Sample Size	Targeted number of completes	Achieved number of completes
Total	**10,629**	**9,806**	**909**		**110**
Thermostats					
Wi-Fi	31,718	29,237	565		74
Programmable	26,179	24,939	623	140	73
Total	**57,897**	**54,176**	**1,188**		**147**

*Allocated single-family population from NMR

**Sample frame after selecting one program pathway, and a max of three measures per participant

Note: if a customer installed more than one measure, they are included multiple times in this table

Appendix C. Contractor Market Share

Table 1 summarizes the market share of each measure assessed via the contractor survey. The data elements in the table include:

- **Program Sales**, which our team confirmed via the survey (or adjusted appropriately) based on contractor's responses to CF0 and CF0a in the free ridership battery.
- **Efficient Sales Outside Program**, which we derived based on the responses to NS1-NS6 in the spillover battery.
- **Total Projects**, which contractors provided via NS1 in the spillover battery.
- **Standard Efficiency**, which our team calculated, as follows, using the three previous values: *Total Projects – Program Sales – Efficient Sales Outside Program*.

Note that the table is limited to instances when a responding contractor provided a complete set of responses for both the free ridership and spillover batteries. The incomplete data largely stems from the fact that the data elements required to calculate market share come from the related, but separate free ridership and spillover batteries. For example, a contractor could provide a valid response for Program Sales value in the free ridership battery (allowing us to calculate free ridership) while providing an invalid response to Total Projects (e.g., "Don't know") in the spillover section, which prevented us from calculating spillover and market share.

As a result of excluding incomplete responses, the valid Ns are smaller than those used in NTG calculations. It also prevented our team from calculating market share for multifamily, which had a much lower overall response rate, as well as for certain measures (with less than four total valid responses).

To measure the market share using a greater percentage of total respondents, evaluators should adjust future applications of the standard algorithm to better connect the contributing elements. This would entail making these fields required, as well as eliminating the Don't Know as response option.

Table C-1. Contractor Market Share

Measure Group	Measure	Number of Responses	Program Sales	Efficient Sales Outside of Program	Standard Efficiency	Total Projects
Weatherization*	Air Sealing	10	1,434		2	1,436
	Insulation	10	1,772		281	2,053
Electric Heating/Cooling Equipment	Central Air Conditioner	8	256	97	74	427
	Ductless Mini-Split Heat Pumps (No Fuel Switching)	7	268	8	93	369
Non-Electric Heating Equipment	Natural Gas Boiler	7	151	19	115	285
	Natural Gas Furnace	10	239	4	129	372
	Oil Furnace	4	39	7	43	89
Water Heaters	Natural Gas Indirect	4	48	76	37	160

* Air sealing and insulation measures do not have efficiency vs. standard efficiency distinctions.

Appendix D. Single Family Survey Instrument

A. Landing Page/Introduction

[WEB LANDING PAGE]
[THIS IS THE LANGUAGE THE SURVEY RESPONDENT WILL SEE AFTER CLICKING THE LINK TO THE SURVEY. THIS PAGE WILL ALSO CONTAIN THE MASS SAVE® LOGO.]
[FOR WEB RESPONDENTS, START THE SURVEY AT A.B1]

Thank you for participating in a Mass Save® energy efficiency program! Your response to this survey will help us understand your experience with the program. Your responses will be kept confidential and will be used to help Mass Save provide the best value to our customers.

We appreciate your input!

Open drop-down menus by clicking on this icon ▾ within the survey.

Click on the "Next" and "Back" buttons at the bottom of each page to navigate through the survey.

[PHONE INTRODUCTION]

A1. Hello, my name is _____ with [SURVEY HOUSE]. I am calling on behalf of [PA], one of the sponsors of the Mass Save® energy efficiency programs. May I please speak with [FNAME] [LNAME] or the person who made the decision to install equipment through the Mass Save [PROGRAM]?

[IF RESPONDENT NOT AVAILABLE, SAY: May I please speak to one of the adults in your household who is responsible for your [PA] bill?] [IF NOT AVAILABLE, ARRANGE A CALL BACK.]

[IF ANOTHER PERSON COMES TO THE PHONE, REPEAT INTRO TO HIM/HER.]

A2. This is not a sales call. We are conducting a study with Massachusetts residents that recently received a rebate for installing energy efficient equipment through Mass Save. The survey will take about 15 minutes of your time and the information that we gather will be used to improve energy efficiency programs in Massachusetts.

[INTERVIEWER NOTE: If customer asks about how their information is kept secure, please use the following response: "We maintain safeguards to protect survey responses. These include, for example, physical security of our facilities, technical safeguards to protect electronic data, and manager supervision."]
[INTERVIEWER NOTE: If respondents questions legitimacy, say: "If you have any questions or would like to verify the legitimacy of this research, please contact [PA CONTACT – see below] with [PA]."]

PROGRAM ADMINISTRATOR	*CONTACT NAME*	CONTACT PHONE NUMBER	CONTACT E-MAIL ADDRESS
[IF PA = BERKSHIRE GAS" DISPLAY CONTACT NAME,	*Dick Oswald*	(203) 499-2538	Richard.Oswald@uinet.com

PHONE NUMBER, AND EMAIL]			
[IF PA = CAPE LIGHT COMPACT" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Gail Azulay*	(508) 744-1266	gazulay@capelightcompact.org
[IF PA = EVERSOURCE" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Tracy Dyke Redmond*	(781) 441-3389	tracy.dyke-redmond@eversource.com
[IF PA = LIBERTY UTILITIES" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Autumn Snyder*	(603) 724-2132	Autumn.Snyder@libertyutilities.com
[IF PA = NATIONAL GRID" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Kim Crossman*	(781) 907-1562	kimberly.crossman@nationalgrid.com
[IF PA = UNITIL" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Mary Downes*	(603) 294-5122	downesm@unitil.com

B. Screener

[ASK FOR ALL REBATED MEASURES]

B1. According to our records, you received a rebate for….

[LIST MEASURES]

…that you installed through [PA]'s [PROGRAM] in 2019. Is that correct? [SINGLE RESPONSE]

1. Yes
2. No [SPECIFY, THEN TERMINATE]
3. Don't know [TERMINATE]
4. Refused [TERMINATE]

[ASK IF PROGRAM = RCD]

B2. Our records indicate that you received a home energy assessment through the Mass Save program. Is that correct?

1. Yes
2. No [TERMINATE]
3. Don't know [TERMINATE]

[ASK IF B2 = 1]

B3. Were you present for the home energy assessment?

1. Yes
2. No
Don't know

[ASK IF B2 = 1]

B4. What year did you most recently receive a home energy assessment?

1. [RECORD YEAR]
2. Don't know

[ASK IF DI = 1]

B5. FINALLY, OUR RECORDS INDICATE THAT THE HOME ASSESSOR INSTALLED ENERGY SAVING EQUIPMENT IN YOUR HOME DURING THEIR VISIT. THIS INCLUDED….

[LIST DI MEASURES]

IS THAT CORRECT?

1. Yes
2. No [SPECIFY, THEN TERMINATE]
3. Don't know [TERMINATE]
4. Refused [TERMINATE]

[SHOW FOR ALL]

NTG_INTRO. FOR THE REMAINDER OF THIS SURVEY, THE QUESTIONS WILL FOCUS ON THE FOLLOWING TYPES OF ENERGY SAVING EQUIPMENT YOU INSTALLED THROUGH THE MASS SAVE ENERGY EFFICIENCY PROGRAM.

[LIST ALL SAMPLED MEASURES, MAX OF 3].

THIS SURVEY WILL ASK YOU TO THINK ABOUT YOUR DECISION-MAKING PROCESS FOR EACH OF THESE.

1. [CONTINUE]

[LOOP THROUGH SECTION C THROUGH F FOR ALL SAMPLED MEASURES, UP TO 3]
[IF MEASURE TYPE = WEATHERIZATION OR DIRECT INSTALL, SKIP TO SECTION D]

C. Market Event

MARKET_INTRO. Next, I'd like to ask you about the [MEASURE] you installed through the Mass Save energy efficiency program.

[IF MEASURE TYPE = THERMOSTATS, SKIP TO A.C10]

C1. Was the high-efficiency [MEASURE] installed as part of a new construction or major renovation project? [SELECT ONE]

1. Yes **[NEW CONSTRUCTION]** [SKIP TO A.D4]
2. No
3. Don't know
4. Refused

[ASK IF C1<>1]

C2. Did the high-efficiency [MEASURE] you installed replace any existing [MEASURE] or was it a new type of equipment that you did not have in your home before? [SELECT ONE]

1. Replaced existing equipment
2. New equipment **[NEW EQUIPMENT]** [SKIP TO A.D1]
3. Don't know
4. Refused

[ASK IF C2=1, 3, 4]

C3. Which of the following best describes the condition of your old equipment? [READ LIST]

1. The old equipment was working with no need of repair
2. The old equipment was working with need of minor repair
3. The old equipment was working with need of major repair **[ROF]** [SKIP TO C5]
4. The old equipment was no longer working **[ROF]** [SKIP TO C5]
5. Don't know
6. Refused

[ASK IF C3= 1, 2, 5, and 6]

C4. Do you think your old equipment would have lasted another two years? (select one)

1. Yes **[ER]**
1. No **[ROF]** [SKIP TO C5]
2. Don't know **[ROF]** [SKIP TO C5]
3. Refused **[ROF]** [SKIP TO C5]

[ASK IF C2=1 and MEASURE=BOILER, FURANCE]

C5. What type of heating system did your [MEASURE] replace? [SELECT ONE]

1. Electric furnace
2. Gas furnace
3. Fuel oil furnace
4. Propane furnace
5. Electric boiler
6. Gas boiler
7. Fuel oil boiler
8. Propane boiler
9. Other [SPECIFY]
10. Don't know

[ASK IF C5=2,3,4,6,7,8]

C6. Which way did your **previous** [C5 RESPONSE] vent? [ROTATE; SELECT ONE]

1. [SHOW CHIMNEY.jpg]
2. [SHOW PVC PIPE.png]
3. Other [SPECIFY]
4. Don't know

[ASK IF C2=1 and MEASURE=CENTRAL AC]

C7. What type of cooling system did your [MEASURE] replace? [SELECT ONE]

1. Electric heat pump
2. Electric central AC
3. Room air conditioner
4. Other [SPECIFY]
5. Don't know

[ASK IF C2=1 and MEASURE= HEAT PUMP]

C8. What type of heating/cooling system did your [MEASURE] replace? [SELECT ONE]

1. Electric heat pump
2. Electric central AC
3. Electric furnace
4. Gas furnace
5. Fuel oil furnace
6. Propane furnace
7. Electric boiler
8. Gas boiler
9. Fuel oil boiler
10. Propane boiler
11. Other [SPECIFY]
12. Don't know

[ASK IF C2=1 and MEASURE= WATER HEATER]

C9. What type of water heater did your [MEASURE] replace? [SELECT ONE]

1. Electric water heater
2. Gas water heater
3. Solar water heater
4. Heat pump water heater
5. Fuel oil water heater
6. Propane water heater
7. Other [SPECIFY]
8. Don't know

[ASK IF MEASURE= WI-FI THERMOSTAT, SMART THERMOSTAT]

C10. What type of thermostat did your [MEASURE] replace? [SELECT ONE]

1. A **standard thermostat** that you must manually adjust when you want to change the temperature in the home
2. A **programmable thermostat** that can be automatically set to different temperatures at different times of the day
3. A **Wi-Fi thermostat** that you can control from anywhere
4. A **smart thermostat** that is connected to wi-fi and learns your patterns
5. Other [SPECIFY]
6. Don't know

D. Free-Ridership (Intent)

D1. Now, I would like to ask you some questions about what motivated you to install the [MEASURE] through the [PROGRAM] when you did. [IF C2 = 1, SHOW: When answering the following questions, please think about your decision to install an efficient [MEASURE] before your old one stopped working.]

Timing

[IF NEW CONSTRUCTION or ROF, SKIP TO D4]

D2. Without the rebate or assistance from [PA], how likely is it that you would have installed any type of [EQUIPMENT] at the same time? Would you say …

1. Not at all likely **FR_timing = 0** [SKIP TO A.E1]
2. Slightly likely
3. Somewhat likely
4. Very likely **FR_timing = 1.0** [SKIP TO D4]
5. Don't know **FR_timing = 0.5** [SKIP TO D4]
6. Refused **FR_timing = 0.5** [SKIP TO D4]

[ASK IF D2=2 or 3]

D3. Without the rebate or assistance from [PA], when do you think you would have installed the [MEASURE]? Would you say …

1. Within 6 months of when you did **FR_timing = 1.0**
2. Between 6 months and 12 months of when you did **FR_timing = 0.5**
3. More than 1 year after when you did **FR_timing= 0** [SKIP TO A.E1]
4. Don't know **FR_timing = 0.5**
5. Refused **FR_timing = 0.5**

Quantity

[ASK IF QTY>1, ELSE SKIP TO D7]

D4. Without the rebate or assistance from [PA], how likely is it that you would have installed the exact same [IF MEAS_GROUP<>WEATHERIZATION, SHOW: quantity of; IF MEAS_GROUP=WEATHERIZATION, SHOW: amount of] high-efficiency [MEASURE]? Would you say it is …

1. Not at all likely	**FR_qty = 0**
2. Slightly likely	
3. Somewhat likely	
4. Very likely	**FR_qty = 1.0**
5. Don't know	**FR_qty = 0.5**
6. Refused	**FR_qty = 0.5**

[ASK IF MEAS_GROUP<>WEATHERIZATION]

D5. Without the rebate or assistance from [PA], how many high-efficiency [MEASURE]s would you have installed?

1. ___ Quantity would have installed	**FR_qty = (D5/QTY)**
2. Don't know	**FR_qty = 0.5**
3. Refused	**FR_qty = 0.5**

[ASK IF MEAS_GROUP=WEATHERIZATION]

D6. Without the rebate or assistance from [PA], what percent of the high-efficiency [MEASURE] would you have installed?

1. ___ Percent would have installed [0-100]	**FR_qty = D6/100**
2. Don't know	**FR_qty = 0.5**
3. Refused	**FR_qty = 0.5**

Efficiency

[ASK IF MEAS_GROUP<>WEATHERIZATION, ELSE SKIP TO A.E1]

D7. [IF DI<>1, SHOW: Without the rebate from [PA],] [IF DI=1, SHOW: If you had not received the free [MEASURE] from [PA],] how likely is it that you would have installed the exact same high-efficiency level of [MEASURE]? Would you say …

1. Not at all likely	**FR_eff = 0**
2. Slightly likely	**FR_eff = 0.25**
3. Somewhat likely	**FR_eff = 0.5**
4. Very likely	**FR_eff = 1.0**
5. Don't know	**FR_eff = 0.5**
6. Refused	**FR_eff = 0.5**

FR_intent = minimum of FR_timing, FR_qty, and FR_eff

E. Free-Ridership (Influence)

Influence

E1. On a scale of 0 to 10 where 0 is 'not at all influential' and 10 is 'very influential,' how influential was < attribute from list below> on your decision to install the high-efficiency [MEASURE]?

[ASK IF DI <> 1]

a. the program rebate
b. information about the program you received from <PA>
c. a recommendation from a friend or family member to participate in the program
d. [SHOW IF MEASURE_GROUP=HVAC: the HEAT loan you received which offset some of the cost of the equipment (if applicable)]

[ASK IF DI = 1]

e. the availability of free [MEASURE] through the program
f. the convenience of the home assessor installing the [MEASURE] for you

[ASK IF B2 = 1 (RECEIVED ASSESSMENT)]

g. information you received during your home assessment about how to make your home more energy efficient
h. recommendations to install specific equipment that your home assessor gave you

1. __ Rating
2. Not applicable
3. Don't know
4. Refused

[IF MEASURE GROUP = HVAC, WATER HEATING, OR THERMOSTATS]

E2. Using the same 0 to 10 scale where 0 = 'not at all influential' and 10 is 'very influential,' how influential was the contractor or salesperson on your decision to install the high-efficiency [MEASURE]?

1. __ Rating
2. Not applicable
3. Don't know
4. Refused

[IF E2 > HIGHEST RATING FROM E1]

E3. Which of the following best describes how you selected the new high-efficiency [MEASURE]? [SELECT ONE] [ROTATE OPTIONS 1 THROUGH 3]

1. I did some research on [MEASURE]s and made my own choice
2. My contractor suggested one [MEASURE] efficiency level, and I agreed **(use Contractor FR results)**
3. My contractor suggested various [MEASURE] efficiency levels, and I chose one **(average of contractor and customer FR results)**
4. Something else [SPECIFY]

FR_influence=max rating from E1, E2

F. Consistency Check

[ASK IF ((FR_timing=0 or FR_intent=0) and FR_influence=0,1,2,3) or (((FR_timing=1 and FR_qty=1) or FR_intent=1) and FR_influence=7,8,9,10)]

F1. Did you make the decision to install the high-efficiency [MEASURE] before or after you learned of the rebate? [SELECT ONE]

1. Before
2. After
3. Don't know
4. Refused

[ASK IF ((FR_timing=0 or FR_intent=0) and FR_influence=0,1,2,3) or (((FR_timing=1 and FR_qty=1) or FR_intent=1) and FR_influence=7,8,9,10)]

F2. Please describe the influence that the program rebate had on your decision to install the high-efficiency [MEASURE]?

[OPEN END RESPONSE]

G. Participant Spillover

[ASK OF ALL]

G1. Since installing the equipment, have you made other energy-saving purchases or changes that did not receive a rebate through the Mass Save® program? [SELECT ONE]

1. Yes
2. No [SKIP TO A.I1]
3. Don't know [SKIP TO A.I1]

[ASK IF G1=1]

G2. Did your experience with the Mass Save program influence your decision to make these energy-saving purchases or changes? [SELECT ONE]

1. Yes
2. No [SKIP TO A.I1]
3. Don't know [SKIP TO A.I1]

[ASK IF G2=1]

G3. What energy-saving purchases or changes did you make? [SELECT ALL THAT APPLY]

[Note: Make light bulbs and other upstream products available for interviewers and respondents, but these measures will not be counted towards spillover]

1. LEDs/Energy-efficient light bulbs
2. Energy-efficient appliance(s)
3. HVAC equipment
4. Attic, wall, or basement insulation
5. Duct sealing or duct insulation
6. Air sealing of leaks
7. Smart thermostat
8. Water heater
9. Other purchases or changes

[CREATE LOOP. LOOP THROUGH G13 to G18FOR EACH MEASURE OTHER THAN LIGHTING (1) SELECTED IN 0]

[ASK IF G3 = 2]

G4. What type of energy-efficient appliance(s) did you install? [SELECT ALL THAT APPLY]

1. Clothes Washer
2. Electric Clothes Dryer
3. Gas Clothes Dryer
4. Refrigerator
5. Freezer
6. Dishwasher
7. Dehumidifier
8. Other type of appliance [SPECIFY]

[ASK IF G3 = 3]

G5. What type of HVAC equipment did you install? [SELECT ALL THAT APPLY]

1. Central A/C
2. Furnace
3. Boiler
4. Air Source Heat Pump
5. Ductless Heat Pump
1. Other type of HVAC equipment [SPECIFY]

[ASK IF G5 = 1]

G6. What was the SEER rating on the Central A/C you installed?

[OPEN END RESPONSE]

[ASK IF G5 = 2 or 3]

G7. What was the AFUE (Annual Fuel Utilization Efficiency) rating on the [G5 MEASURE] you installed?

[OPEN END RESPONSE]

[ASK IF G5 = 4 or 5]

G8. What was the HSPF (Heating Seasonal Performance Factor) rating on the heat pump you installed?

[OPEN END RESPONSE]

[ASK IF G5 = 4 or 5]

G9. WHAT TYPE OF HEATING SYSTEM DID THE NEW HEAT PUMP REPLACE? [SELECT ONE]

1. Electric furnace
2. Gas furnace
3. Fuel oil furnace
4. Propane furnace
5. Electric boiler
6. Gas boiler
7. Fuel oil boiler
8. Propane boiler
9. Other [SPECIFY]
10. Don't know
11. Not applicable

[ASK IF G3 = 8]

G10. What type(s) of water heater did you install? [SELECT ALL THAT APPLY]

1. Electric Water Heater
2. Gas Water Heater
3. Solar Water Heater
4. Heat Pump Water Heater
5. Other Water Heater (propane, fuel oil, etc.)

[ASK IF 0 = 7]

G11. WHAT DOES THE THERMOSTAT YOU INSTALLED CONTROL? [SELECT ONE]

1. Heating
2. Air conditioning
3. Both heating and air conditioning

[ASK IF 0 = 8]

G12. WHAT TYPE OF WATER HEATER(S) DID THE NEW WATER HEATER(S) REPLACE? [SELECT ALL THAT APPLY]

1. Electric water heater
2. Gas water heater
3. Solar water heater
4. Heat pump water heater
5. Fuel oil water heater
6. Propane water heater
7. Don't know
8. Not applicable

[ASK IF 0 = 9]

G13. Can you describe the purchases or changes you made in more detail? If applicable, include the quantity installed, the type of equipment, and the efficiency levels installed.

[OPEN END RESPONSE]

G14. How did you know the equipment was energy efficient and would have qualified for a rebate through the program? [SELECT ALL THAT APPLY; ROTATE OPTIONS 1-8]

1. Efficiency rating or label of equipment, such as an "ENERGY STAR®" logo
2. Equipment dealer/retailer said it was energy efficient
3. Personal experience
4. Met utility rebate requirements
5. Third party report, such as Consumer Reports
6. Recommendations from the contractor/installer
7. Did not rely on any specific type of information
8. Internet research indicated the equipment was energy efficient
9. Other [SPECIFY]
10. Don't know

[IF G3=2 AND ENERGY STAR NOT MENTIONED IN G14, ASK FOR EACH MENTIONED IN G5]

G15. Was the [G5 RESPONSE] ENERGY STAR-labeled? [SELECT ONE]

1. Yes
2. No
3. Don't know

G16. How important was your experience with the Mass Save program on your decision to install the [equipment from 0] that did not receive a rebate from [PA]? Was it ...

1. Not at all important **score = 0**
2. Slightly important **score = 3**
3. Somewhat important **score = 6**
4. Very important **score = 10**
5. Not applicable
6. Don't know
7. Refused

G17. How likely is it that you would still have purchased/installed energy-efficient [equipment from 0] if you had not already received a rebate for the energy-efficient [MEASURE]?

1. Not at all likely **score = 10**
2. Slightly likely **score = 6**
3. Somewhat likely **score = 3**
4. Very likely **score = 0**
5. Not applicable
6. Don't know
7. Refused

G18. Why did you not submit an application for a rebate through the Mass Save program for this additional equipment?

[OPEN END RESPONSE]

H. Satisfaction

H1. Using a scale of 0 to 10, where 0 is "extremely unlikely" and 10 is "extremely likely," how likely are you to recommend Mass Save to a friend?

[RECORD A WHOLE # 0-10; DON'T KNOW = 98; REFUSED = 99.]

[ASK IF H1 <8]

H2. Why would you be unlikely to recommend Mass Save?

[OPEN END RESPONSE]

[ASK IF H1 >8]

H3. Why would you be likely to recommend Mass Save?

[OPEN END RESPONSE]

I. Demographics

I1. We are almost finished. What type of residence do you live in? [SELECT ONE; READ LIST IF NEEDED]

1. A single-family house detached from any other house
2. A row home—a single-family house attached to one or more single-family house(s)
3. A building with 2 units
4. A building with 3 or 4 units
5. A building with 5 to 9 units
6. A building with 10 to 19 units
7. A building with 20 to 49 units
8. A building with 50 or more units
9. A mobile, manufactured, or trailer home
10. A boat, RV, van, etc.
11. Other [SPECIFY]
12. Don't know
13. Refused

I2. Do you own or rent your home? [SELECT ONE]

1. Own
2. Rent
3. Other [SPECIFY]
4. Don't know
5. Refused

I3. Approximately when was this home built? [SELECT ONE; READ LIST IF NEEDED]

1. Before 1950
2. Between 1950 and 1959
3. Between 1960 and 1969
4. Between 1970 and 1979
5. Between 1980 and 1989
6. Between 1990 and 1999
7. Between 2000 and 2009
8. 2010 or later
9. Don't know
10. Refused

I4. What is your home's primary space heating fuel? [SELECT ONE; READ LIST IF NEEDED]

1. Electricity
2. Natural gas
3. Propane
4. Fuel oil
5. Kerosene
6. Coal
7. Wood
8. Pellet wood
9.
10. Other [SPECIFY]
11. Don't know
12. Refused

I5. What is your home's primary water heating fuel? [SELECT ONE; READ LIST IF NEEDED]

1. Electricity
2. Natural gas
3. Propane
4. Fuel oil
5. Kerosene
6. Coal
7. Wood
8. Pellet wood
9. Other [SPECIFY]
10. Don't know
11. Refused

I6. What is the highest level of education you completed? [SELECT ONE; READ LIST IF NEEDED]

1. Less than a high school diploma
2. Completed high school diploma or equivalent (GED)
3. Some college
4. Completed a 2 year or technical degree/certification
5. Bachelor's degree
6. Graduate or professional degree
7. Don't know
8. Refused

I7. Which of the following best describes your age? [SELECT ONE; READ LIST IF NEEDED]

1. 18 to 24
2. 25 to 34
3. 35 to 44
4. 45 to 54
5. 55 to 64
6. 65 or over
7. Don't know
8. Refused

I8. What best describes your total household income in 2019, before taxes? [SELECT ONE; READ LIST IF NEEDED]

1. Less than $35,000
2. $35,000 to less than $50,000
3. $50,000 to less than $75,000
4. $75,000 to less than $100,000
5. $100,000 to less than $150,000
6. $150,000 to less than $200,000
7. $200,000 or more
8. Don't know
9. Refused

I9. What language(s) do you primarily speak at home? Please select all that apply. [MULTIPLE RESPONSE; RANDOMIZE OPTIONS 1-12]

1. English
2. Spanish
3. Portuguese
4. Mandarin
5. Cantonese
6. Vietnamese
7. Korean
8. French, Haitian, or Cajun
9. German
10. Russian, Polish, or other Slavic languages
11. Tagalog
12. Arabic
13. Other (please specify)
14. Don't know
15. Prefer not to answer

I10. Those are all the questions I have. Your responses are very important to [PA] and will help as they design future energy efficiency programs. We appreciate your participation and thank you for your time.

If you would like to receive a $20 Amazon gift card as a thank you for completing the survey, please enter your contact information below.

[GATHER CONTACT INFORMATION TO PROVIDE GIFT CARD]

Appendix E. Multifamily Survey Instrument

A. Landing Page/Introduction

[WEB LANDING PAGE]
[THIS IS THE LANGUAGE THE SURVEY RESPONDENT WILL SEE AFTER CLICKING THE LINK TO THE SURVEY. THIS PAGE WILL ALSO CONTAIN THE MASS SAVE® LOGO.]
[FOR WEB RESPONDENTS, START THE SURVEY AT INTRO]

Thank you for participating in a Mass Save® energy efficiency program! Your response to this survey will help us understand your experience with the program. Your responses will be kept confidential and will be used to help Mass Save provide the best value to our customers.

As a token of our appreciation, we will send you a $20 Tango gift card if you qualify and complete the entire survey.
We appreciate your input!

Open drop-down menus by clicking on this icon ▾ within the survey.

Click on the arrows at the bottom of each page to navigate through the survey.

[PHONE INTRODUCTION]

A1. Hello, my name is _____ with [SURVEY HOUSE]. I am calling on behalf of [PA], one of the sponsors of the Mass Save® energy efficiency programs. May I please speak with [FNAME] [LNAME] or the person who made the decision to install equipment through the Mass Save® [PROGRAM]?

[IF RESPONDENT NOT AVAILABLE, SAY: May I please speak to the building owner or manager who is most familiar with the Mass Save® program work performed on the building?] [IF NOT AVAILABLE, ARRANGE A CALL BACK.]

[IF ANOTHER PERSON COMES TO THE PHONE, REPEAT INTRO TO THEM.]

A2. This is not a sales call. We are conducting a study with Massachusetts building owners or managers that recently energy efficient equipment installed or received rebates for installing energy efficient equipment through the Mass Save® [PROGRAM]. The survey will take about 10 minutes of your time and the information that we gather will be used to improve energy efficiency programs in Massachusetts.

As a token of our appreciation, we will send you a $20 Tango gift card if you qualify and complete the entire survey.

[INTERVIEWER NOTE: If customer asks about how their information is kept secure, please use the following response: "We maintain safeguards to protect survey responses. These include, for example, physical security of our facilities, technical safeguards to protect electronic data, and manager supervision."]
[INTERVIEWER NOTE: If respondents questions legitimacy, say: "If you have any questions or would like to verify the legitimacy of this research, please contact [PA CONTACT – SEE BELOW] with [PA]."]

Program Administrator	Contact Name	Contact Phone	Contact E-Mail Address
[IF PA = BERKSHIRE GAS" DISPLAY CONTACT NAME, PHONE NUMBER, AND EMAIL]	*Dick Oswald*	(203) 499-2538	Richard.Oswald@uinet.com
[IF PA = CAPE LIGHT COMPACT" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Gail Azulay*	(508) 744-1266	gazulay@capelightcompact.org
[IF PA = EVERSOURCE" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Tracy Dyke Redmond*	(781) 441-3389	tracy.dyke-redmond@eversource.com
[IF PA = LIBERTY UTILITIES" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Autumn Snyder*	(603) 724-2132	Autumn.Snyder@libertyutilities.com
[IF PA = NATIONAL GRID" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Kim Crossman*	(781) 907-1562	kimberly.crossman@nationalgrid.com
[IF PA = UNITIL" DISPLAY CONTACT NAME, PHONE NUMBER AND EMAIL]	*Mary Downes*	(603) 294-5122	downesm@unitil.com

B. Screener

[ASK ALL]

B1. According to our records, your building had an energy assessment through the Mass Save® program in 2019. Do you recall receiving this energy assessment? [SINGLE RESPONSE]

1. Yes
2. No [TERMINATE]

98. [Not Sure] [TERMINATE]
99. [Refused] [TERMINATE]

[ASK IF B1 = YES]

B2. What role did you have as a participant in the Mass Save® energy efficiency program? [SINGLE RESPONSE]

1. A building owner/manager
2. A decision-making tenant or condo owner [TERMINATE]
3. A non-decision-making tenant or condo owner [TERMINATE]

C. Rebated Measures Screener

[ASK IF REB = 1]

C1. According to our records, you received a rebate from Mass Save® for installing energy efficient equipment that may have been recommended to you during an energy assessment. Did you install and get a rebate for the following equipment? *We are most interested in these equipment although you may have received rebates for additional equipment.* [SELECT ONE FOR EACH MEASURE]

[LIST THE TWO REBATED MEASURES THAT ACHIEVED THE GREATEST SAVINGS FOR THEIR PROJECT]

	1 – YES	2 – NO	98 – DON'T KNOW
[MEASURE1]			
[MEASURE2]			

[IF (REB_COUNT=1 AND (MEASURE1 = NO, DK)) AND DI=0, TERMINATE]
[IF (REB_COUNT=1 AND (MEASURE1 = NO, DK)) AND DI=1, SKIP TO SECTION H]
[IF (REB_COUNT=2 AND (MEASURE1 = NO, DK AND MEASURE2 = NO, DK)) AND DI=0, TERMINATE]
[IF (REB_COUNT=2 AND (MEASURE1 = NO, DK AND MEASURE2 = NO, DK)) AND DI=1, SKIP TO SECTION H]

D. Rebated Measure 1 – Market Event

[ASK IF C1= (MEASURE1 = YES)]

D1. Was the high efficiency [MEASURE1] that was rebated part of a new construction or major renovation project? [SINGLE RESPONSE]

1. Yes **[SKIP TO SECTION E]**
2. No

98. [Not Sure]
99. [Refused]

[ASK IF D1<> 1]

D2. Did the high efficiency [MEASURE1] that was installed replace any existing [MEASURE1] or was it a new type of equipment that you did not have in the building before? [SINGLE RESPONSE]

1. Replaced existing equipment
2. New equipment **[SKIP TO SECTION E]**

98. [Not Sure]
99. [Refused]

[ASK IF D1<> 2]

D3. Which of the following best describes the condition of the old equipment? [READ LIST, SINGLE RESPONSE]

1. The old equipment was working with no need of repair
2. The old equipment was working with need of minor repair
3. The old equipment was working with need of major repair **[SKIP TO C5]**
4. The equipment was no longer working **[SKIP TO C5]**

98. [Not Sure]
99. [Refused]

[ASK IF D3= 1, 2, 98 OR 99]

D4. DO YOU THINK YOUR OLD EQUIPMENT WOULD HAVE LASTED ANOTHER TWO YEARS? [SINGLE RESPONSE]

1. YES
2. NO

98. [Not Sure]
99. [Refused]

[ASK IF D2=1 and MEASURE=BOILER, FURANCE]

D5. What type of heating system did your [MEASURE] replace? [SELECT ONE]

1. Electric furnace
2. Gas furnace
3. Fuel oil furnace
4. Propane furnace
5. Electric boiler
6. Gas boiler
7. Fuel oil boiler
8. Propane boiler
9. Other [SPECIFY]

98. [Not Sure]

[ASK IF C5=2,3,4,6,7,8]

D6. Which way did your **previous** [C5 RESPONSE] vent? [SELECT ONE]

1. [SHOW CHIMNEY.jpg]
2. [SHOW PVC PIPE.png]
3. Other [SPECIFY]

98. [Not Sure]

[ASK IF D2=1 and MEASURE=CENTRAL AC]

D7. What type of cooling system did your [MEASURE] replace? [SELECT ONE]

1. Electric heat pump
2. Electric central AC
3. Room air conditioner
4. Other [SPECIFY]

98. [Not Sure]

[ASK IF D2=1 and MEASURE= HEAT PUMP]

D8. What type of heating/cooling system did your [MEASURE] replace? [SELECT ONE]

1. Electric heat pump
2. Electric central AC
3. Electric furnace
4. Gas furnace
5. Fuel oil furnace
6. Propane furnace
7. Electric boiler
8. Gas boiler
9. Fuel oil boiler
10. Propane boiler
11. Other [SPECIFY]

98. [Not Sure]

[ASK IF D2=1 and MEASURE= WATER HEATER]

D9. What type of water heater did your [MEASURE] replace? [SELECT ONE]

1. Electric water heater
2. Gas water heater
3. Solar water heater
4. Heat pump water heater
5. Fuel oil water heater
6. Propane water heater
7. Other [SPECIFY]

98. [Not Sure]

[ASK IF D2=1 and MEASURE= WI-FI THERMOSTAT, SMART THERMOSTAT]

D10. What type of thermostat did your [MEASURE] replace? [SELECT ONE]

1. A **standard thermostat** that you must manually adjust when you want to change the temperature in the home
2. A **programmable thermostat** that can be automatically set to different temperatures at different times of the day
3. A **Wi-Fi thermostat** that you can control from anywhere
4. A **smart thermostat** that is connected to wi-fi and learns your patterns
5. Other [SPECIFY]

98. [Not Sure]

E. Rebated Measure 1 – Free-Ridership

E1_Intro. Now we'd like you to think about what you would have done if the rebate for the high efficiency **[MEASURE1]** had not been available.

[ASK IF D2= 2 OR D4= 1, ELSE SKIP TO A.E3]

E1. Without the rebate from [PA], how likely is it that you would have purchased and installed any type of [MEASURE1] at the same time? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely **[SKIP TO E7]**
2. Slightly likely
3. Somewhat likely
4. Very likely **[SKIP TO E3]**

98. [Not Sure] **[SKIP TO E3]**

99. [Refused] **[SKIP TO E3]**

[IF E1= 2 OR 3]

E2. Without the rebate from [PA], when do you think you would have purchased and installed the [MEASURE1]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Within 6 months of when you did
2. Between 6 months and 12 months of when you did
3. More than 1 year after when you did **[SKIP TO E7]**

98. [Not Sure]

99. [Refused]

[ASK IF MEASURE1_QTY >1, ELSE SKIP TO E6]

E3. Without the rebate from [PA], how likely is it that you would have purchased and installed the exact same [IF MEASURE1_GROUP = COUNTABLE, SHOW: quantity of; IF **MEASURE1_GROUP = NON-COUNTABLE, SHOW: amount of**] high efficiency [MEASURE1]? Would you say it is…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK IF MEASURE1_GROUP = COUNTABLE]

E4. Our records indicate that [MEASURE1_QTY] [MEASURE1]s were installed in the property. Without the rebate from [PA], how many high efficiency [MEASURE1]s would you have purchased and installed?

1. ___ [RECORD QUANTITY WOULD HAVE BEEN PURCHASED AND INSTALLED]

98. [Not Sure]
99. [Refused]

[ASK IF MEASURE1_GROUP = NON-COUNTABLE]

E5. Our records indicate that [MEASURE1_QTY] [MEASURE1_UNIT] of [MEASURE1] were installed in the property. Without the free installation from [PA], what percent of the high efficiency [MEASURE1] would you have purchased and installed?

1. ___ [RECORD PERCENT WOULD HAVE BEEN PURCHASED AND INSTALLED (0-100)]

98. [Not Sure]
99. [Refused]

[ASK ALL]

E6. Without the rebate from [PA], how likely is it that you would have purchased and installed the exact same high-efficiency level of [MEASURE1]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK ALL]

E7. On a scale of 1 to 10 where 0 is 'not at all influential' and 10 is 'very influential,' how influential was <ATTRIBUTE FROM LIST BELOW> on your decision to install the high efficiency [MEASURE1]? [LOOP E7 FOR EACH ATTRIBUTE]

[FOR EACH ATTRIBUTE RECORD: 0-10, 96 = NOT APPLICABLE, 98 = NOT SURE, 99 = REFUSED]

1. The program rebate
2. Information about the program I received from [PA]
3. A recommendation from a friend or family member to participate in the program
4. The recommendations the contractor gave me to install specific equipment
5. The information I received during the audit on my building about how to make my building more energy efficient

E8. Using the same 0 to 10 scale where 0 is 'not at all influential' and 10 is 'very influential,' how influential was the contractor or salesperson on your decision to purchase and install the high-efficiency [MEASURE1]? [RECORD: 0-10, 96 = NOT APPLICABLE, 98 = NOT SURE, 99 = REFUSED]

E9. Which of the following best describes how you selected the new high efficiency [MEASURE1]? [READ LIST, SINGLE RESPONSE]

1. I did some research on [MEASURE1]s and made my own choice
2. My contractor suggested on [MEASURE1] efficiency level, and I agreed
3. My contractor suggested various [MEASURE1] efficiency levels, and I chose one

97. [Other][Specify]

E10. Did you make the decision to purchase and install the high-efficiency [MEASURE1] before or after you learned of the Mass Save® rebate? [SINGLE RESPONSE]

1. Before
2. After

98. [Not Sure]

E11. Please describe the influence that the Mass Save® rebate had on your decision to purchase and install the high efficiency [MEASURE1]? [OPEN END; RECORD VERBATIM RESPONSE]

F. Rebated Measure 2 – Market Event

[ASK IF C1= (MEASURE2 = YES)]

F1. Was the high efficiency [MEASURE2] that was rebated part of a new construction or major renovation project? [SINGLE RESPONSE]

1. Yes **[SKIP TO SECTION G]**
2. No

98. [Not Sure]
99. [Refused]

[ASK IF F1<> 1]

F2. Did the high efficiency [MEASURE2] that was installed replace any existing [MEASURE2] or was it a new type of equipment that you did not have in the building before? [SINGLE RESPONSE]

1. Replaced existing equipment
2. New equipment **[SKIP TO SECTION G]**

98. [Not Sure]
99. [Refused]

[ASK IF F1<> 2]

F3. Which of the following best describes the condition of the old equipment? [READ LIST; SINGLE RESPONSE]

1. The old equipment was working with no need of repair
2. The old equipment was working with need of minor repair
3. The old equipment was working with need of major repair **[SKIP TO F5]**
4. The equipment was no longer working **[SKIP TO F5]**

98. [Not Sure]
99. [Refused]

[ASK IF F3= 1, 2, 98 OR 99]

F4. DO YOU THINK YOUR OLD EQUIPMENT WOULD HAVE LASTED ANOTHER TWO YEARS? [SINGLE RESPONSE]

1. YES
2. NO

98. [Not Sure]
99. [Refused]

[ASK IF F2=1 and MEASURE=BOILER, FURANCE]

F5. What type of heating system did your [MEASURE] replace? [SELECT ONE]

1. Electric furnace
2. Gas furnace
3. Fuel oil furnace
4. Propane furnace
5. Electric boiler
6. Gas boiler
7. Fuel oil boiler
8. Propane boiler
9. Other [SPECIFY]

98. [Not Sure]

[ASK IF F5=2,3,4,6,7,8]

F6. Which way did your **previous** [F5RESPONSE] vent? [SELECT ONE]

1. [SHOW CHIMNEY.jpg]
2. [SHOW PVC PIPE.png]
3. Other [SPECIFY]

98. [Not Sure]

[ASK IF F2=1 and MEASURE=CENTRAL AC]

F7. What type of cooling system did your [MEASURE] replace? [SELECT ONE]

1. Electric heat pump
2. Electric central AC
3. Room air conditioner
4. Other [SPECIFY]

98. [Not Sure]

[ASK IF F2=1 and MEASURE= HEAT PUMP]

F8. What type of heating/cooling system did your [MEASURE] replace? [SELECT ONE]

1. Electric heat pump
2. Electric central AC
3. Electric furnace
4. Gas furnace
5. Fuel oil furnace
6. Propane furnace
7. Electric boiler
8. Gas boiler
9. Fuel oil boiler
10. Propane boiler
11. Other [SPECIFY]

98. [Not Sure]

[ASK IF F2=1 and MEASURE= WATER HEATER]

F9. What type of water heater did your [MEASURE] replace? [SELECT ONE]

1. Electric water heater
2. Gas water heater
3. Solar water heater
4. Heat pump water heater
5. Fuel oil water heater
6. Propane water heater
7. Other [SPECIFY]

98. [Not Sure]

[ASK IF F2=1 and MEASURE= WI-FI THERMOSTAT, SMART THERMOSTAT]

F10. What type of thermostat did your [MEASURE] replace? [SELECT ONE]

1. A **standard thermostat** that you must manually adjust when you want to change the temperature in the home
2. A **programmable thermostat** that can be automatically set to different temperatures at different times of the day
3. A **Wi-Fi thermostat** that you can control from anywhere
4. A **smart thermostat** that is connected to wi-fi and learns your patterns
5. Other [SPECIFY]

98. [Not Sure]

G. Rebated Measure 2 – Free-Ridership

G1_Intro. Now we'd like you to think about what you would have done if the rebate for the high efficiency **[MEASURE2]** had not been available.

[ASK IF F2= 1 OR F4= 1, ELSE SKIP TO A.G3]

G1. Without the rebate from [PA], how likely is it that you would have purchased and installed any type of [MEASURE2] at the same time? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely **[SKIP TO G7]**
2. Slightly likely
3. Somewhat likely
4. Very likely **[SKIP TO G3]**

98. [Not Sure] **[SKIP TO G3]**

99. [Refused] **[SKIP TO G3]**

[IF G1= 2 OR 3]

G2. Without the rebate from [PA], when do you think you would have purchased and installed the [MEASURE2]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Within 6 months of when you did
2. Between 6 months and 12 months of when you did
3. More than 1 year after when you did **[SKIP TO G7]**

98. [Not Sure]

99. [Refused]

[ASK IF MEASURE2_QTY >1, ELSE SKIP TO G6]

G3. Without the rebate from [PA], how likely is it that you would have purchased and installed the exact same [IF MEASURE2_GROUP = COUNTABLE, SHOW: quantity of; IF **MEASURE2_GROUP = NON-COUNTABLE, SHOW: amount of**] high efficiency [MEASURE2]? Would you say it is…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK IF MEASURE2_GROUP = COUNTABLE]

G4. Our records indicate that [MEASURE2_QTY] [MEASURE2]s were installed in the property. Without the rebate from [PA], how many high efficiency [MEASURE2]s would you have purchased and installed?

1. ___ [RECORD QUANTITY WOULD HAVE BEEN PURCHASED AND INSTALLED]

98. [Not Sure]
99. [Refused]

[ASK IF MEASURE2_GROUP = NON-COUNTABLE]

G5. Our records indicate that [MEASURE2_QTY] [MEASURE2_UNIT] of [MEASURE2] were installed in the property. Without the free installation from [PA], what percent of the high efficiency [MEASURE2] would you have purchased and installed?

1. ___ [RECORD PERCENT WOULD HAVE BEEN PURCHASED AND INSTALLED (0-100)]

98. [Not Sure]
99. [Refused]

[ASK ALL]

G6. Without the rebate from [PA], how likely is it that you would have purchased and installed the exact same high-efficiency level of [MEASURE2]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK ALL]

G7. On a scale of 1 to 10 where 0 is 'not at all influential' and 10 is 'very influential,' how influential was <ATTRIBUTE FROM LIST BELOW> on your decision to install the high efficiency [MEASURE2]? [LOOP G7 FOR EACH ATTRIBUTE]

[FOR EACH ATTRIBUTE RECORD: 0-10, 96 = NOT APPLICABLE, 98 = NOT SURE, 99 = REFUSED]

1. The program rebate
2. Information about the program I received from [PA]
3. A recommendation from a friend or family member to participate in the program
4. The recommendations the contractor gave me to install specific equipment
5. The information I received during the audit on my building about how to make my building more energy efficient

G8. Using the same 0 to 10 scale where 0 is 'not at all influential' and 10 is 'very influential,' how influential was the contractor or salesperson on your decision to purchase and install the high-efficiency [MEASURE2]? [RECORD: 0-10, 96 = NOT APPLICABLE, 98 = NOT SURE, 99 = REFUSED]

G9. Which of the following best describes how you selected the new high efficiency [MEASURE2]? [READ LIST, SINGLE RESPONSE]

1. I did some research on [MEASURE2]s and made my own choice
2. My contractor suggested on [MEASURE2] efficiency level, and I agreed
3. My contractor suggested various [MEASURE2] efficiency levels, and I chose one

97. [Other][Specify]

G10. Did you make the decision to purchase and install the high-efficiency [MEASURE2] before or after you learned of the Mass Save® rebate? [SINGLE RESPONSE]

1. Before
2. After

98. [Not Sure]

G11. Please describe the influence that the Mass Save® rebate had on your decision to purchase and install the high efficiency [MEASURE2]? [OPEN END; RECORD VERBATIM RESPONSE]

H. Direct Install Measures Screener

[ASK IF DI = 1]

H1. As part of the energy assessment you received, you may have had certain equipment installed for free during the visit. Were the following items installed at that time? *We are most interested in these items although you may have had other items installed for free.* [SINGLE RESPONSE FOR EACH MEASURE]

[LIST THE TWO DI MEASURES THAT ACHIEVED THE GREATEST SAVINGS FOR THEIR PROJECT]

	1 – YES	2 – NO	98 – DON'T KNOW
[DI_MEASURE1]			
[DI_MEASURE2]			

[IF (DI_COUNT = 1 AND (DI_MEASURE1 = NO, DK)) AND (REB=1 AND (MEASURE1 OR MEASURE2 = YES)), SKIP TO SECTION M]
[IF (DI_COUNT = 1 AND (DI_MEASURE1 = NO, DK)) AND (REB=0 OR (MEASURE1 AND MEASURE2 = NO, DK, TERMINATE]
[IF (DI_COUNT = 2 AND (DI_MEASURE1 = NO, DK AND DI_MEASURE2 = NO, DK)) AND (REB=1 AND (MEASURE1 OR MEASURE2 = YES)), SKIP TO SECTION M]
[IF (DI_COUNT = 2 AND (DI_MEASURE1 = NO, DK AND DI_MEASURE2 = NO, DK)) AND (REB=0 OR (MEASURE1 AND MEASURE2 = NO, DK, TERMINATE]

I. Direct Install Measure 1 – Market Event

[ASK IF H1= (DI_MEASURE1 = YES)]

I1. Was the high efficiency [DI_MEASURE1] installed as part of a new construction or major renovation project? [SINGLE RESPONSE]

1. Yes **[SKIP TO SECTION J]**
2. No

98. [Not Sure]
99. [Refused]

[ASK IF I1<> 1]

I2. Did the high efficiency [DI_MEASURE1] that was installed replace any existing [DI_MEASURE1] or was it a new type of equipment that you did not have in the building before? [SINGLE RESPONSE]

1. Replaced existing equipment
2. New equipment **[SKIP TO SECTION J]**

98. [Not Sure]
99. [Refused]

[ASK IF I2<> 2]

I3. Which of the following best describes the condition of the old equipment? [READ LIST, SINGLE RESPONSE]

1. The old equipment was working with no need of repair
2. The old equipment was working with need of minor repair
3. The old equipment was working with need of major repair **[SKIP SECTION J]**
4. The equipment was no longer working **[SKIP SECTION J]**

98. [Not Sure]
99. [Refused]

[ASK IF I3= 1, 2, 98 OR 99]

I4. DO YOU THINK YOUR OLD EQUIPMENT WOULD HAVE LASTED ANOTHER TWO YEARS? [SINGLE RESPONSE]

1. YES
2. NO

98. [Not Sure]
99. [Refused]

J. Direct Install Measure 1 – Free-Ridership

J1_intro. Now we'd like you to think about what you would have done if the installation of free equipment had not been available.

[ASK IF I2=2 OR I4=1, ELSE SKIP TO A.J3]

J1. Without the free installation from [PA], how likely is it that you would have purchased and installed any type of [DI_MEASURE1] at the same time? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely **[SKIP TO J7]**
2. Slightly likely
3. Somewhat likely
4. Very likely **[SKIP TO J3]**

98. [Not Sure] **[SKIP TO J3]**
99. [Refused] **[SKIP TO J3]**

[ASK IF J1= 2 OR 3]

J2. Without the free installation from [PA], when do you think you would have purchased and installed the [DI_MEASURE1]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Within 6 months of when you did
2. Between 6 months and 12 months of when you did
3. More than 1 year after when you did **[SKIP TO J7]**

98. [Not Sure]
99. [Refused]

[ASK IF DI_MEASURE1_QTY > 1, ELSE SKIP TO J6]

J3. Without the free installation from [PA], how likely is it that you would have purchased and installed the exact same [IF DI_MEASURE1_GROUP = COUNTABLE, SHOW: quantity of; IF **DI_MEASURE1_GROUP = NON-COUNTABLE, SHOW: amount of**] high efficiency [DI_MEASURE1]? Would you say it is…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK IF DI_MEASURE1_GROUP = COUNTABLE]

J4. Our records indicate that [DI_MEASURE1_QTY] [DI_MEASURE1]s were installed in the property. Without the free installation from [PA], how many high efficiency [DI_MEASURE1]s would you have purchased and installed?

1. __ [RECORD QUANTITY WOULD HAVE BEEN PURCHASED AND INSTALLED]

98. [Not Sure]
99. [Refused]

[ASK IF DI_MEASURE1_GROUP = NON-COUNTABLE]

J5. Our records indicate that [DI_MEASURE1_QTY] [DI_MEASURE1_UNIT] of [DI_MEASURE1] were installed in the property. Without the free installation from [PA], what percent of the high efficiency [DI MEASURE1] would you have purchased and installed?

1. __ [RECORD PERCENT WOULD HAVE BEEN PURCHASED AND INSTALLED (0-100)]

98. [Not Sure]
99. [Refused]

[ASK ALL]

J6. Without the free installation from [PA], how likely is it that you would have purchased and installed the exact same high-efficiency level of [DI_MEASURE1]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK ALL]

J7. On a scale of 1 to 10 where 0 is 'not at all influential' and 10 is 'very influential,' how influential was <ATTRIBUTE FROM LIST BELOW> on your decision to install the high efficiency [DI_MEASURE1]? [LOOP J7 FOR EACH ATTRIBUTE]

[FOR EACH ATTRIBUTE RECORD: 0-10, 96 = NOT APPLICABLE, 98 = NOT SURE, 99 = REFUSED]

1. The availability of free [DI_MEASURE1] through the program
2. Information about the program I received from [PA]
3. A recommendation from a friend or family member to participate in the program
4. The convenience of the contractor installing the [DI_MEASURE1] for me
5. The information I received during the audit on my building about how to make my building more energy efficient

K. Direct Install Measure 2 – Market Event

[ASK IF H1= (DI_MEASURE2 = YES)]

K1. Was the high efficiency [DI_MEASURE2] installed as part of a new construction or major renovation project? [SINGLE RESPONSE]

1. Yes **[SKIP TO SECTION L]**
2. No

98. [Not Sure]
99. [Refused]

[ASK IF K1<> 1]

K2. Did the high efficiency [DI_MEASURE2] that was installed replace any existing [DI_MEASURE2] or was it a new type of equipment that you did not have in the building before? [SINGLE RESPONSE]

1. Replaced existing equipment
2. New equipment **[SKIP TO SECTION L]**

98. [Not Sure]
99. [Refused]

[ASK IF K2<> 2]

K3. Which of the following best describes the condition of the old equipment? [READ LIST, SINGLE RESPONSE]

1. The old equipment was working with no need of repair
2. The old equipment was working with need of minor repair
3. The old equipment was working with need of major repair **[SKIP SECTION L]**
4. The equipment was no longer working **[SKIP SECTION L]**

98. [Not Sure]
99. [Refused]

[ASK IF K3= 1, 2, 98 OR 99]

K4. DO YOU THINK YOUR OLD EQUIPMENT WOULD HAVE LASTED ANOTHER TWO YEARS? [SINGLE RESPONSE]

1. YES
2. NO

98. [Not Sure]
99. [Refused]

L. Direct Install Measure 2 – Free-Ridership

L1_Intro. Now we'd like you to think about what you would have done with equipment like **[DI_MEASURE2]** if the installation of free equipment had not been available.

[ASK IF K2= 2 OR K4= 1, ELSE SKIP TO A.L3]

L1. Without the free installation from [PA], how likely is it that you would have purchased and installed any type of [DI_MEASURE2] at the same time? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely **[SKIP TO L7]**
2. Slightly likely
3. Somewhat likely
4. Very likely **[SKIP TO L3]**

98. [Not Sure] **[SKIP TO L3]**
99. [Refused] **[SKIP TO L3]**

[IF L1= 2 OR 3]

L2. Without the free installation from [PA], when do you think you would have purchase and installed the [DI_MEASURE2]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Within 6 months of when you did
2. Between 6 months and 12 months of when you did
3. More than 1 year after when you did **[SKIP TO L7]**

98. [Not Sure]
99. [Refused]

[ASK IF DI_MEASURE2_QTY >1, ELSE SKIP TO L6]

L3. Without the free installation from [PA], how likely is it that you would have purchased and installed the exact same [IF DI_MEASURE1_GROUP = COUNTABLE, SHOW: quantity of; IF **DI_MEASURE1_GROUP = NON-COUNTABLE, SHOW: amount of**] high efficiency [DI_MEASURE2]? Would you say it is…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK IF DI_MEASURE2_GROUP = COUNTABLE]

L4. Our records indicate that [DI_MEASURE2_QTY] [DI_MEASURE2]s were installed in the property. Without the free installation from [PA], how many high efficiency [DI_MEASURE2]s would you have purchased and installed?

1. ___ [RECORD QUANTITY WOULD HAVE BEEN PURCHASED AND INSTALLED]

98. [Not Sure]
99. [Refused]

[ASK IF DI_MEASURE2_GROUP = NON-COUNTABLE]

L5. Our records indicate that [DI_MEASURE2_QTY] [DI_MEASURE2_UNIT] of [DI_MEASURE2] were installed in the property. Without the free installation from [PA], what percent of the high efficiency [DI_MEASURE2] would you have purchased and installed?

1. ___ [RECORD PERCENT WOULD HAVE BEEN PURCHASED AND INSTALLED (0-100)]

98. [Not Sure]
99. [Refused]

[ASK ALL]

L6. Without the free installation from [PA], how likely is it that you would have purchased and installed the exact same high-efficiency level of [DI_MEASURE2]? Would you say…? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]
99. [Refused]

[ASK ALL]

L7. On a scale of 1 to 10 where 0 is 'not at all influential' and 10 is 'very influential,' how influential was <ATTRIBUTE FROM LIST BELOW> on your decision to install the high efficiency [DI_MEASURE2]? [LOOP L7 FOR EACH ATTRIBUTE]

[FOR EACH ATTRIBUTE RECORD: 0-10, 96 = NOT APPLICABLE, 98 = NOT SURE, 99 = REFUSED]

1. The availability of free [DI_MEASURE2] through the program
2. Information about the program I received from [PA]
3. A recommendation from a friend or family member to participate in the program
4. The convenience of the contractor installing the [DI_MEASURE2] for me
5. The information I received during the audit on my building about how to make my building more energy efficient

M. Spillover

[ASK ALL]

M1. Now we'd like you to think about any additional energy saving improvements you made to the building since you participated in the Mass Save® program. Since installing the equipment, have you made other energy-saving purchases or changes that did not receive a rebate through the Mass Save® program? [SINGLE RESPONSE]

1. Yes
2. No [SKIP TO SECTION N]

98. [Not Sure] [SKIP TO SECTION N]
99. [Refused] [SKIP TO SECTION N]

[ASK IF M1 = 1]

M2. Did your experience with the Mass Save® program influence your decision to take any of those energy-saving actions? [SINGLE RESPONSE]

1. Yes
2. No [SKIP TO SECTION N]

98. [Not Sure] [SKIP TO SECTION N]
99. [Refused] [SKIP TO SECTION N]

[ASK IF M2 = 1]

M3. What energy-saving purchases or changes did you make? [DO NOT READ LIST, SELECT ALL THAT APPLY]

1. LEDs/Energy-efficient light bulbs
2. Energy-efficient appliance(s) [SPECIFY: What type?]
3. HVAC equipment [SPECIFY: What type?]
4. Energy-efficient water heating system [SPECIFY: What type?]
5. Attic, wall, or basement insulation
6. Air sealing of leaks
7. Smart thermostat
8. Water heater

97. [Other][Specify]
98. [Not Sure] [EXCLUSIVE RESPONSE; SKIP TO SECTION N]
99. [Refused] [EXCLUSIVE RESPONSE; SKIP TO SECTION N]

[ASK M4 THROUGH M9 FOR EACH OPTION SELECTED IN M3 OTHER THAN LIGHTING (1)]

[ASK M4 IF M3 = 2 OR 3 OR 8]

M4. Can you describe the [M3 RESPONSE] work in more detail? If applicable, include the quantity installed, the type of equipment, and the efficiency levels installed. [RECORD INFORMATION, PROBE FOR QUANTITY, TYPE AND EFFICIENCY LEVEL]

1. ___ record quantity
2. ___ record type of equipment
3. ___ record efficiency level
4. ___ record any other information about the equipment

M5. How did you know the equipment was energy efficient and would have qualified for a rebate through the Mass Save® program? [DO NOT READ LIST, SELECT ALL THAT APPLY]

1. Efficiency rating or label of equipment, such as an "ENERGY STAR®" logo
2. Equipment dealer/retailer said it was energy efficient
3. Personal experience
4. Met utility rebate requirements
5. Third party report, such as Consumer Reports
6. Recommendations from the contractor/installer
7. Did not rely on any specific type of information
8. Internet/website

97. [Other][Specify]
98. [Not Sure]
99. [Refused]

[ASK IF M3 = ENERGY-EFFICIENT APPLIANCE(S) AND M5 <> EFFICIENCY RATING OR LABEL OF EQUIPMENT, SUCH AS AN "ENERGY STAR®" LOGO]

M6. Was the [M3 RESPONSE] ENERGY STAR-labeled? [SINGLE RESPONSE]

1. Yes
2. No

98. [Not Sure]

M7. How important was your experience with the Mass Save® program on your decision to install the [M3 RESPONSE]? [READ LIST, SINGLE RESPONSE]

1. Not at all important
2. Slightly important
3. Somewhat important
4. Very important

98. [Not Sure]

M8. How likely is it that you would still have purchased and installed energy-efficient [M3 RESPONSE] if you had not participated in the Mass Save® program? [READ LIST, SINGLE RESPONSE]

1. Not at all likely
2. Slightly likely
3. Somewhat likely
4. Very likely

98. [Not Sure]

M9. Why did you not submit an application for a rebate through the Mass Save® program for this additional equipment? [OPEN END; RECORD VERBATIM RESPONSE]

N. Satisfaction

N1. Using a scale of 0 to 10, where 0 is "extremely unlikely" and 10 is "extremely likely", how likely are you to recommend Mass Save to a friend? [RECORD: 0-10, 98 = NOT SURE, 99 = REFUSED]

[ASK IF N1 < 8]

N2. Why would you be unlikely to recommend Mass Save®? [OPEN END; RECORD VERBATIM RESPONSE]

[ASK IF N1 >= 8]

N3. Why would you be likely to recommend Mass Save®? [OPEN END; RECORD VERBATIM RESPONSE]

N4. What other comments, if any, would like to share about the Mass Save® program? [OPEN END; RECORD VERBATIM RESPONSE]

O. Firmographics

O1. These last few questions are about the size and occupancy characteristics of your property. How many housing units does your property have?

1. ___ [RECORD NUMBER OF UNITS]

98. [Not Sure]

O2. What is the approximate percentage of housing units at your facility that have the following number of bedrooms? [READ LIST, RECORD PERCENTAGE FOR EACH]

1. ___ One-bedroom
2. ___ Two-bedroom
3. ___ Three-bedroom
4. ___ More than three-bedrooms

98. [Not Sure]

O3. What is the average number of occupants that live in a typical unit with the following number of bedrooms at your property? [READ LIST, RECORD AVERAGE NUMBER OF OCCUPANTS FOR EACH]

1. ___ One-bedroom units
2. ___ Two-bedroom units
3. ___ Three-bedroom units
4. ___ More than three-bedroom units

98. [Not Sure]

P. Conclusion

[SHOW IF SURVEY COMPLETED]

P1. Those are all the questions I have. Your responses are very important to [PA] and will help as they design future energy efficiency programs. We appreciate your participation and thank you for your time.

If you would like to receive a $20 Tango gift card as a thank you for completing the survey, please enter your contact information below.

[GATHER CONTACT INFORMATION TO PROVIDE GIFT CARD]

[SHOW IF SURVEY TERMINATED EARLY]

P2. Can we contact you in the future to gather your perspective on the Mass Save® program?

1. Yes [RECORD NAME, PHONE NUMBER, AND EMAIL]
2. No

Appendix F. Contractor Survey Instrument

A. Landing Page/Introduction

[WEB LANDING PAGE]
[THIS IS THE LANGUAGE THE SURVEY RESPONDENT WILL SEE AFTER CLICKING THE LINK TO THE SURVEY. THIS PAGE WILL ALSO CONTAIN THE MASS SAVE® LOGO.]
[FOR WEB RESPONDENTS, START THE SURVEY AT B1]

Thank you for participating in a Mass Save® energy efficiency program! Your response to this survey will help us understand your experience with the program. Your responses will be kept confidential and will be used to help Mass Save provide the best value to our customers.

We appreciate your input!

Open drop-down menus by clicking on this icon ▾ within the survey.

Click on the "Next" and "Back" buttons at the bottom of each page to navigate through the survey.

[PHONE INTRODUCTION]

A1. Hello, my name is _____. I am calling on behalf of the sponsors of the Mass Save® energy efficiency program. We are calling contractors that installed weatherization, heating, cooling, or water heating equipment that received Mass Save incentives. May I please speak with someone at your organization that is familiar with your participation in Mass Save?

[IF ANOTHER PERSON COMES TO THE PHONE, REPEAT INTRO TO HIM/HER.]

A2. This is not a sales call. We are conducting a study with Massachusetts contractors that installed energy efficient equipment for customers that received a Mass Save rebate. We have a few questions for you that will take 10-15 minutes. The information you provide will help Mass Save improve their program offerings and your responses are completely confidential.

You have the option of taking this brief survey with me now on the phone, or I can send a survey link to your preferred email for you to take at a different time.

1. I would like to take the survey now over the phone [SKIP TO A.B1]
2. I would like to take the survey later over the phone [CONTINUE TO A3]
3. I would like to receive an e-mail link to take the survey [SKIP TO A4]
4. I am not interested in taking this survey [THANK AND TERMINATE]

[RECRUITER NOTE: If customer asks about how we'll use what they tell us and/or if the information they provide is confidential: "All the information you provide is strictly confidential. We will combine what you tell us with similar information from other contractors and only report results in aggregate, i.e., at the market-level. We will not tie any responses or information to specific contractors.."]
[RECRUITER NOTE: If respondent questions the legitimacy of the study, ask regarding their local PA and say: "If you have any questions or would like to verify the legitimacy of this research, please contact [PA CONTACT – see below] with [PA]."]

PA	Name	Phone	E-Mail
Berkshire Gas	Dick Oswald	(203) 499-2538	Richard.Oswald@uinet.com
Cape Light Compact	Gail Azulay	(508) 744-1266	gazulay@capelightcompact.org
Eversource	Tracy Dyke Redmond	(781) 441-3389	tracy.dyke-redmond@eversource.com
Liberty Utilities	Autumn Snyder	(603) 724-2132	Autumn.Snyder@libertyutilities.com
National Grid	Kim Crossman	(781) 907-1562	kimberly.crossman@nationalgrid.com
Unitil	Mary Downes	(603) 294-5122	downesm@unitil.com

[IF A2=2]

A3. When would you like me to call back to conduct your survey?

1. ___ [RECORD DATE/TIME AND BEST PHONE NUMBER] [THANK AND TERMINATE]

[IF A2=3]

A4. What is your preferred email address?

1. ___ [RECORD EMAIL ADDRESS] [THANK AND TERMINATE]

B. Screener

[ASK QUESTION FOR ALL MEASURES]

B1. According to our records, your company installed the following measures receiving Mass Save incentives in 2019. [LIST RELEVANT MEASURES]

- Weatherization (Air Sealing and/or Insulation)
- Natural Gas Boilers
- Natural Gas Furnaces
- Heating Oil Furnaces
- Natural Gas Combination Boilers
- Central Air Conditioners
- Ducted or Central Heat Pumps
- Ductless or Mini-Split Heat Pumps
- Indirect Water Heaters
- On-demand or Instant Water Heaters

Is that correct? [SINGLE RESPONSE FOR EACH MEASURE]

1. Yes
2. No [CORRECT LIST; IF NONE, THEN TERMINATE]
3. Don't know [TERMINATE]
4. Refused [TERMINATE]

B2. In 2019, did you install these Mass Save measures in single family homes (1-4 units), multifamily buildings (5+ units), or both? [LIST MEASURES SELECTED IN B1; ONLY ONE SELECTION PER ROW/MEASURE]

Measure	Single Family Only (1-4 Units)	Multifamily Only (5+ Units)	Both single-family homes and MF buildings
Weatherization			
Natural Gas Boilers			
Natural Gas Furnaces			
Heating Oil Furnaces			
Natural Gas Combination Boilers			
Central Air Conditioners			
Ducted or Central Heat Pumps			
Ductless or Mini-Split Heat Pumps **(With No Fuel Switching)**			
Ductless or Mini-Split Heat Pumps **(With Fuel Switching)**			
Indirect Water Heaters			
On-demand or Instant Water Heaters			

[RANDOMLY SAMPLE UP TO THREE MEASURES FROM B2; LABEL AS MEASURE1, MEASURE2, AND MEASURE3.]

C. Contractor Free-Ridership

[LOOP THROUGH SECTIONS C AND D SEQUENTIALLY FOR MEASURE1, MEASURE2, MEASURE3; EACH REFERRED TO AS "SAMPLED MEASURE" IN SCRIPT BELOW]

[IF SAMPLED MEASURE = "BOTH" IN B2]

Next, we are going to ask you a set of questions related to your company's experience installing [MEASURE] with Mass Save rebates in single family homes. Once we're done, we'll ask the same questions about multifamily installations.

[IF SAMPLED MEASURE = "SINGLE FAMILY ONLY" IN B2]

Next, we are going to ask you a set of questions related to your company's experience installing [MEASURE] with Mass Save rebates in single family homes.

[IF SAMPLED MEASURE = "MULTIFAMILY ONLY" IN B2]

Next, we are going to ask you a set of questions related to your company's experience installing [MEASURE] with Mass Save rebates in multifamily buildings.

C1. Our records show that in [YEAR] your company [IF NON-WEATHERIZATION SHOW: sold and/or installed approximately [QTY][5] residential high efficiency [MEASURE]; IF WEATHERIZATION SHOW: completed approximately [QTY] projects that included [MEASURE]] that received rebates from Mass Save. FOR NON-WEATHERIZATION MEASURES: As a reminder, these are [MEASURE] with a/an [EFFICIENCYMETRIC] of [MINEFFICIENCYVALUE] or higher.

Does this sound right? [SELECT ONE]

1. Yes [SKIP TO C3] **Program sales = QTY**
2. No
3. Don't know [SKIP TO C3] **Program sales = QTY**
4. Refused [SKIP TO C3]

[ASK IF C1=2]

C2. About how many [IF WEATHERIZATION SHOW: projects that included] residential [MEASURES] that received rebates from Mass Save did your company sell in [YEAR] in [RELEVANT BUILDING TYPE]?

1. ___ Number installed [0-10,000] **Program sales = C2**
2. Don't know [SKIP TO 0]
3. Refused [SKIP TO 0]

[ASK IF C1=1, 3, 4 OR C2=1]

C3. If Mass Save rebates were not available in [YEAR], what percentage of the approximately [QTY] [IF WEATHERIZATION SHOW: projects that included] high efficiency [MEASURE] that you sold in [YEAR] would you have sold without the rebates? [IF SAMPLED MEASURE = "BOTH" IN B2 ADD]. As a reminder, these are [MEASURE] with a/an [EFFICIENCYMETRIC] of [MINEFFICIENCYVALUE] or higher. Again, please focus only on units sold in [RELEVANT BUILDING TYPE] homes.

1. ___ Percentage installed without rebate [0-100]
2. Don't know [SKIP TO 0]
3. Refused [SKIP TO 0]

[ASK IF NON-WEATHERIZATION AND C3<=100]

C4. To confirm, you are estimating that in [YEAR], your company likely would have installed [QTY * (**C3**/100)] [MEASURE] of the [QTY] you sold if Mass Save rebates were not available. Is that roughly correct?

1. Yes [SKIP TO 0] **FR = C3**
2. No
3. Don't know [SKIP TO 0]
4. Refused [SKIP TO 0]

[5] Our team will use a rounded total from the program data for QTY. We will round to the nearest 50 for larger contractors and the nearest 5 for small volume contractors.

[ASK IF C4=2]

C5. Could you provide your best estimate of about how many of the [QTY] [MEASURE] your company would still have sold in [YEAR] if Mass Save rebates were not available? [FREE-RIDERSHIP = C5/PROGRAM SALES]

1. ___ Percentage sold without rebate [0-100] **FR =C5/program sales**
2. Don't know
3. Refused

D. Non-Weatherization Spillover

[ASK SECTION IF MEASURE GROUP<>WEATHERIZATION]

D1. Think of all your sales of residential [MEASURE], including standard-efficiency and high-efficiency and rebated and non-rebated units. About how many did your company sell in total in [YEAR]?

1. ___ Total sales
2. Don't know [SKIP TO C1 FOR NEXT MEASURE OR A.F1IF LAST SAMPLED MEASURE]
3. Refused [SKIP TO C1 FOR NEXT MEASURE OR A.F1IF LAST SAMPLED MEASURE]

D2. About how many of the sales of residential [MEASURE] in [YEAR] were high efficiency, including rebated and non-rebated units? Again, "high efficiency" for [MEASURE] are units with a/an [EFFICIENCYMETRIC] of [MINEFFICIENCYVALUE] or higher.

1. ___ Number of sales
2. Don't know [SKIP TO C1 FOR NEXT MEASURE OR A.F1 IF LAST SAMPLED MEASURE]
3. Refused [SKIP TO C1 FOR NEXT MEASURE OR A.F1 IF LAST SAMPLED MEASURE]

D3. Did all the high-efficiency [MEASURE] that your company sold in [YEAR] receive a Mass Save rebate of some kind?

1. Yes [SKIP TO C1 FOR NEXT MEASURE OR A.F1 IF LAST SAMPLED MEASURE]
2. No
3. Don't know [SKIP TO C1 FOR NEXT MEASURE OR A.F1IF LAST SAMPLED MEASURE]
4. Refused [SKIP TO C1 FOR NEXT MEASURE OR A.F1IF LAST SAMPLED MEASURE]

[ASK IF D3=2]

D4. About what percentage of the high efficiency [MEASURE] that your company sold in [YEAR] did not receive a Mass Save rebate even though they would have qualified for one?

1. ___ Percentage sold without rebate [0-100]
2. Don't know
3. Refused

[ASK IF D2 =1 AND 0=1]

D5. To confirm, that means about [(D2)*(0/100)} of the [D2] high-efficiency [MEASURE] your company sold in [YEAR] did not receive a Mass Save rebate even though they would have qualified for one. Is that roughly correct?

1. Yes [SKIP TO D7]
2. No
3. Don't know
4. Refused

[ASK IF D5=2,3,4]

D6. About how many of the sales of residential high-efficiency [MEASURE] in [YEAR] did not receive a rebate even though they qualified?

1. ___ Number of sales [0-10,000]
2. Don't know
3. Refused

[ASK IF RESPONSE TO D5 OR D6 > 20% OF TOTAL HIGH-EFFICIENCY UNITS FOR GIVEN MEASURE]

D7. Why did these units not receive a rebate?

1. [RECORD RESPONSE]
2. Don't know
3. Refused

[IF D6=0 OR D6=2,3, SKIP TO C1 FOR NEXT MEASURE OR A.G1 IF MEASURE=1]

D8. Next, I'd like you to think about the high-efficiency equipment you sold <u>that did not receive a rebate</u>. Using a 0 to 10 scale where 0 is 'not at all influential' and 10 is 'very influential', how influential were the Mass Save rebates on your sales of high-efficiency [MEASURE] in [YEAR]?

1. ___ Rating [0-10]
2. Don't know
3. Refused

D9. Using that same scale (where 0 is 'not at all influential' and 10 is 'very influential'), how influential was the program support such as marketing, advertising, education, and training on your company's sales of these high-efficiency [MEASURE]?

1. ___ Rating [0-10]
2. Don't know
3. Refused

E. Weatherization Spillover

[ASK SECTION IF MEASURE GROUP=WEATHERIZATION]

E1. About how many projects including [MEASURE] did your company complete in total in [YEAR]?

1. ___ Total projects
2. Don't know [SKIP TO C1 FOR NEXT MEASURE OR A.F1 IF LAST SAMPLED MEASURE]
3. Refused [SKIP TO C1 FOR NEXT MEASURE OR A.F1IF LAST SAMPLED MEASURE]

E2. Did all the projects including [MEASURE] that your company completed in [YEAR] receive a Mass Save rebate of some kind?

1. Yes [SKIP TO C1 FOR NEXT MEASURE OR A.F1IF LAST SAMPLED MEASURE]
2. No
3. Don't know [SKIP TO C1 FOR NEXT MEASURE OR A.F1 IF LAST SAMPLED MEASURE]
4. Refused [SKIP TO C1 FOR NEXT MEASURE OR A.F1 IF LAST SAMPLED MEASURE]

[ASK IF E2=2]

E3. About what percentage of projects including [MEASURE] that your company completed in [YEAR] did not receive a Mass Save rebate even though they would have qualified for one?

1. ___ Percentage completed without rebate [0-100]
2. Don't know
3. Refused

[ASK IF RESPONSE TO E3 > 20% OF TOTAL PROJECTS FOR GIVEN MEASURE]

E4. Why did these units not receive a rebate?

1. [RECORD RESPONSE]
2. Don't know
3. Refused

[IF E3=0, DK or R, SKIP TO C1 FOR NEXT MEASURE OR A.G1 IF MEASURE=1]

E5. Next, I'd like you to think about the projects you completed <u>that did not receive a rebate</u>. Using a 0 to 10 scale where 0 is 'not at all influential' and 10 is 'very influential', how influential were the Mass Save rebates on the number of [MEASURE] projects you completed in [YEAR]?

1. ___ Rating [0-10]
2. Don't know
3. Refused

E6. Using that same scale (where 0 is 'not at all influential' and 10 is 'very influential'), how influential was the program support such as marketing, advertising, education, and training on the number of [MEASURE] projects your company completed?

1. ___ Rating [0-10]
2. Don't know
3. Refused

[IF SAMPLED MEASURE = "BOTH" IN B2, REPEAT SECTIONS C - E WHERE RELEVANT BUILDING TYPE= MULTIFAMILY. IF SAMPLED MEASURE <> "BOTH", RETURN TO NEXT SAMPLED MEASURE. IF LAST SAMPLED MEASURE, CONTINUE TO F].

F. Condensing

[ASK A.F1-A.F3IF MEASURES SELETED IN B1 INCLUDE "NATURAL GAS BOILERS" OR "NATURAL GAS FURNACES" OR "NATURAL GAS COMBINATION BOILERS"; OTHERWISE CONTINUE TO A.G1].]

F1. About what percentage of the high efficiency condensing boilers and furnaces incentivized by the PAs replace a unit that was already condensing**?**

[LIST MEASURES SELECTED IN B1]

Measure	CONDENSING EFFICIENCY THRESHOLD	% OF TIME PROGRAM REPLACED A PREVIOUSLY CONDENSING UNIT
Natural Gas Boilers	Above 90% AFUE	%
Natural Gas Furnaces	Above 90% AFUE	%
Natural Gas Combination Boilers	Above 90% AFUE	%

F2. Using a 0 to 10 scale where 0 is 'not at all influential' and 10 is 'very influential', how influential were the Mass Save rebates on your sales of high-efficiency [MEASURE] for customers that replaced a unit that was already condensing?

1. ___ Rating [0-10]
2. Don't know
3. Refused

F3. Using the same 0 to 10 scale, how influential were the Mass Save rebates on your sales of high-efficiency [MEASURE] for customers that replaced a unit that was non-condensing?

1. ___ Rating [0-10]
2. Don't know
3. Refused

G. Closing and Incentive

G1. Those are all the questions I have. Your responses are very important to the sponsors of Mass Save and will help as they design future energy efficiency programs. We appreciate your participation and thank you for your time. Please verify where you would like us to email your Amazon gift card.

1. Email address we should use for gift card: [EMAIL]