Opinion Dynamics

Memorandum

To: Nick Warnecke and Carlotta Ruiz-Smith, AIC; Seth Craigo-Snell, SCS Analytics; and Elizabeth Horne, ICC Staff

From: The Opinion Dynamics Evaluation Team

Date: January 28, 2025

Re: AIC 2024 Retail Products Initiative Participant Survey ISR and Process Findings

Introduction

The AIC Retail Products Initiative includes several channels and offers discounts on a wide range of qualifying ENERGY STAR® products, including LED lighting, advanced power strips, advanced thermostats, and over a dozen other household appliances and miscellaneous equipment.[1] The offering is designed to incentivize customers to purchase energy-efficient versions of selected retail products instead of less efficient (and typically cheaper) alternatives by offsetting the price difference, helping customers reduce their energy usage, energy bills, and carbon footprints. The Retail Products Initiative offers incentives in various forms through three different participation channels:

- Point-of-Sale (POS) channel: By partnering with retailers and manufacturers, the POS channel provides in-store discounts that reduce the purchase price of select products.
- Downstream Rebate channel: This channel allows AIC customers to apply for a post-purchase reimbursement (rebate) to cover a portion of the cost of qualifying product purchases.
- Online Marketplace channel: This channel offers AIC customers select products at discounted price points on AIC's own online store.

As part of the 2024 evaluation of the Retail Products Initiative, we conducted a survey of participants who purchased rebated advanced thermostats, air purifiers, clothes washers, clothes dryers, dehumidifiers, refrigerators, freezers, and heat pump water heaters (HPWHs) through the Downstream Rebate or Online Marketplace channels (email addresses are not collected for POS channel participants). As part of the survey, we collected data to estimate in-service rates (ISRs) for each product category and asked a variety of process-oriented questions about customers' experiences participating in the Retail Products Initiative.[2]

[1] The ENERGY STAR® name and mark are registered trademarks owned by the US Environmental Protection Agency (USEPA).

[2] The participant survey also collected data to estimate net-to-gross ratios (NTGRs), which are reported in a separate deliverable.

Conclusions and Recommendations

- **Conclusion:** Retail Products participants express high levels of satisfaction with the offering, particularly with the quality of the products received. Still, some of those who received $50 incentives for larger appliances like clothes washers, clothes dryers, refrigerators, and freezers suggested an incentive closer to $100 would be more appropriate.
  - **Recommendation:** Explore whether it is justifiable to increase incentives for some household appliances, which may increase participation and has potential to reduce associated free ridership by attracting more customers otherwise unlikely to upgrade to an energy-efficient unit.[3]
- **Conclusion:** Advanced thermostat ISR results indicate that while most participants (70%) install their new thermostats in the months following their purchase, a substantive portion do not. Of the 30% that do not install their new thermostat right away, most simply have not gotten around to doing so.
  - **Recommendation:** Advanced thermostat ISR results presented in this deliverable should be considered for future updates to the Illinois Technical Reference Manual (TRM) for time-of-sale, self-install delivery.[4]
  - **Recommendation:** Consider including marketing collateral with Online Marketplace purchases or additional outreach to recent advanced thermostat participants explicitly encouraging them to install their new advanced thermostat soon after purchase.
- **Conclusion:** Survey-based ISR results for appliances generally confirm the appropriateness of the 100% ISRs recommended by the Illinois TRM Version 12.0 (IL-TRM V12.0). However, a limited number of these respondents indicated they did not receive the product recorded in Initiative tracking data. Although respondent confusion and recall bias represent possible explanations, recall issues are relatively unlikely with larger appliance purchases, and these results may point to isolated instances of inaccurate or misaligned records in Initiative tracking data.
  - **Recommendation:** Revisit Initiative tracking data quality control processes to ensure all appliance rebate records marked as “complete” reflect confirmed purchases for which associated incentives have been distributed.

[3] Free ridership associated with larger household appliances ranged from 45.9% for freezers to 52.7% for refrigerators, based on analysis of participant survey data presented in the AIC 2024 Retail Products Initiative Net-to-Gross Findings Memo (August 30, 2024).

[4] Survey-based ISR results are not applicable to thermostat heating savings recommended by the IL-TRM V12.0, which are based on consumption analysis that implicitly accounts for ISR.

- **Conclusion:** A majority of survey respondents with HPWHs replaced a non-electric unit (53% gas, 5% LP or propane). Additionally, half of the sixteen respondents who replaced a gas water heater with an incentivized HPWH suggested that they were not planning to purchase an electric water heater before learning of the incentive.
  - **Recommendation:** Explore future research opportunities to understand the prevalence of fuel switching among HPWH participants and the role of the Retail Products Initiative in encouraging customers to install HPWHs in place of gas alternatives.
- **Conclusion:** Customers without HPWHs installed in their homes expressed limited familiarity with the technology, with a majority reporting they were not at all familiar. Those who were familiar with the technology pointed to energy efficiency in cooler weather as the leading benefit associated with HPWHs and upfront cost as the primary concern. These results highlight the need for education around HPWH technology as well as the value of incentives in addressing customer concerns towards upfront costs.
  - **Recommendation:** Focus future HPWH marketing on educating customers about the technology, highlighting energy efficiency, incentive availability, and energy cost savings over time.

Key Findings

This section details key findings from the participant survey regarding ISR estimates and process-oriented results.

ISR Results

The evaluation team developed ISR estimates for each measure category, which represent the portion of Initiative-incentivized products installed by participants within the first year after purchase. ISR estimates account for the portion of sales appearing in Initiative tracking data that participants confirmed receiving (% Received) as well as the portion of those products which they indicate are installed at the time of the survey (% Installed). The resulting ISR reflects the product of the first two values. Most of the ISR results presented here serve to validate ISR recommendations reflected in the IL-TRM V12.0 and do not necessitate any immediate TRM updates:

- For advanced thermostats, heating savings recommended by the IL-TRM V12.0 are based on consumption analysis that implicitly accounts for ISR, and the associated ISR for heating savings is therefore defaulted to 100%. For advanced thermostat cooling savings, we recommend the 70.0% ISR presented below be considered for future Illinois TRM updates.
- The IL-TRM V12.0 recommends a 100% ISR for all appliances included in our research, and survey results broadly justify the assumption that virtually all such appliances get installed within the first year of purchase.
- For nearly all appliances included (dehumidifiers, refrigerators, freezers, clothes washers, and clothes dryers), a limited number of respondents indicated that they did participate in the Retail Products Initiative but did not recall receiving the specific incentivized appliance recorded in Initiative tracking data.[5] Although respondent confusion and recall bias represent possible explanations, recall issues are unlikely with larger appliance purchases, and these results may point to isolated instances of inaccurate or misaligned records in Initiative tracking data.

The results of the ISR analysis are provided in Table 1.

Table 1. ISR Results by Measure Category

Measure Category	% Received	% Installed	ISR
Advanced Thermostats (n=20)	95.0%	73.7%	**70.0%**
Air Purifiers (n=24)	100.0%	100.0%	**100.0%**
Dehumidifiers (n=52)	98.1%	98.0%	**96.2%**
Refrigerators (n=73)	97.2%	100.0%	**97.2%**
Freezers (n=22)	90.9%	100.0%	**90.9%**
Clothes Washers (n=89)	93.1%	100.0%	**93.1%**
Clothes Dryers (n=68)	98.5%	100.0%	**98.5%**
HPWHs (n=18)	100.0%	100.0%	**100.0%**

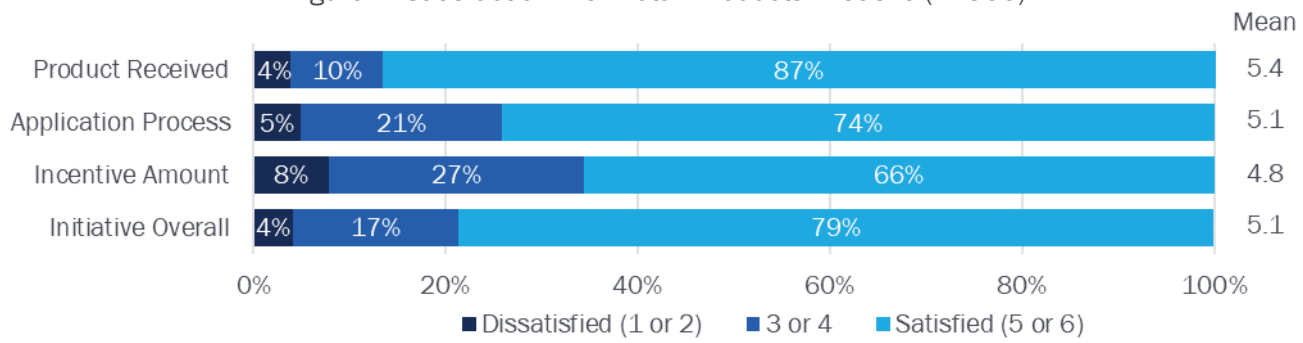
[5] For most measure categories, percent received rates below 100% are reflective of one or two respondents who did not confirm receipt of the incentivized purchase reflected in Initiative tracking data.

Advanced thermostat recipients who did not have their new thermostat installed at the time of the survey (n=5) generally indicated that they had not yet had the chance to install the new product (3 of 5 respondents). The other two respondents who received but had yet to install their new thermostats suggested that the product was incompatible with their HVAC equipment (n=1) or that their landlord insisted on installing a different unit (n=1).

Process Results

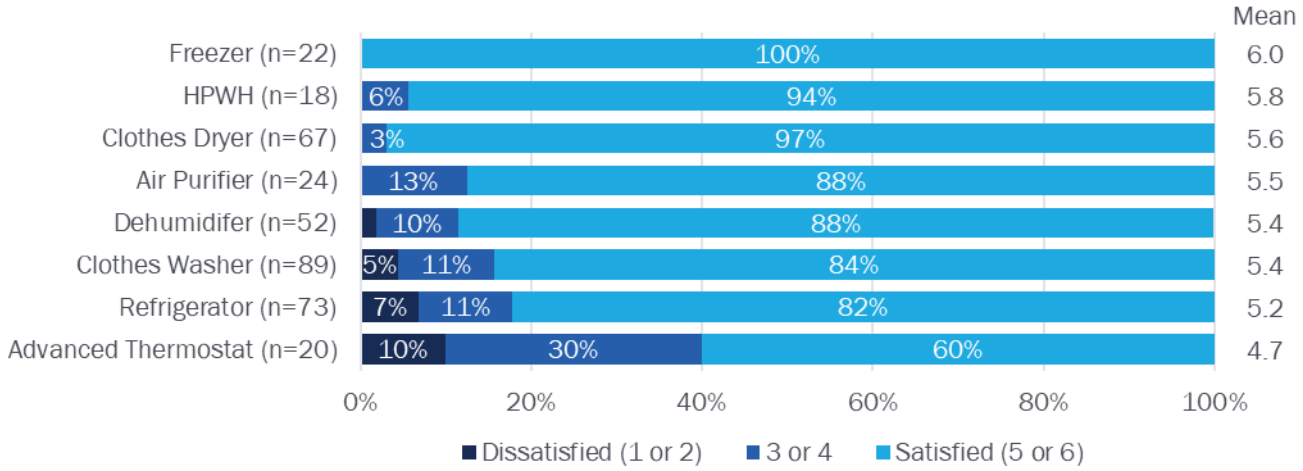
Respondents reported generally high levels of satisfaction with key elements of the Initiative and the offering as a whole, while some customers suggested incentives should be higher than $50 for appliances. Participants provided an average overall satisfaction rating of 5.1 out of 6 on a scale ranging from 1 (extremely dissatisfied) to 6 (extremely satisfied) and expressed particularly high satisfaction with the products they received. They showed somewhat less enthusiasm for the incentive amounts they received, which ranged from $50 for most measure categories to $125 for advanced thermostats and $300 for HPWHs. The vast majority (88%) of those who reported dissatisfaction with incentive amounts received $50 incentives for household appliances, and half (50%) of them suggested that a $100 incentive would have been more appropriate (average suggested amount of $108 across all those who provided a value, n=51). Figure 1 presents participant-reported satisfaction with key elements of the Retail Products Initiative.

Figure 1. Satisfaction with Retail Products Initiative (n=366)



Respondents expressed high levels of product satisfaction, providing average satisfaction ratings of at least 5.2 out of 6 for all but one product category. Advanced thermostat participants reported slightly lower levels of satisfaction, but even so only 2 of 20 respondents provided a rating of less than three out of six. Among the five advanced thermostat recipients who expressed dissatisfaction with the product, three pointed to challenges installing and two had difficulty programming the unit. Figure 2 summarizes respondent satisfaction with incentivized units by product category.

Figure 2. Satisfaction with Initiative-Incentivized Products



In-store promotion drives Initiative awareness among downstream rebate participants.[6] Survey respondents most commonly learned about the Retail Products offering in-store signage (32%), retail store employees (17%), and Ameren Illinois' website (17%). When asked how they would prefer to hear about future Ameren Illinois offerings, the majority of respondents pointed to emails from Ameren Illinois (59%). Figure 3 summarizes the leading sources from which respondents learned about the Retail Products Initiative, and Figure 4 presents their preferred sources of information about future offerings.

[6] Survey respondents are almost entirely downstream rebate participants, so these trends and preferences are not necessarily representative of the broader population of Retail Products participants.

Figure 3. Sources of Initiative Awareness (n=366)

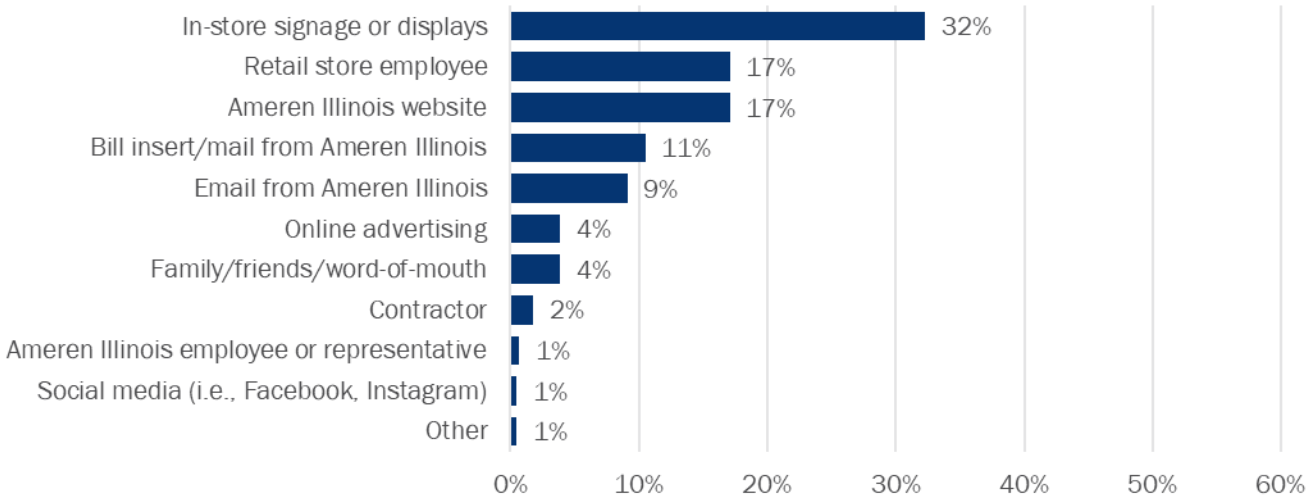
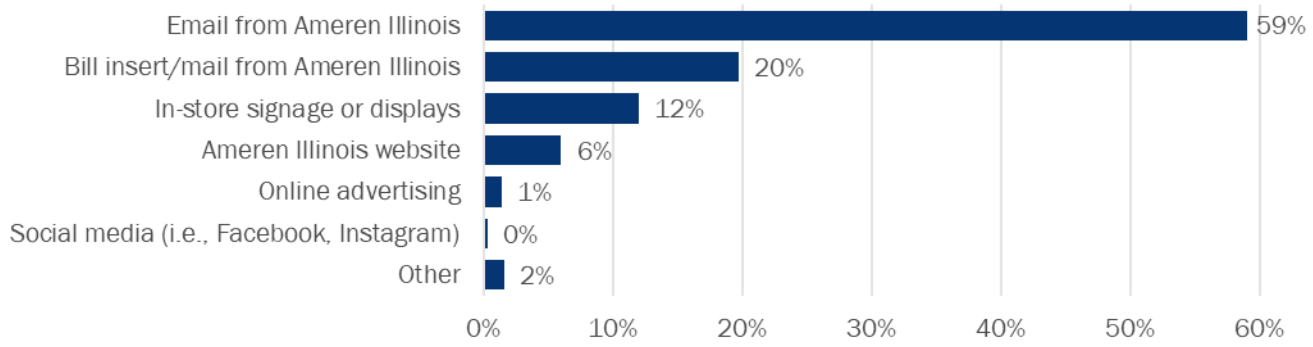


Figure 4. Preferred Sources of Initiative Information (n=366)



Advanced thermostat participants typically installed the thermostats themselves and described the process as being relatively easy. Among those who confirmed installation of their new thermostat, 92% installed the product themselves, and 100% of those who did reported the process was either somewhat or very easy. The one respondent who hired a professional to install their new thermostat paid $100 for the service.

Most HPWH participants hired a professional to install the equipment and reported paying anywhere from $200 to $1,500 for installation. Among those who received a HPWH incentive, 59% hired a contractor to complete the installation. Those who hired a contractor paid an average of $650 for the service (n=9), and all but one found their contractor by word-of-mouth. Among the 41% who completed the installation themselves, all reported the process was either somewhat or very easy.

Feedback from HPWH participants suggest that the Retail Products Initiative is encouraging some customers to fuel switch. As part of the participant survey, we took the opportunity to ask about customers' existing water heating equipment, awareness and interest in HPWHs, and the decision-making process for customers replacing an electric or gas water heater. Among all survey respondents, 18 received a Retail Products incentive for the recent purchase of a HPWH and 30 had one installed without a Retail Products incentive. When purchasing their HPWHs, 42% reported

replacing a previous electric water heater, 53% replaced a gas unit, and 5% replaced a liquid petroleum or propane unit (n=48). Among the 16 who replaced a gas water heater with an incentivized electric HPWH, only half (50%) suggested they were not planning to purchase an electric unit prior to learning of the Ameren Illinois HPWH rebate.

Survey respondents without HPWHs reported limited familiarity with the technology. Only 14% of those without a HPWH already installed in their home indicated they were relatively familiar with the technology (5 or 6 on a scale ranging from 1 "not at all familiar" to 6 "very familiar"), and 60% reported they were "not at all familiar" with the technology (n=318).

Those familiar with HPWHs pointed to energy efficiency in cooler weather as the top motivator and upfront cost as a the top barrier to adoption. We asked respondents who were at least somewhat familiar with HPWHs to rank six potential benefits with HPWHs from most to least valuable, and they identified energy efficiency in cooler weather as the leading benefit (55% ranked as a primary or secondary benefit), followed by lower operating costs (47%) and improved home comfort (46%). When these same respondents were asked to rank seven potential challenges with HPWHs from most to least concerning, they pointed to higher upfront costs as their primary concern (86% ranked as a primary or secondary concern). Figure 5 and Figure 6 present respondents' perceived benefits and concerns towards HPWH technology.

Figure 5. Perceived Benefits of HPWH Equipment (n=132)

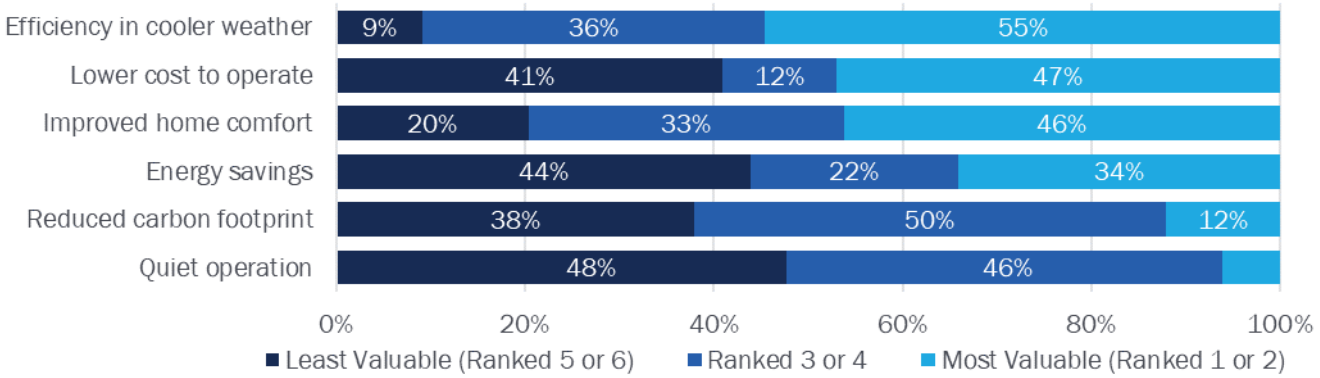
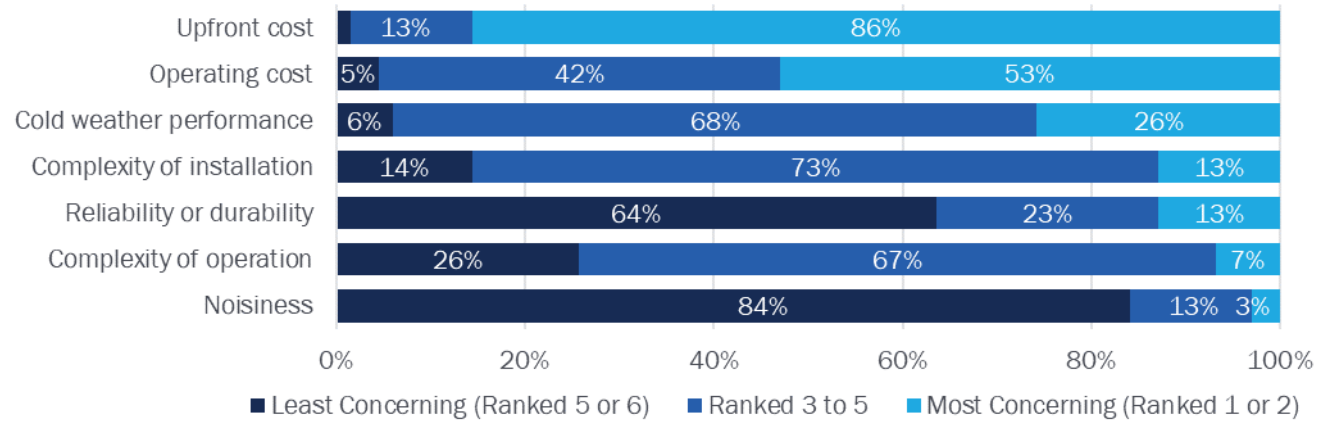


Figure 6. Concerns Towards HPWH Equipment (n=132)



Methods

Survey Sampling and Fielding

The evaluation team conducted a web survey with a total of 366 Retail Products Initiative participants, reflecting a response rate of 8.1%.[7] Survey fielding took place in June and July of 2024. Each sampled participant received an email invitation and up to two reminder emails.

The sample frame for the survey effort included all customers who participated in the Retail Products Initiative within approximately 12 months prior to survey fielding (i.e., Q3 2023 through Q1 2024), and for whom tracking data included a valid email address. We excluded participants from more than one year prior to fielding to minimize recall bias and avoided contacting participants within one month of their purchase to avoid capturing artificially low installation rates for customers who haven't yet had a chance to make use of their new product. Email addresses were only available for participants in the Online Marketplace and Downstream Rebate channels. Marketplace Channel participants accounted for 18% of both the sample frame and sample, with advanced thermostats accounting for the vast majority of Marketplace channel participation.

The evaluation team randomly selected up to 1,000 respondents from the sample frame to include in the final sample. We attempted a census of all eligible participants for measure categories with less than 1,000 contacts available. To reduce survey length and respondent burden, each participant was asked about a single product, even if they purchased more than one rebated product. In doing so, we prioritized the least common product type for participants who made multiple purchases. Table 2 summarizes the sample design and number of survey completes by measure category.

Table 2. Sample Summary

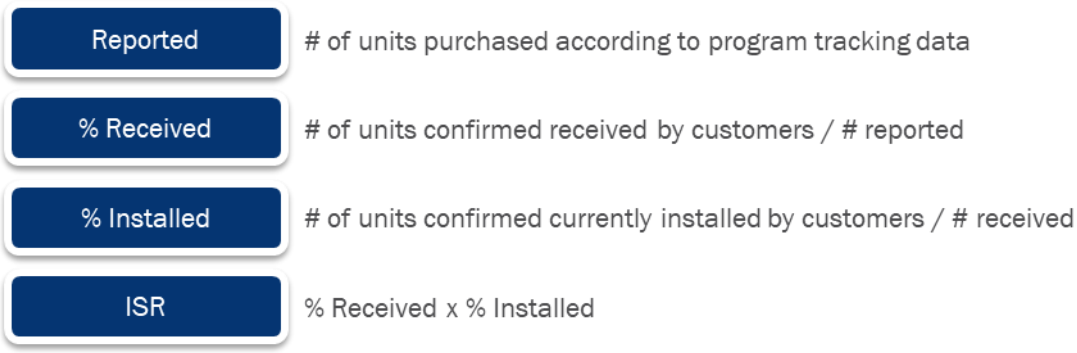
Measure Category	Participants in Sample Frame	Sampled Participants	Survey Completes
Advanced Thermostats	26,753	1,000	20
Air Purifiers	330	330	24
Dehumidifiers	719	719	52
Clothes Washers	923	923	89
Clothes Dryers	991	991	68
Refrigerators	1,721	1,000	73
Freezers	234	234	22
HPWHs	157	157	18
Total	**31,828**	**5,354**	**366**

[7] https://aapor.org/wp-content/uploads/2023/05/Standards-Definitions-10th-edition.pdf

ISR Methodology

The evaluation team developed ISRs for each measure category based on two sets of survey questions asking respondents to confirm the number of products received and the number of those products installed at the time of the survey. We calculated the receipt rate as the number of units received by the customer divided by the number reported in Initiative tracking data and the install rate as the number of units installed at the time of the survey divided by the number received. The ISR is the product of the receipt and install rates, as shown in Figure 7.

Figure 7. ISR Development



Appendix A. Participant Survey Instrument

AIC 2024 Retail Products Participant Survey