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Sharonda Williams
VP – Regulatory & Public Affairs

June 30, 2026

VIA ELECTRONIC MAIL ONLY

Clerk of Council
City Hall - Room 1E0
1300 Perdido Street
New Orleans, LA 70112

**Re: Filing of Entergy New Orleans, LLC's Energy Smart Program Year 15
Annual Report and Evaluation, Measurement and Verification Report
(Resolutions R-11-52, R-22-523, and R-24-570; UD-08-02, UD-20-02, UD-23-01)**

Dear Clerk of Council,

On February 3, 2011, the Council of the City of New Orleans ("Council") adopted Resolution R-11-52 requiring periodic reports regarding Energy Smart to be filed with the Council. Council Resolution R-22-523 approved APTIM, Environmental and Infrastructure ("APTIM"), National Theater for Children ("NTC"), Sagewell, Inc. ("Sagewell") and Honeywell Smart Energy ("Honeywell") as the Third-Party Administrators, and ADM Associates, Inc. as the Third-Party Evaluator for the programs. Resolution R-24-570, adopted on October 11, 2024, approved the continuance of Energy Smart for Program Year 15.

On behalf of APTIM, NTC, Sagewell, Honeywell and ADM, Entergy New Orleans, LLC submits this Energy Smart Program Year 15 Annual Report and Annual Evaluation, Measurement and Verification Report for the period of January 1, 2025, to December 31, 2025, and requests that you file this submission in accordance with Council regulations. Should you have any questions regarding this filing, please contact my office at (504) 670-3673.

Sincerely,

A handwritten signature in black ink that reads 'Sharonda Williams' with a stylized flourish at the end.

Sharonda Williams

Enclosure

cc: Official Service List UD-08-02, UD-17-03, and UD-23-01 (via electronic mail)

EVALUATION, MEASUREMENT & VERIFICATION OF THE PROGRAM YEAR FIFTEEN ENERGY SMART PROGRAMS

June 29, 2026

Prepared for Entergy New Orleans



Prepared by:

QUALUS

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ACKNOWLEDGEMENTS

ADM Associates, Inc./Qualus¹ would like to acknowledge the many talented individuals who contributed to this evaluation, measurement, and verification (EM&V) report for program year 15 (PY15).

The Entergy New Orleans (ENO) staff participated in ongoing evaluation deliverable reviews and discussions, attended regular meetings, and responded to follow-up questions, data requests and document requests. They are an ongoing partner in our evaluation efforts.

We also wish to thank the implementation firms: APTIM, Franklin Energy Services, Legacy Professional Services, National Theatre for Children (NTC), Energy Wise Alliance, Honeywell, and their staff for their insights and information.

Additionally, we would like to thank the evaluation staff who supported the creation of this report.

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¹ As readers of this report may be aware, ADM Associates, Inc. ('ADM') was acquired by Qualus LLC in July 2025. Qualus and ADM are the same entity for the purpose of the Entergy New Orleans evaluation engagement.

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ACRONYMS/ABBREVIATIONS

TABLE 0 ACRONYMS/ABBREVIATIONS

Acronym	Term
AC	Air Conditioner
AOH	Annual operating hours
APS	Advanced Power Strip
AR&R	Appliance Recycling & Replacement
BP	Behavioral Program
BYOT	Bring Your Own Thermostat
C&I	Commercial and Industrial
CEE	Consortium for Energy Efficiency
CF	Coincidence factor
CFL	Compact fluorescent lamp (bulb)
CFM	Cubic feet per minute
CRE	Commercial Real Estate
DI	Direct install
DLC	Direct Load Control
DLC	Design Lights Consortium
EER	Energy efficiency ratio
EFLH	Equivalent full-load hours
EISA	Energy Independence and Security Act
EL	Efficiency loss
EM&V	Evaluation, Measurement, and Verification
ES	ENERGY STAR
EUL	Estimated Useful Life
GPM	Gallons per minute
HDD	Heating degree days
HID	High intensity discharge
HOU	Hours of Use
HP	Heat pump
HPwES	Home Performance with ENERGY STAR
HSPF	Heating seasonal performance factor
HVAC	Heating, Ventilation, and Air Conditioning
IEER	Integrated Energy Efficiency Ratio
IEF	Interactive Effects Factor
IPLV	Integrated part load value
IQW	Income Qualified Weatherization
ISR	In-Service Rate
kW	Kilowatt

Acronym	Term
kWh	Kilowatt-hour
LCA	Lifecycle Cost Adjustment
LED	Light Emitting Diode
M&V	Measurement and Verification
MFS	Multifamily Solutions
MW	Megawatt
MWh	Megawatt-hour
NC	New Construction
NTG	Net-to-Gross
PCT	Participant Cost Test
PFI	Publicly Funded Institutions
PY	Program Year
QA	Quality Assurance
QC	Quality Control
RCA	Refrigerant charge adjustment
RIM	Ratepayer Impact Measure
RLA	Retail Lighting and Appliances
ROB	Replace on Burnout
RR	Realization Rate
RUL	Remaining Useful Life
SEER	Seasonal Energy Efficiency Ratio
SK&E	School Kits and Education
TA	Trade Ally
TRC	Total Resource Cost Test
TRM	Technical Reference Manual
UCT	Utility Cost Test
VFD	Variable Frequency Drive

SAVINGS TYPES

TABLE 2 SAVINGS TYPES

Savings Types	Definition
Energy Savings (kWh)	The change in energy (kWh) consumption that results directly from program-related actions taken by participants in a program.
Demand Reductions (kW)	The time rate of energy flow. Demand usually refers to electric power measured in kW (equals kWh/h) but can also refer to natural gas, usually as Btu/hr., kBtu/hr., therms/day, etc.
Expected / <i>Ex Ante</i> Gross	The change in energy consumption and/or peak demand that results directly from program-related actions taken by participants in a program, regardless of why they participated.
Verified / <i>Ex Post</i> Gross	Latin for “from something done afterward” gross savings. The energy and peak demand savings estimates reported by the evaluators after the gross impact evaluation and associated M&V efforts have been completed.
Net / <i>Ex Post</i> Net	Verified / <i>Ex Post</i> gross savings multiplied by the net-to-gross (NTG) ratio. Changes in energy use that are attributable to a particular program. These changes may implicitly or explicitly include the effects of free-ridership, spillover, and induced market effects.
Annual Savings	Energy and demand savings expressed on an annual basis, or the amount of energy and/or peak demand a measure or program can be expected to save over the course of a typical year. The TRM provides algorithms and assumptions to calculate annual savings and are based on the sum of the annual savings estimates of installed measures or behavior change.
Lifetime Savings	Energy savings expressed in terms of the total expected savings over the useful life of the measure. Typically calculated by multiplying the annual savings of a measure by its EUL. The TRC Test uses savings from the full lifetime of a measure to calculate the cost-effectiveness of programs.

EXECUTIVE SUMMARY

1.1 Overview

This report provides a summary of the evaluation effort of the 2025 (“Program Year 15” or “PY15”) Energy Efficiency (EE) and Demand Response (DR) portfolio by Entergy New Orleans (ENO). The Energy Smart Programs are administered between January 1, 2025, and December 31, 2025.

The evaluation was led by Qualus (herein known as “the Evaluators”).

1.2 Evaluation Objectives

The following activities were performed through the PY15 EM&V effort:

- Verify program tracking data and correctly apply the New Orleans Technical Reference Manual Version 8.0 (NO TRM V8.0) to calculate savings and estimate PY15 gross and net energy and demand impacts at the high impact measure, program, and portfolio levels.
- Adjust program-reported gross savings using the results of evaluation research, relying primarily on tracking system and engineering desk reviews, metered data analysis, on-site verification, and equipment metering and achieve a minimum precision of $\pm 10\%$ of the gross realized savings estimate with 90% confidence;
- In consultation with the Advisors, estimate net-to-gross (NTG) ratio values, which was performed following the NO TRM V8.0 and provide complete documentation and transparency of all evaluated savings estimates, and where relevant, compare with TRM calculations, as recommended;
- Provide ongoing technical reviews and guidance to implementers and ENO throughout the evaluation cycle and review tracking system data to assess data captured for new measure offerings following TRM protocols;
- Conduct EM&V research to support possible updates for the next version of the TRM, which may include information on commercial and residential envelope measures, business type lighting hours of use, and persistence of behavioral savings; and
- Complete a full process evaluation of the energy efficiency and demand response programs, but no process evaluation of the behavioral and C&I new construction programs in PY15.

1.3 Energy Smart Portfolio Overview

In PY15, the ENO Energy Smart portfolio included the following programs. The table below shows each program’s sector, type and who implemented the program for ENO.

TABLE 0-1 PY15 ENERGY SMART PORTFOLIO OF PROGRAMS

Program Name	Found in the Report As	Sector	Type	Third-Party Implementor
Home Performance with ENERGY STAR	HPwES	Res	EE	Franklin
Income Qualified Weatherization	IQW	Res	EE	Franklin
Multifamily Solutions	MF Solutions	Res	EE	Franklin
A/C Solutions	A/C Solutions	Res	EE	Franklin
Retail Lighting and Appliances	RLA	Res	EE	Franklin
School Kits and Education	SK&E	Res	EE	National Theatre for Children
Residential HVAC Midstream	HVAC Midstream	Res	EE	Energy Solutions
Neighborhood-Based Delivery Pilot	NBD Pilot	Res	EE	Franklin
Behavioral	Behavioral	Res	EE	Franklin
EasyCool Bring Your Own Thermostat	BYOT	Res	DR	Energyhub
Peak Time Rebate	PTR	Res	DR	APTIM
Battery Energy Storage System Pilot	BESS	Res	DR	EnergyHub
Electric Vehicle Charging Pilot	EV Charging	Res	DR	Sagewell
Small C&I Solutions	Small C&I	C&I	EE	APTIM
Large C&I Solutions	Large C&I	C&I	EE	APTIM
Publicly Funded Institutions	PFI	C&I	EE	APTIM
C&I Construction Solutions	C&I NC	C&I	EE	APTIM
Large C&I Automated Demand Response	Large C&I DR	C&I	DR	Honeywell

In PY15, ENO offered a portfolio of 18 programs; five demand response (DR) and 13 energy efficiency programs, including three low income channels within existing programs, which provided a comprehensive range of customer options focused on energy efficiency, demand reduction, and educational options.

ENO designed its programs to achieve the following objectives:

- PY15 *ex post* gross energy savings (kWh) goal of 90,147,564 kWh and a demand reduction (kW) target of 53,328.18 kW;²
- Significant energy-savings opportunities for all customers and market segments; and
- Broad ratepayer benefits.

The Evaluators calculated the results for PY15 for each C&I and residential program. Those programs are described below.³

- **Home Performance with ENERGY STAR (HPwES):** This offering will achieve long-term, significantly cost-effective electric savings using local auditors and trade allies who will help residential customers analyze their energy use and identify opportunities to improve efficiency, install low-cost energy-saving measures, and identify and implement more comprehensive home efficiency projects. HPwES will offer three levels of home energy audits. The Assessment will include a “walk-through” inspection and direct installation of low-cost measures, such as LEDs and water conservation measures.

² These goals represent first-year energy and demand savings at the meter.

³ The program descriptions below align with the ENO Application for Approval of the Implementation Plan for PY13 through PY15 of the Energy Smart Program. Filed July 29, 2022, in Docket Nos. UD-20-02 and UD-08-02.

To generate additional savings at the time of the audit, demand response enabled smart thermostats to have been added as a direct install measure.

- **Retail Lighting and Appliances (RLA):** The objective of this offering is to increase the awareness and sales of efficient lighting and appliances to ENO's residential population. The offering will provide customers with the opportunity to purchase a variety of discounted products that are ENERGY STAR qualified or better. The two main program activities include (1) retailer recruitment and merchandizing and 2) administration of the incentive process (including program tracking). In PY15, the program added a low income channel to compliment the existing residential channel.
- **Multifamily Solutions (MF Solutions):** This offering targets multifamily property owners (landlords) and managers, as well as apartment and condo renters. The offering will address these customers' unique needs through a combination of incentives for both direct install and prescriptive measures, and through property owner and tenant education. In PY15, the program added a low income channel to compliment the existing residential channel.
- **Income Qualified Weatherization (IQW):** This offering is designed to offer qualifying customers free energy efficiency projects ranging from direct install measures, such as LED bulbs and water savings measures, to demand response enabled smart thermostats and comprehensive envelope measures.
- **A/C Solutions:** This offering will provide residential customers with a more comprehensive set of options to lower the energy consumption and cost associated with keeping their homes cool and comfortable in the summer. Customers with functioning ACs can improve the efficiency of their units with the help of a comprehensive AC tune-up or replacement. The offering will also include DR-enabled smart thermostats. The program will build capacity within the territory's HVAC trade ally network to provide value-added services to its customers.

These services are eligible to be incentivized because they go above and beyond the standard industry practices and offerings in the marketplace. In PY15, the program added a low income channel to compliment the existing residential channel.

- **School Kits and Education (SK&E):** This offering will continue to target middle school students in the New Orleans area. The program will work with local schools to enhance energy efficiency lessons and provide students with energy efficiency kits that they will install in their homes. The School Kit & Education offering will continue to provide the students with kits containing energy efficient items and the students will be able to use these items in their homes and track their energy savings.
- **Residential HVAC Midstream:** This offering incentivizes distributors to stock and promote high-efficiency residential HVAC equipment, including central air conditioners and air-source heat pumps. By providing per-unit incentives upstream in the supply chain, the program enables distributors to reduce first-cost barriers, mitigate stocking risk, or motivate contractor upselling. The offering includes multiple efficiency tiers and provides participating distributors with onboarding, training, and ongoing performance support.
- **Neighborhood-Based Delivery Pilot:** This offering provides no-cost home energy assessments, direct install measures, and deeper efficiency upgrades to customers in priority neighborhoods selected using equity-focused criteria such as income disadvantage, heat-island exposure, and historically low program participation. Modeled after the Income Qualified Weatherization program, the pilot delivers services through BPI-certified contractors and emphasizes community-based outreach—including neighborhood

events, direct mail, canvassing, and partnerships with local organizations—to reach customers who may not engage through digital channels.

- **Behavioral:** Residential customers will receive a monthly Home Utility Report that compares them to similar and efficient households, shows their usage over time, provides tips for saving energy, and directs them to other program offerings.
- **EasyCool – Bring Your Own thermostat (BYOT):** This offering, in which residential customers purchase and install qualifying connected thermostats from device manufacturers on their own, voluntarily enroll those devices in the offering.

This offering will leverage EnergyHub’s Mercury Distributed Energy Resource Management System (“DERMS”), which enables enrollment, monitoring, and load control of connected devices from the leading thermostat manufacturers and connected-home security providers.

- **Peak Time Rebate Pilot (PTR):** This offering provides incentives to residential customers for reducing their energy usage during short periods of high electricity usage. The offer was made available on a limited basis to the first customers to sign up during the Pilot phase.
- **Battery Energy Storage System Pilot (BESS):** This offering allowed customers to earn an incentive for enrollment and by participating in peak demand events. During these events, Entergy New Orleans, LLC (ENO) accessed stored energy from a home battery system to help provide more reliable power to the grid. The program allowed customers the ability to opt out without penalties. Participation was free with an eligible battery system. The program was limited to the first 30 customers who enrolled and met system qualifications. Customers qualified if they had a compatible solar photovoltaic system-connected BESS.
- **Electric Vehicle Charging Pilot (EV Charging):** This demand response pilot seeks to shift EV charging load to off-peak hours using a predetermined charging schedule. Sagewell uses software to identify potential EV chargers and invites them to participate in the program. Customers receive a monthly incentive for participating in the program. To qualify, customers must charge their car during off-peak hours at least three times a month and cannot override the charging schedule more than four times a month.
- **Large C&I Demand Response (Large C&I DR):** This offering will be implemented by Honeywell. The objective of the program is to secure curtailable capacity from large C&I facilities. Honeywell, in coordination with ENO, will recruit, enroll, conduct DR Surveys, and install control equipment at customer sites to provide a turn-key solution for ENO Commercial customers. Specific load control shed measures are tailored to the individual customer facility and their operations.
- **Small C&I Solutions:** This offering will provide small businesses (100 kW demand or less) and other qualified non-residential customers with the opportunity to achieve electricity savings through strategies designed specifically for this sector. This offering will help small business customers analyze facility energy use and identify energy efficiency improvement projects.
- **Large C&I Solutions:** The primary objective of this offering is to provide solutions for larger (greater than 100 kW demand) non-residential customers interested in energy efficiency through a prescriptive or custom approach. The Large C&I offering is designed to generate significant energy savings, as well as a longer-term market penetration by nurturing delivery channels, such as design professionals, distributors, trade allies, and Energy Service Companies (ESCOs).
- **Publicly Funded Institutions (PFI):** This offering is targeted at local publicly funded institutions. The offering will assist end use customers in overcoming barriers that are specific to publicly funded groups.

Through hands-on expertise and consulting, the program benchmarks the institution's energy use and identifies a roadmap to success. Customers will be given guidance throughout their engagement with the program.

- **C&I Construction Solutions (C&I NC):** This offering will encourage customers to design and construct higher efficiency facilities than required by building codes or planned designs. This offering will be available to ground-up construction, additions, or expansions, building repurposing and commercial building restorations. The new construction offering will provide incentives for design assistance, prescriptive measures, and custom upgrades tailored to the customer's building operations.

Through its portfolio, ENO also seeks to provide customers with easy program entry points, flexible options for saving energy and ongoing support for those who want to pursue deeper energy savings (kWh) or demand reduction (kW). The table below shows a list of the programs with their PY15 *ex post* gross goal.

TABLE 0-2 ENERGY SAVINGS (kWh) GOALS AND DEMAND REDUCTION (kW) TARGETS BY PROGRAM

Program	Ex Post Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh) Goal	% of kWh Goal	Ex Post Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW) Target	% of kW Target
HPwES	2,672,480	2,118,135	126.2%	962.25	841.62	114.3%
RLA	613,151	392,098	156.4%	115.83	7.07	1638.3%
RLA IQ	1,750,058	1,893,099	92.4%	203.41	17.35	1172.4%
MF Solutions	1,769,877	1,988,849	89.0%	458.74	1,019.20	45.0%
MF Solutions IQ	2,565,353	3,112,124	82.4%	903.81	1,586.32	57.0%
IQW	5,501,358	4,339,616	126.8%	3,373.13	3,329.06	101.3%
A/C Solutions	2,839,263	2,179,679	130.3%	1,247.94	967.90	128.9%
A/C Solutions IQ	2,689,449	2,985,538	90.1%	1,225.49	1,285.32	95.3%
SK&E	639,999	797,088	80.3%	68.61	0.00	NA
Residential HVAC Midstream	185,554	2,047,121	9.1%	139.97	0.00	NA
Neighborhood-Based Delivery Pilot	2,035,799	4,339,616	46.9%	1,092.45	3,329.06	32.8%
Behavioral	13,462,745	20,051,684	67.1%	0.00	0.00	NA
EasyCool (BYOT)	124,772	0	NA	5,941.52	10,885.00	54.6%
PTR Pilot	7,852	0	NA	758.15	1,250.00	60.7%
BESS Pilot	0	0	NA	167.82	0.00	NA
Small C&I Solutions	4,397,311	6,032,088	72.9%	978.01	356.91	274.0%
Large C&I Solutions	32,699,559	32,495,299	100.6%	7,928.05	2,370.90	334.4%
PFI	1,218,144	4,571,303	26.6%	263.95	153.57	171.9%
C&I NC Solutions	180,212	804,227	22.4%	38.67	238.90	16.2%
Large C&I DR	175,337	0	NA	13,218.00	24,110.00	54.8%
EV Charging Pilot	0	0	NA	155.61	1,580.00	9.8%
Total	75,528,273	90,147,564	83.8%	39,241.39	53,328.18	73.6%

Sums may differ due to rounding.

1.4 Sections of the Report

This report is structured as shown below:

- Section 1 Executive Summary;
- Section 2 Evaluation Findings;
- Section 3 Evaluation Methodology;
- Section 4 Home Performance with ENERGY STAR Program;
- Section 5 Income-Qualified Weatherization Program;
- Section 6 Retail Lighting and Appliances Program;
- Section 7 Multifamily Solutions Program;
- Section 8 A/C Solutions Program;
- Section 9 School Kits and Education Program;
- Section 10 Appliance Recycling & Replacement Program;
- Section 11 Behavioral Program;
- Section 12 EasyCool - Bring Your Own Thermostat Program;
- Section 13 EasyCool for Business Program;
- Section 14 Large Commercial & Industrial Demand Response Program;
- Section 15 Small Commercial & Industrial Solutions Program;
- Section 16 Large Commercial and Industrial Solutions Program;
- Section 17 Commercial & Industrial Construction Solutions Program;
- Section 18 Publicly Funded Institutions Program;
- Appendix A – Commercial Site Reports;
- Appendix B – Cost-Effectiveness Evaluation; and
- Appendix C – Behavioral Program Model Output.

2 EVALUATION FINDINGS

The following subsections provide a summary of the portfolio-level findings and any cross-cutting evaluation activities that occurred over the course of the PY15 EM&V effort. Specifically, this includes:

- A summary of EM&V activities and expenditures;
- A summary of program and portfolio performance; and
- High-level findings that cut across programs.

2.1 Summary of Evaluation Effort

The table below summarizes the total EM&V expenditures and total program expenditures.

TABLE 2-1 PORTFOLIO EM&V EXPENDITURES

Total PY15 EM&V Expenditures	Total PY15 Program Expenditures	EM&V as % of Expenditures
\$1,320,929	\$30,688,238	4.17%

Sums may differ due to rounding.

To facilitate a thorough evaluation, the Evaluators conducted several primary research and data collection activities, including site visits, interviews with program and implementer staff, customer surveys, and market actor interviews. The Evaluators conducted participant surveys for programs using the collected self-reported data to inform net impacts for those programs. The results of these analyses informed our calculation of NTG values.

The Evaluators followed the NO TRM V8.0 in designing both the focus and level of effort for each process evaluation. For all programs, the Evaluators performed telephone discussions with the primary program staff and the primary implementation staff for most programs.

2.1.1 Summary of Data Collection

The tables below provide an overview of site visits and process data collection in PY15. All process data collection was conducted between August 2025 and January 2026. Evaluators also conducted staff interviews for each of the programs.

TABLE 2-2 SITE VISIT DATA COLLECTION OVERVIEW

Program	Sample Design Quota	Recruitment Mode	Number of Times Contacted	Total Population	Population Targeted	Total Participants Called	Scheduled Site Visits	Response Rate	Number of Site Visits Completed	Precision
HPwES	68	Phone	1	5,128	459	346	66	19%	54	11%
RLA	25	Phone	1	9,925	293	15	7	47%	7	31%
MF Solutions	68	Phone & Email	3	7,067	1393	N/A	31	N/A	19	19%
IQW	35	Phone	1	4,576	475	134	55	41%	49	11%
A/C Solutions	35	Phone	1	3,867	1706	92	52	57%	31	15%
Total	231			30,563	4,326		211		160	

TABLE 2-3 SUMMARY OF PROCESS DATA COLLECTION

Program	Instrument	Mode	Number of Times Contacted	Population Targeted	Completed	Response Rate	Precision	Incentive Amount
HPwES	Participant Survey	Email/Phone	4	1,347	121	9.0%	7.1%	\$25
IQW	Participant Survey	Email/Phone	4	1,939	120	6.2%	7.3%	\$25
RLA	Participant Survey	Email/Phone	4	1,286	141	11.0%	6.5%	\$25
MF Solutions	Property Manager Interview	Email/Phone	4	4	2	50.0%	47.5%	\$75
A/C Solutions	Participant Survey	Email/Phone	4	1,338	122	9.1%	7.1%	\$25
SK&E	Participant Survey	Email/Phone	3	4,104	440	10.7%	3.7%	\$0
HVAC Midstream	NA	NA	NA	NA	NA	NA	NA	NA
NBD Pilot	Participant Survey	Email/Phone	4	159	5	3.1%	36.3%	\$25
Behavioral	NA	NA	NA	NA	NA	NA	NA	NA
EasyCool BYOT	Participant Survey	Email	3	2,558	176	6.9%	6.0%	\$25
PTR Pilot	Participant Survey	Email	3	289	59	20.4%	9.6%	\$25
BESS Pilot	Participant Survey	Email	2	109	31	28.4%	12.6%	\$15
EV Pilot	Participant Interviews	Email/Phone	3	305	38	12.5%	12.5%	\$75
Large C&I DR	Participant Interviews	Email/Phone	3	6	1	16.7%	82.3%	\$100
Small C&I Solutions	Participant Interviews	Email/Phone	4	187	15	8.0%	20.4%	\$75
Small C&I Solutions	Dropout Interviews	Email/Phone	3	65	10	15.4%	24.1%	\$75
Large C&I Solutions	Participant Interviews	Email/Phone	4	108	4	3.7%	40.5%	\$75
C&I NC Solutions	NA	NA	NA	NA	NA	NA	NA	NA
PFI	Participant Interviews	Email/Phone	3	6	0	0.0%	NA	\$75

2.1.1.1 Impact Data Collection

The Evaluators collected and verified project data through residential site visits in PY15. Site visits were scheduled via telephone outreach efforts, reaching out to customers and property managers that participated in residential programs.

In PY15, a total of 187 residential site visits were completed to verify project measures. Among the site visits completed, 68 were for the HPwES program, 39 were for IQW program, 48 were for MF Solutions program, and 32 were for the AC Solutions program.

The primary goal of these site visits was to verify the installation and accuracy of information collected on the application, with an emphasis on achieving 90% confidence and 10% precision. A random sampling process, with a focus on high-impact measures (HIM), determined the selected sites.

Overall, the residential site visits achieved a precision of $\pm 9.0\%$.

More details about commercial samples and site visits can be found in sections 18 Small C&I Solutions, 19 Large C&I Solutions, 20 C&I New Construction and 21 Publicly Funded Institutions.

2.1.1.2 Process Data Collection

The Evaluators completed surveys and interviews with customers and active trade allies as part of the PY15 evaluation to collect information for use in verifying participation, assessing net savings, assessing the customer experience and satisfaction with programs, and levels of program awareness. The data collection is summarized above in Table 2-3.

The Evaluators also performed ten staff and implementer interviews. Staff interviews with program staff provided insight into program management and operations.

The table below outlines the scale of staff interviews in PY15.

TABLE 2-4 SUMMARY OF STAFF INTERVIEWS

Programs	Organization	Interviewed Staff Roles	# Staff Interviewed
Cross-Cutting (All)	ENO	Project Manager, Manager of Energy Smart and Demand Response	2
Cross-Cutting (C&I)	Aptim	Commercial Program Manager	1
Battery Pilot	Energy Hub	Strategic Client Success Manager	1
Bring Your Own Thermostat	Energy Hub	Strategic Client Success Manager	1
EV Charging Pilot	Sagewell	President	1
Large C&I Demand Response	Honeywell	Project Manager, Outreach Manager, DR Operations Manager	3
Peak Time Rebate Pilot	Aptim	Senior Program Manager, Technical Manager	2
Residential HVAC Midstream	Energy Solutions	Senior Project Manager, Project Manager	2
School Kits & Education	National Theater for Children	Director of Marketing	1

2.1.2 Impact Evaluation Findings

The Energy Smart portfolio achieved 83.2% of planned *ex post* gross energy (kWh) savings and 73.2% of planned *ex post* gross demand reduction (kW). In addition to verifying the savings reported by ENO, the Evaluators calculated lifetime impacts. As part of this process, in the body of the report we refer to the impacts (energy savings (kWh) or peak demand reduction (kW)) accrued during the program year being evaluated (PY15) as “third year” impacts.

The tables below show the ENO goals, *ex ante* gross energy savings (kWh) (77,300,782 kWh) and *ex ante* gross demand reductions (33,873.35 kW), gross realization rates (97.5% for kWh, 115.9% for kW), net impacts (73,450,961 kWh and 38,826.76 kW), net-to-gross (NTG) ratios, and *ex post* gross (75,352,844 kWh) and *ex post* net (73,450,961 kWh) lifetime impacts.⁴ The levelized cost of energy savings (kWh) for the PY15 portfolio is \$0.06541 (\$/kWh).

TABLE 2-5 PORTFOLIO ENERGY SAVINGS (kWh) RESULTS

PY15 Programs	<i>Ex Ante</i> Energy (kWh)	<i>Ex Post</i> Gross Energy (kWh)	<i>Ex Post</i> Net Energy (kWh)	<i>Ex Post</i> Gross Energy (kWh) Goal	RR	NTG Ratio	% to kWh Goal
HPwES	2,664,563	2,672,480	2,659,294	2,118,135	125.50%	99.50%	126.20%
IQW	5,814,921	5,501,358	5,501,358	4,339,616	126.80%	100.00%	126.80%
RLA	653,871	613,151	482,908	392,098	93.77%	78.80%	156.38%
RLA - IQ	1,951,664	1,750,058	1,750,058	1,893,099	92.40%	100.00%	92.40%
MF Solutions	1,914,343	1,769,877	1,517,535	1,988,849	76.30%	85.70%	89.00%
MF Solutions - IQ	2,808,541	2,565,353	2,565,353	3,112,124	82.40%	100.00%	82.40%
A/C Solutions	2,650,050	2,839,263	2,790,844	2,179,679	128.00%	98.30%	130.30%
A/C Solutions - IQ	2,696,747	2,689,449	2,689,449	2,985,538	90.10%	100.00%	90.10%
SK&E	634,766	639,999	639,999	797,088	80.30%	100.00%	80.30%
Midstream	198,694	185,554	151,423	2,047,121	7.40%	81.60%	9.10%
Neighborhood-Based Delivery	1,845,537	2,035,799	2,035,799	4,339,616	46.90%	100.00%	46.90%
Behavioral	13,790,000	13,462,745	13,462,745	20,051,684	67.10%	100.00%	67.10%
EasyCool (BYOT)	0	124,772	124,772	0	N/A	100.00%	N/A
Peak Time Rebate Pilot	0	7,852	7,852	0	N/A	100.00%	N/A
BESS Pilot	0	0	0	0	N/A	100.00%	N/A
EV Charging Pilot	0	0	0	0	N/A	100.00%	N/A
Large C&I DR	191,063	175,337	175,337	0	N/A	100.00%	N/A
Small C&I Solutions	4,390,439	4,397,311	3,653,363	6,032,088	60.60%	83.10%	72.90%
Large C&I Solutions	33,629,284	32,699,557	32,163,472	32,495,299	99.00%	98.40%	100.60%
C&I NC Solutions	1,256,593	1,218,144	1,131,824	4,571,303	24.80%	92.90%	26.60%
PFI	209,706	180,212	122,977	804,227	15.30%	68.20%	22.40%
Total	77,300,782	75,528,271	73,626,363	90,147,564	97.71%	97.48%	83.59%

Sums may differ due to rounding.

⁴ Lifetime impacts are the sum of energy savings over the course of the measure's effective useful life (EUL) and the weighted average demand reduction across the lifetime of the measure divided by the EUL (in years).

TABLE 2-6 PORTFOLIO DEMAND REDUCTIONS (kW) RESULTS

PY15 Programs	<i>Ex Ante</i> Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Net Savings (kW)	<i>Ex Post</i> Gross Savings (kW) Target	RR	NTG Ratio	% to kW Target
HPwES	938.87	962.25	961.89	841.62	102.5%	100.0%	114.3%
IQW	4,485.91	3,373.13	3,373.13	3,329.06	75.2%	100.0%	101.3%
RLA	126.77	115.81	90.34	7.07	91.4%	78.0%	1638.0%
RLA - IQ	225.66	203.41	203.41	17.35	90.1%	100.0%	1172.4%
MF Solutions	450.16	458.74	413.61	1,019.20	101.9%	90.2%	45.0%
MF Solutions - IQ	960.72	903.81	903.81	1,586.32	94.1%	100.0%	57.0%
A/C Solutions	1,164.31	1,247.94	1,230.67	967.90	107.2%	98.6%	128.9%
A/C Solutions - IQ	1,227.70	1,225.49	1,225.49	1,285.32	99.8%	100.0%	95.3%
SK&E	1,079.35	68.61	68.61	0.00	6.4%	100.0%	N/A
Midstream	140.38	139.97	139.97	0.00	99.7%	100.0%	N/A
Neighborhood- Based Delivery	1,110.73	1,092.45	1,092.45	3,329.06	98.4%	100.0%	32.8%
Behavioral	0.00	0.00	0.00	0.00	N/A	100.0%	N/A
EasyCool (BYOT)	0.00	5,941.52	5,941.52	10,885.00	N/A	100.0%	54.6%
Peak Time Rebate Pilot	0.00	758.15	758.15	1,250.00	N/A	100.0%	60.7%
BESS Pilot	0.00	167.82	167.82	0.00	N/A	100.0%	N/A
EV Charging Pilot	0.00	155.61	155.61	1,580.00	N/A	100.0%	9.8%
Large C&I DR	16,042.60	13,218.00	13,218.00	24,110.00	82.4%	100.0%	54.8%
Small C&I Solutions	972.49	978.01	812.55	356.91	100.6%	83.1%	274.0%
Large C&I Solutions	4,637.38	7,928.05	7,798.07	2,370.90	171.0%	98.4%	334.4%
C&I NC Solutions	265.78	263.95	245.28	153.57	99.3%	92.9%	171.9%
PFI	44.54	38.67	26.39	238.90	86.8%	68.2%	16.2%
Total	33,873.35	39,241.37	38,826.76	53,328.18	115.85%	98.9%	73.58%

Sums may differ due to rounding.

TABLE 2-7 PORTFOLIO LIFETIME ENERGY SAVINGS (kWh) RESULTS

PY15 Programs	<i>Ex Post</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Net Energy Savings (kWh)	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
HPwES	2,672,480	2,659,294	14.6	39,147,753	39,026,503
IQW	5,501,358	5,501,358	17.8	98,119,685	98,119,685
RLA	613,151	482,907	9.3	5,720,451	4,494,563
RLA - IQ	1,750,058	1,750,058	9.1	15,981,846	15,981,846
MF Solutions	1,769,877	1,517,535	14.7	26,006,984	23,448,816

MF Solutions - IQ	2,565,353	2,565,353	15.6	39,948,752	39,948,752
A/C Solutions	2,839,263	2,790,844	7.4	20,968,011	20,117,374
A/C Solutions - IQ	2,689,449	2,689,449	6	16,245,454	16,245,454
SK&E	639,999	639,999	10.1	6,451,051	6,451,051
Midstream	185,554	151,423	15.5	2,882,825	2,882,825
Neighborhood-Based Delivery	2,035,799	2,035,799	18	36,543,316	36,543,316
Behavioral	13,462,745	13,462,745	1	13,462,745	13,462,745
EasyCool (BYOT)	124,772	124,772	1	124,772	124,772
Peak Time Rebate Pilot	7,852	7,852	1	7,852	7,852
BESS Pilot	0	0	1	0	0
EV Charging Pilot	0	0	1	0	0
Large C&I DR	175,337	175,337	1	175,337	175,337
Small C&I Solutions	4,397,311	3,653,363	11.4	50,105,717	41,628,712
Large C&I Solutions	32,699,557	32,163,472	11.3	368,128,069	362,092,861
C&I NC Solutions	1,218,144	1,131,824	10.3	12,587,816	11,694,915
PFI	180,212	122,977	15	2,703,184	1,844,650
Total	75,528,271	73,626,361	10.0	755,311,620	734,292,029

Sums may differ due to rounding.

A summary of participation and gross incentive spent by program can be found in the table below.

TABLE 2-8 PARTICIPATION AND INCENTIVE SPEND BY PROGRAM

Program	Count of Participants	Gross Incentive Expenditures (\$)
HPwES	1,116	\$775,675
IQW	1,819	\$3,672,905
RLA	1,005	\$135,256
RLA - IQ	6,023	\$789,193
MF Solutions	1,167	\$373,599
MF Solutions - IQ	1,603	\$728,977
A/C Solutions	3,015	\$514,025
A/C Solutions - IQ	3,135	\$529,344
SK&E	4,104	\$94,000
Midstream	245	\$60,100
Neighborhood-Based Delivery	588	\$973,200
Behavioral	131,430	\$0
EasyCool (BYOT)	7,635	\$317,625
Peak Time Rebate Pilot	3,089	\$86,870
BESS Pilot	116	\$61,221
EV Charging Pilot	364	\$25,497
Large C&I DR	38	\$941,515
Small C&I Solutions	408	\$626,881
Large C&I Solutions	317	\$4,314,307
PFI	53	\$185,204
C&I NC Solutions	9	\$62,545
Total	167,279	\$15,267,939

Sums may differ due to rounding.

Budgets and expenditures are summarized in the table below.

TABLE 2-9 BUDGETS AND ACTUAL SPEND SUMMARY

Program	Budgeted Expenditures	Actual Expenditures	Spending (% of Budget)	Energy Savings (% of Goal)	Levelized (\$ per kWh)
HPwES	\$1,977,974	\$1,831,827	92.6%	126.2%	\$0.068
RLA	\$529,586	\$564,459	106.6%	156.4%	\$0.116
RLA IQ	\$1,370,133	\$1,333,776	97.3%	92.4%	\$0.124
MF Solutions	\$827,535	\$821,390	99.3%	89.0%	\$0.048
MF Solutions IQ	\$1,203,440	\$1,308,578	108.7%	82.4%	\$0.050
IQW	\$3,235,490	\$4,550,022	140.6%	126.8%	\$0.082
A/C Solutions	\$870,624	\$833,569	95.7%	130.3%	\$0.071
A/C Solutions IQ	\$1,335,996	\$967,002	72.4%	90.1%	\$0.092
SK&E	\$305,533	\$305,533	100.0%	80.3%	\$0.062
Residential HVAC Midstream	\$1,528,276	\$603,012	39.5%	9.1%	\$0.252
Neighborhood-Based Delivery Pilot	\$3,367,070	\$1,852,240	55.0%	46.9%	\$0.075
Behavioral	\$526,319	\$431,585	82.0%	67.1%	\$0.032
EasyCool (BYOT)	\$907,709	\$870,841	95.9%	NA	\$6.979
PTR Pilot	\$327,404	\$324,310	99.1%	NA	\$41.303
BESS Pilot	\$227,000	\$145,687	64.2%	NA	\$0.000
Small C&I Solutions	\$2,149,849	\$1,834,435	85.3%	72.9%	\$0.052
Large C&I Solutions	\$7,705,817	\$8,153,372	105.8%	100.6%	\$0.045
PFI	\$1,067,159	\$500,204	46.9%	26.6%	\$0.056
C&I NC Solutions	\$251,419	\$172,967	68.8%	22.4%	\$0.085
Large C&I DR	\$2,935,281	\$3,116,403	106.2%	NA	\$17.774
EV Charging Pilot	\$338,803	\$167,026	49.3%	83.8%	\$0.000
Total	\$32,988,417	\$30,688,238	93.0%	83.8%	\$0.0641

Sums may differ due to rounding.

2.1.3 Process Evaluation Findings

2.1.3.1 HPwES Findings and Recommendations

Findings:

- **The program successfully drives new engagement, but many customers struggle to complete deeper upgrades due to cost and limited clarity.** The program reaches customers who otherwise would not pursue an assessment, with 79.8% reporting no prior plans to get one. However, 21.1% completed all recommended improvements and 12.3% completed none. Cost (51.4%) and uncertainty about next steps (13.5%) are the main barriers.
- **Home energy assessments are generally being delivered in alignment with the core intent of the ENERGY STAR Home Performance assessment model, but implementation is uneven across key components.** Most participants recall meaningful interaction with assessors, including discussions of potential energy savings and homeowner priorities, indicating strengths in customer engagement. However, fewer participants report receiving written assessment reports or having measures installed

on the day of the visit, signaling gaps in documentation and follow-through. This variability suggests that while assessors are consistently addressing high-level engagement elements, operational, eligibility, customer choice, or workflow constraints may limit full execution of the model in practice, resulting in an inconsistent customer experience and incomplete delivery of assessment outcomes.

- **The program is effectively delivering its core service and facilitating entry into participation, as most surveyed participants report receiving a home energy assessment.** The scheduling process, in particular, is a clear program strength: nearly nine in ten respondents describe scheduling as easy or very easy, and reports of difficulty are rare. This indicates that administrative and access barriers at the front end of the customer journey are minimal, supporting broad participation and timely engagement.
- **Direct install measures generally remain installed, but certain products face comfort and usability issues that reduce long-term retention.** LEDs show strong persistence (93.3% remain installed). In contrast, some water-saving devices are removed due to low flow, and 17.3% of advanced power strip recipients discontinue use due to unexpected shutoffs or confusion about operation.
- **Satisfaction is the program experience is generally high, but perceived bill savings are low, weakening the program's value proposition for some participants.** Participants report strong satisfaction with staff (81.8%), application effort (75.4%), and installed items (74.6%). However, only 45.2% are satisfied with bill savings, and 26.2% are dissatisfied. Many comments cite no noticeable change in bills.

Recommendations:

- **Consider strengthening the post-assessment experience so customers feel more equipped to act.** Options might include presenting recommendations in a clearer “priority” format, offering general cost ranges to help customers plan, or adding light follow-up touchpoints that remind participants of their top opportunities. Even modest enhancements to clarity and timing could help customers move from intention to action without adding significant burden to program operations.
- **Conduct an internal audit or work with the Evaluator to identify what recommended measures are least likely to be adopted to identify and mitigate barriers to their implementation.** This data-based review will help focus the program on additional energy saving opportunities by facilitating measure adoption.
- **To improve assessment consistency, reinforce a few core communication expectations for contractors.** This could include a brief, standardized summary of key findings, clearer explanation of what happens after the assessment, or periodic refresher training focused on customer communication. Light quality-assurance checks—such as short post-visit surveys—could help identify where additional support would be most beneficial.
- **Review product selection and customer education to support long-term use.** For water-saving devices, ensuring that chosen models balance efficiency with comfort could reduce removals. For advanced power strips, simple user-friendly guidance, either provided at installation or in follow-up materials, may help customers avoid incorrect usage and increase the in-service rate. These adjustments could improve persistence without requiring major program redesign.
- **To strengthen perceived value, it may help to set clearer expectations about savings.** This could involve presenting estimated savings ranges in more relatable terms or offering brief follow-up communication explaining when savings are most likely to appear. Highlighting non-energy benefits,

such as comfort improvements, may also help participants recognize value even when bill impacts are modest.

2.1.3.2 IQW Findings and Recommendations

Findings:

- **The program is accessible and well-aligned with the needs of income-qualified households, with strong incremental reach and low entry barriers.** The shift to an 80% AMI threshold and the use of self-attestation reduce administrative burden and avoid intrusive documentation. All services are provided at no cost, and scheduling is easy for most participants (83.8%). The program reaches households that would not otherwise pursue assessments—nearly three-quarters were not planning one prior to learning about the program. This confirms strong incremental impact and alignment with City Council priorities to expand income-qualified offerings.
- **Survey responses indicate that some smart thermostats are replacing other smart thermostats.** While there may be justifiable reasons for this type of replacement, review of program protocols governing baseline equipment types for this measure should be reviewed to ensure that the desired savings impacts occur.
- **Program awareness is driven primarily through interpersonal networks, with friends and family cited most often.** Staff report that community-based outreach, including efforts by Thrive New Orleans, helps extend awareness into underserved neighborhoods that are less responsive to traditional marketing channels. Survey responses indicate that awareness is driven primarily by friends and family (35%) and Entergy emails (25%), while other digital channels and contractor referrals play smaller roles.
- **The home assessment and major measures deliver strong value, but follow-through and consistency vary, creating uneven participant experiences.** Most participants take action after the assessment (71.7%), and uptake of major measures—air sealing, duct sealing, insulation—is higher than in market-rate programs due to greater need. Installation recall aligns well with program records, indicating accurate delivery. However, follow-up work is inconsistent for some households, with delays, incomplete installations, or unclear next steps. Direct install measures show high persistence overall, but some—especially showerheads and APS—are removed due to comfort or usability issues.
- **Satisfaction with the program is high, but perceived bill savings and contractor variability are the main areas of lower satisfaction.** Program satisfaction is high (74.2% rating 8–10), however, satisfaction with bill savings is lower (57.5%), and dissatisfaction centers on limited measurable savings, incomplete work, or inconsistent contractor performance. Many participants appreciate the improvements but express frustration when comfort or bill impacts do not meet expectations.

Recommendations:

The recommendations presented for Home Performance with ENERGY STAR are also applicable to Income Qualified Weatherization.

- **Review and clarify protocols for smart thermostat installations.** Program staff should establish clear **guidance** on when an existing Wi-Fi-enabled smart thermostat should be retained versus replaced with a program-provided smart thermostat to ensure expected program savings are achieved.

2.1.3.3 RLA Findings and Recommendations

Findings:

- **The program primarily reached customers through digital channels at points that align with purchase decision-making.** Awareness is driven largely by Entergy emails (48.2%) and the utility website (28.4%), while retail touchpoints play a more limited role. Nearly all customers (95.0%) learned about rebates before or during purchase, indicating that marketing outreach is well timed. The rebate is the strongest influence on product choice (61.0%), exceeding the importance of price fit (42.6%) and desired features (24.8%). Together, these results indicate that incentives are central to program influence and that digital outreach serves as the primary gateway to participation.
- **The online marketplace performs well overall, though some users experience navigation and checkout friction.** Three-quarters of participants (75.1%) found the online store easy to use, and nearly half rate it “very easy.” Only 5.0% reported difficulty. Suggestions from users focused on clearer language, improved navigation, and occasional checkout malfunctions. Very few customers contacted Entergy for help (5.7%), and those who do report high satisfaction with staff (87.5%), indicating that the platform is largely self-serve and intuitive.
- **Rebate fulfillment performance varies by delivery channel, with marketplace delivery providing a stronger customer experience than mail-in rebates.** Marketplace delivery was fast, with 90.3% of customers receiving products within four weeks. Mail-in rebates took longer and introduce greater uncertainty: 60.7% are received within 3–6 weeks, while 25.0% take 7–8 weeks or leave customers unsure of timing. While satisfaction with rebate amounts was high, satisfaction with the application process and wait time was lower relative to other program elements, indicating that fulfillment speed and clarity remain key drivers of customer experience.
- **The program generated strong customer advocacy and improved Entergy brand sentiment, though enthusiasm was tempered by broader utility perceptions and incentive expectations.** Advocacy was high, with 77.3% of participants rating their likelihood to recommend the program at 8–10, including 44.7% who gave a “10.” Participation also improved satisfaction with Entergy for a majority of customers (63.8%). Among detractors, feedback most often reflected distrust of Entergy (7.1%) and perceptions that incentives were too small to meaningfully affect bills (5.0%). These concerns appeared to stem more from broader utility context and customer expectations than from program design or delivery.

Recommendations:

- **Continue to optimize digital targeting and messaging to reinforce incentive value and product relevance.** Refining email segmentation and website content to better align products with customer motivations (such as comfort or health benefits) could strengthen already effective outreach. Continued emphasis on digital channels would build on proven awareness pathways, while any exploration of retailer-based messaging should be limited to small-scale testing to assess whether it provides incremental value beyond digital engagement.
- **To enhance the user experience, consider incremental refinements to the online store.** This might include reviewing navigation pathways, simplifying product descriptions, or monitoring checkout reliability during high-traffic periods. Even small adjustments—such as clearer search filters or more

intuitive cart behavior—could reduce friction for the minority who encounter issues without requiring major redevelopment.

- **Improve clarity and predictability of rebate fulfillment, particularly for mail-in rebates, to reduce customer uncertainty.** Setting clearer expectations around typical processing timelines and providing basic status communications, such as confirmation emails or timeline reminders, could improve customer satisfaction without materially changing rebate structures. Where feasible, exploring opportunities to streamline mail-in processing or expand instant-rebate options would further enhance the participant experience. To improve the perceived value of rebates, consider setting clearer expectations around processing timelines or offering periodic status updates.

2.1.3.4 MF Solutions Findings and Recommendations

Findings:

- **The Multifamily Solutions program delivers clear value to property managers and tenants, particularly through no-cost upgrades that improve living conditions with minimal financial burden on properties.** Interviewed property managers described the Energy Smart Multifamily Solutions program as providing meaningful value, particularly through no-cost upgrades intended to improve tenant living conditions without requiring direct capital investment by properties. Both interviewees emphasized tenant benefits as a primary motivation for participation, including improved comfort and efficiency, and noted that the availability of no-cost measures was important given constraints on operating budgets. While implementation challenges affected their overall experience, both property managers indicated they would recommend the program to others, typically with caveats based on their experience.
- **Program design is generally well aligned with multifamily operational realities, but implementation places substantial coordination and oversight burden on property staff.** Interviews suggest that the program's design reduces financial barriers to participation and aligns with multifamily properties' interest in improving unit-level efficiency. However, implementation was described as requiring substantial coordination and oversight by property staff. Property managers reported dedicating staff time to scheduling work, escorting contractors, communicating with tenants, and monitoring on-site activity. This burden increased when installation schedules were compressed or when contractor performance issues arose, requiring additional oversight and follow-up.
- **Marketing and outreach successfully motivate enrollment but are undermined by unclear messaging, fragmented communication, and mismatches between outreach intensity and program capacity.** Interviewees described becoming aware of the program through a combination of prior exposure (e.g., earlier participation or internal knowledge) and direct outreach. In both cases, direct phone contact served as the immediate trigger for enrollment. Messaging around tenant and community benefits resonated with property managers. However, experiences during enrollment varied. One property manager described a clear and straightforward enrollment process supported by a dedicated program representative, while the other described challenges related to unclear program information and fragmented communication.
- **Contractor performance emerged as a central factor shaping participant experience, with interviewees describing variability across contractors and across phases of implementation.** Property managers reported experiences ranging from professional, efficient installations to significant issues, including late cancellations, inadequate equipment, inappropriate work practices, and post-installation

problems requiring follow-up by property staff. Interviewees noted limited property control over contractor selection, and in some cases described concerns about accountability mechanisms. Contractor-related issues increased staff oversight demands and, in certain instances, led properties to halt or discontinue services with specific contractors.

- **Interviews indicate that quality control processes and escalation pathways were not consistently visible to property managers.** One property manager described program verification as occurring after installation and relying on sampling rather than real-time oversight, which they perceived as insufficient to ensure quality during work. When issues arose, this respondent also reported difficulty identifying an Entergy representative with authority to resolve concerns or adjudicate disputes, particularly in the context of third-party administration. In response, property managers relied heavily on on-site staff oversight to monitor work and address issues as they occurred.

Recommendations:

- **Consider adjustments to implementation planning that better account for property staffing constraints, such as improved scheduling lead times, clearer installation windows, and explicit expectations for contractor self-management.** Reducing operational burden would improve participant experience and help properties accommodate program delivery with less disruption.
- **Strengthen outreach and enrollment communications by providing clear, written, and standardized materials that document program scope, approved measures, roles, and timelines.** Align outreach pacing more closely with delivery capacity to reduce extended waitlists and set realistic expectations, improving trust and transparency.
- **Consider strengthening contractor management through clearer performance standards, improved vetting, and stronger accountability mechanisms.** Enhancing contractor oversight would reduce variability in execution, lower staff burden on properties, and protect program reputation.
- **Improve transparency around quality assurance processes and establish clear, accessible escalation channels with defined utility accountability.** Providing property managers with a documented point of contact and clearer verification expectations would improve confidence in installation quality and reduce the need for intensive property-level oversight.

2.1.3.5 A/C Solutions Findings and Recommendations

Findings:

- **The program is driving the implementation of energy saving measures, particularly among households that would otherwise delay or avoid HVAC maintenance or upgrades.** A majority of participants were not planning to complete their project before learning about the program (63.6%), and most could not have afforded the full cost without incentives (61.8%). Only 18.2% would have completed the same improvements without the program, and 29.1% would have done nothing. Maintenance behaviors prior to participation also show unmet need: 56.3% did not routinely service their system, and 23.2% had never had a tune-up. These patterns indicate that the program is reaching households who would otherwise defer maintenance or pursue lower-quality alternatives.
- **Satisfaction with the program is high overall, but contractor performance issues create pockets of dissatisfaction and can undermine trust.** While 65.6% rated the program at least an 8 and 47.5% give it a 10, dissatisfaction centered heavily on contractor experiences. Open-ended feedback cited upselling,

poor communication, incomplete work, damage, and unexpected charges. Some participants reported leaks or system failures shortly after service, and others struggled with unclear explanations of what was covered under the program. These issues contrast with the positive experiences reported by many promoters, suggesting variability across contractors.

- **Participants value the program for bill savings and comfort improvements, but many do not see measurable changes, which weakens satisfaction with outcomes.** Saving money was the top motivator (68.9%), yet satisfaction with bill savings was among the lowest-rated components. Open-ended comments frequently mentioned high bills, lack of noticeable comfort improvements, or confusion about why savings did not materialize. Some dissatisfaction appeared tied to broader frustration with Entergy billing practices, but others relate directly to expectations about what a tune-up can achieve.
- **The program benefits from strong word-of-mouth potential, but maintaining this momentum depends on consistent service delivery and clear communication.** Advocacy is high: 75.5% rated the likelihood to recommend the program at least an 8, and 60.7% give a 10. Word-of-mouth was also the top awareness source (34.4%). Promoters frequently cited good experiences, rebates, and comfort improvements. Detractors, however, pointed to contractor issues and unmet savings expectations—two areas that directly influence whether participants feel confident recommending the program.

Recommendations:

- **To support more consistent experiences, consider reinforcing expectations around communication, transparency, and workmanship.** This might include encouraging contractors to clearly explain what is and is not included in the tune-up, or offering optional guidance on how to discuss findings with customers. Gathering more structured feedback on contractor interactions could also help identify where additional support or clarification would be most beneficial.
- **To strengthen perceived value, set clearer expectations about the likely impact of a tune-up.** Providing general ranges for typical savings, or explaining factors that influence results, such as weather, equipment age, or duct conditions, could help align expectations with realistic outcomes. Highlighting non-energy benefits, like improved reliability or reduced risk of breakdowns, may also help participants recognize value even when bill impacts are modest.
- **To sustain strong advocacy, reinforce communication touchpoints that help participants understand what to expect before, during, and after service.** This could include simple pre-visit reminders, clearer explanations of tune-up findings, or follow-up messages that help customers interpret results. These small enhancements could help ensure that positive experiences remain the dominant narrative shared through word-of-mouth.

2.1.3.6 SK&E Findings and Recommendations

Findings:

- **The program is well-structured to minimize teacher burden, and recent design adaptations appear to support smoother participation.** The program has intentionally shifted away from teacher-led curriculum delivery toward a model that emphasizes logistical support, bilingual printed materials, and a clear participation window (after Mardi Gras, before state testing). Kits are delivered two weeks before performances, and teachers receive a \$50 incentive for survey completion. These adaptations reflect a thoughtful response to past challenges and appear aligned with teacher needs.

- **Relationship-based outreach is central to program success, but coordination across schools, call centers, and teacher contacts requires ongoing attention.** Enrollment relies heavily on maintaining relationships with public and charter schools, supported by call center outreach, automated emails, and ongoing communication with designated teacher contacts. This model appears effective, but the program must balance broad outreach with the need to verify student eligibility (particularly in private schools) and maintain continuity year over year.
- **The take-home kits remain a core engagement tool, though measure offerings have shifted due to regulatory and cost-effectiveness constraints.** Kits now include a showerhead, two aerators, and a Tier 1 APS, with LEDs and weatherstripping removed due to regulatory and/or cost-effectiveness considerations. APS remains the highest-performing measure based on past use. The program continues to rely on printed bilingual materials to support at-home engagement and survey completion.

Recommendations:

- **To continue strengthening teacher engagement, periodically confirm that current timing, kit contents, and incentive structures remain well-aligned with classroom realities.** The current teacher survey is brief and does not go into detailed feedback on the program process. Additional interviews or focus groups with teacher “champions” could help identify small adjustments—such as clarifying instructions or refining kit distribution timing—without increasing administrative burden.
- **To support consistent participation, consider reinforcing communication touchpoints with schools and teacher contacts throughout the year.** Options might include brief reminders ahead of enrollment periods or simple updates about upcoming tour schedules. These small efforts can help maintain continuity without adding complexity to the outreach model.
- **To maintain strong at-home engagement, periodically review kit contents to ensure they remain both compliant and meaningful for families.** Gathering informal feedback from teachers or families—such as which items are most used or easiest to install—could help guide future adjustments. Even small refinements to instructions or kit packaging may support higher installation rates and reinforce the educational goals of the program.

2.1.3.7 Residential HVAC Midstream Findings and Recommendations

Findings:

- **Program design is well-structured and distributor-centric, but early-stage implementation limits insight into how the model will function at scale.** The program leverages distributor relationships, flexible incentive use, and structured onboarding to encourage stocking and promotion of high-efficiency HVAC equipment. Distributors receive individualized training, courtesy follow-ups, and performance reporting, and early feedback highlights the value of staff support and the claims system. However, because PY15 represents the program’s launch phase, with distributor enrollment just beginning and the portal not yet fully active, there is limited evidence on how these design elements will perform once sales volume increases.
- **Engagement relies on relationship-driven distributor outreach, with limited visibility into how distributors internally deploy incentives to influence their own sales processes.** Recruitment is conducted through national account managers, local outreach, and one-on-one meetings supported by program materials. Distributors determine how to use incentives—whether to mitigate stocking risk,

motivate internal sales teams, or support contractor pricing. This flexibility is a core program strength, but it also means the program has limited insight into how distributors' internal strategies shape high-efficiency sales. As participation grows, understanding these internal decision pathways will be important for assessing program influence on the market.

Recommendations:

- **Establish structured feedback loops that capture how distributors choose to apply incentives and which strategies most effectively drive high-efficiency sales.** Periodic distributor check-ins, optional reporting on incentive use, or brief interviews during the first year, could help the program understand how distributors are operationalizing the incentive flexibility. These insights would help identify whether or not distributor behavior is consistent with the program theory and potentially support refinement of training, outreach, and performance reporting as the program matures.
- **To support consistent promotion of high-efficiency equipment, consider expanding sales-enablement tools that distributors can use within their branches and internal sales processes.** Interviewees indicated that current distributor-facing materials are limited to incentive tables and claim submission guidance, with additional sales-enablement materials identified as a potential future enhancement. Expanding in-branch sales tools—such as counter mats, quick-reference efficiency guides, or in-branch signage—may help reinforce high-efficiency messaging and support distributor sales staff. These tools would complement the relationship-driven outreach model and provide additional structure as more distributors enroll and the program scales.

2.1.3.8 Neighborhood-Based Delivery Pilot Findings and Recommendations

Findings:

- **The pilot's equity-focused design is well-aligned with its goals, but early implementation challenges highlight the need for deeper community coordination.** The program intentionally targets neighborhoods with high income disadvantage, heat-island exposure, low digital access, and historically low participation. Staff emphasized that the model successfully shifts outreach toward in-person, community-based engagement rather than digital channels. However, the first implementation cycle revealed logistical challenges such as event timing conflicts and the need for stronger partnerships with neighborhood groups and housing authorities.
- **Outreach strategies are community-centered and diverse, but participation insights remain limited due to the pilot's early stage and low survey response.** The program uses direct mail, neighborhood events, canvassing, yard signs, and partnerships with Thrive New Orleans to reach residents who may not engage through traditional marketing. These approaches are designed to reduce awareness barriers and create a welcoming entry point. Yet because the first event had not occurred at the time of interviews and survey response was low, there is limited information on participant experience, satisfaction, or the effectiveness of specific outreach tactics. Current findings reflect program design and early planning rather than participant outcomes.

Recommendations:

- **To strengthen community alignment, it may help to formalize early planning with neighborhood partners to avoid scheduling conflicts and improve event turnout.** Engaging local associations, housing

authorities, and community leaders earlier in the planning cycle could help identify optimal event timing, preferred communication channels, and neighborhood-specific needs. This coordination may improve attendance and ensure outreach feels locally grounded.

- **The Evaluator should seek to complete a sufficient number of surveys to support representative findings on the program experience.** Due to the small number of responses obtained this year, results could not be broken out for this customer segment.

2.1.3.9 Behavioral Findings and Recommendations

Findings:

- **The program design is largely consistent with PY14.** The program design remained largely unchanged in PY15, with the cohort structure introduced in PY14 continuing to guide implementation. Program staff reported that the PY14 redesign, intended to improve statistical validity and reduce control group attrition, was maintained in PY15 and has been instrumental in increasing report delivery and associated savings. Staff indicated that the refreshed cohort approach enabled HERs to reach more customers, supported measurable savings, and addressed prior structural issues that had limited savings in earlier years.

Recommendations:

The Evaluators do not have any additional recommendations.

2.1.3.10 EasyCool BYOT Findings and Recommendations

Findings:

- **The enrollment process is performing well from the participant perspective, with a sizable majority (83.5%) describing enrollment as very easy.**
- **Communication gaps create friction for a meaningful minority of participants.** A sizable minority, 22.7%, reported receiving no event notifications, and several requested clearer, earlier, or multi-channel communication. Preferences vary widely, but a common theme was a desire for notice 24–48 hours in advance and clearer explanations of what temperatures will change to and why.
- **Comfort impacts are common and drive much of the opt-out behavior, yet participants generally remain committed to the program.** Most participants experienced at least some discomfort during events (49.6% a little; 23.9% moderate; 8.5% very uncomfortable). Nearly half (46.6%) opted out at least once, overwhelmingly due to the home getting too warm (76.8%). Despite this, intent to continue was high (81.2% rating 8–10), suggesting that participants accepted some discomfort as part of the program’s value proposition.
- **Participant motivations are well aligned with program goals, but perceived savings and clarity about program mechanics vary.** Motivation was strongly financial and conservation-oriented (77.3% bill savings; 58.0% energy conservation; 56.3% rebate). Yet dissatisfaction often stems from limited perceived savings, uncertainty about how events affect bills, or difficulty understanding when adjustments occurred. Some participants also express privacy or control concerns, though these are less common.
- **Overall satisfaction and likelihood to recommend the program are high, but inconsistent support experiences and unclear exit pathways create frustration for a small subset of participants.**

Satisfaction is strong (70.4% rating 8–10), and advocacy is high (73.3% rating 8–10). Only 9.7% contact staff, but among those who do, experiences are mixed: roughly one-third rate timeliness or thoroughness poorly. Some participants also describe difficulty unenrolling or resolving thermostat issues, which can amplify frustration when combined with comfort or savings concerns.

Recommendations:

- **To strengthen the event experience, review notification pathways and ensure that messages reliably reach participants across email, app, and thermostat channels.** Offering clearer, more predictable advance notice, especially early in the season, could help reduce confusion and improve comfort expectations without altering the core event structure.
- **To support a smoother experience for the small subset of participants who encounter problems, reinforce clarity around support channels, troubleshooting resources, and unenrollment steps.** Given that only a minority of participants contact staff, yet a substantial share of those report poor support experiences and difficulty exiting the program, making assistance and exit pathways easier to understand and access could reduce frustration, prevent dissatisfaction from escalating, and help preserve high overall satisfaction and advocacy.

2.1.3.11 PTR Pilot Findings and Recommendations

Findings:

- **Email-driven recruitment is effective, but participants entered the program with uneven understanding of event expectations and rebate mechanics.** Email is the dominant awareness channel (over 80% combined across Energy Smart and Entergy emails), and most respondents were satisfied with the enrollment process (78.9% satisfied). However, comprehension gaps were noted: nearly half reported only partial understanding at enrollment, and fewer than half recalled receiving information about the number of events or how rebates are calculated. These gaps continued after participation, with many still unclear about baseline calculations, notification processes, and what actions matter most.
- **Participants are highly engaged during events, but notification timing and comfort constraints limit some households' ability to reduce usage.** Most participants took action during events (78.0% always or mostly), and the majority found tips helpful (86.6%). Among those reporting barriers, common challenges included people being home during the day (20.3%), discomfort from reducing cooling in summer (18.6%), and limited control over other household members' energy use (16.9%). In contrast, relatively few participants cited low perceived value, lack of savings, or poor understanding of the program, and no respondents reported medical or health-related energy needs. These findings indicate that motivation and comprehension are generally strong, while physical comfort and household dynamics constrain further reductions.

Program communication was a secondary but notable barrier to participation during events. Nearly one in five respondents (16.9%) reported difficulty keeping track of when events were happening, making this one of the most frequently cited challenges outside of comfort-related issues. This suggests that,

even among engaged participants, event timing and notifications may not always be sufficiently visible or actionable at the moment decisions need to be made.

- **Event performance feedback is provided at the end of the event season.** Not receiving event performance feedback was a program limitation or opportunity for program improvement cited by some participants in open-ended comments.
- **Participant satisfaction with Entergy and perceptions of incentive fairness indicate generally positive views of program value, though a meaningful minority remain unconvinced.** Just over half of respondents reported being satisfied with Entergy overall (54.2%), while 23.7% were neutral and 22.0% dissatisfied, suggesting that program perceptions may be influenced by broader utility experiences beyond the program itself. At the same time, most participants viewed the incentive as fair (78.0%), indicating that incentive levels are largely aligned with participant expectations and effort. However, the remaining 22.0% who did not view the incentive as fair aligns closely with the share expressing dissatisfaction with Entergy, reinforcing the possibility that broader service perceptions may shape how participants evaluate program compensation and value, even when incentives are generally well-received.

Recommendations:

- **Provide timely, post-event feedback to reinforce participant load shedding behaviors, motivation, and perceived impact.** Participant report that they are highly engaged during events and motivated to take action, yet many reported lingering uncertainty about what actions mattered most and how their behavior affected outcomes. Event performance feedback is currently delivered at the end of the event season, and the absence of more immediate feedback was cited by some participants as a program limitation. Providing post-event feedback, such as whether the household reduced usage relative to baseline or the expected incentive would help close comprehension gaps that persist after participation. Timely feedback can reinforce effective behaviors, validate participant effort, and strengthen the connection between individual actions and grid benefits, ultimately supporting sustained engagement and improved demand response performance.
- **Develop clearer strategies to explain incentive calculations and payments throughout the customer journey.** While most participants view incentives as fair, a subset remain unconvinced, and many reported incomplete understanding of rebate mechanics at enrollment and after participation. Fewer than half recalled receiving information about how incentives are calculated, and confusion persists around baselines and performance metrics. Clarifying incentive payment structures through simplified explanations and repeated touchpoints before, during, and after the event season would help align expectations with outcomes. Improving transparency around how actions translate into incentives can reduce dissatisfaction driven by uncertainty, distinguish program value from broader utility perceptions, and strengthen trust in program fairness without requiring changes to incentive levels.

2.1.3.12 Residential Battery Pilot Findings and Recommendations

Findings:

Enrollment and dispatch operations function smoothly, but participants have limited visibility into how the program works day-to-day. Enrollment is easy for most participants (87.1%), and dispatch

events generally occur without noticeable disruption. However, many respondents are unsure whether their battery was dispatched, whether they received notifications, or how to interpret event activity. Roughly one-third are uncertain about notifications, and several do not know that opting out is possible. This suggests that while the technical side of dispatch is stable, the customer-facing experience is largely invisible. **This lack of visibility is primarily a feature and not a bug.** It signals that the dispatch is not having a noticeable impact on the households participating. Nevertheless, given the community/social oriented motivations of participants, communicating information on the contributions of the dispatch to participants could improve their perception of the service.

- **Motivations are primarily community- and grid-oriented, but communication gaps leave some participants with unresolved concerns.** Participants joined primarily to support the grid and help the community, with financial and environmental motivations also meaningful. Yet 19% had concerns at enrollment, mostly about data privacy, backup power impacts, and incentive structure, and half of those say their concerns were never addressed. Communication ratings are mixed: about one-third disagree that they were kept well informed, and another one-fifth are neutral.
- **Satisfaction is high overall, but participants want clearer communication about event notifications and incentive calculations.** Overall satisfaction is strong (77.4% rating 7–10), and nearly all respondents intend to participate again. However, dissatisfaction centers on communication, particularly unclear notifications, uncertainty about how participation affects bills, and lack of transparency around performance-based incentives. Participants currently receive no event-level feedback and only learn their seasonal incentive at the end of the year.

Recommendations:

- **To strengthen participant awareness and engagement, the program should provide clearer, periodic touchpoints that explain when events occurred, how enrolled batteries responded, and what participants can expect going forward.** Even brief summaries delivered through OEM applications or email could help participants feel more connected to the program without requiring substantial operational changes. Communications could emphasize the collective, pro-social benefits of participation, which aligns with participant-reported motivations for enrolling in the program. Examples include:
 - Grid support during peak conditions: Collective battery discharge helped reduce system load during high-demand periods, supporting grid reliability.
 - Program scale and participation: Messages could note the number of participating customers or total aggregated capacity that responded during an event to contextualize individual contributions.
 - Alignment with stated motivations: Communications could acknowledge that many participants enroll to support community energy goals or grid stability, reinforcing that this objective is being met.
 - Program credibility and transparency: Event summaries that show how batteries were used and the role participants played may increase trust in program operations and outcomes.
- **To reinforce trust and clarity, consider offering brief, proactive explanations of key topics such as data use, backup power behavior during events, and how incentives are calculated.** These clarifications

could be incorporated into onboarding materials or OEM-delivered notifications, helping ensure that participants' initial concerns are acknowledged and addressed.

2.1.3.13 *EV Charging Pilot Findings and Recommendations*

- **The program is simple, low-friction, and well-aligned with existing charging habits, but awareness is limited and many participants discover it only by accident.** Enrollment is consistently described as quick and straightforward, and the program aligns naturally with how most EV owners already charge—overnight, at home, using built-in scheduling tools. This makes participation easy and compliance high among those with predictable home charging patterns. However, awareness is low: many participants found the program only while researching charger rebates, browsing EV incentive websites, or through EV owner groups. Marketing is largely digital and passive, and participants repeatedly note that the program is “buried” on the website or not advertised.
- **Participants value the program’s ease and “free money” appeal, but communication gaps—especially around enrollment status and compliance—create confusion for some users.** Participants praise the program’s simplicity and automated operation, and retention is extremely high (98%). Yet communication after enrollment is inconsistent. Several participants did not know they were officially enrolled until receiving their first payment. Others were unsure why they did or did not qualify in a given month, citing unclear feedback, lack of a dashboard, or difficulty finding program information online. Monitoring issues—particularly for slow-rate charging—also contribute to confusion when participants believe they complied but do not receive the incentive.
- **Satisfaction is high overall, but perceptions of incentive adequacy vary depending on charging patterns and lifestyle fit.** Most participants view the \$7 monthly incentive as fair given the minimal effort required, and many recommend the program enthusiastically. However, participants who charge frequently, rely on workplace charging, or have unpredictable schedules find it harder to meet the requirements and are less satisfied with the incentive amount. Some suggest that the payment does not fully compensate for the inconvenience of adhering to a strict schedule, while others—who already charge off-peak—see it as easy supplemental income.

Recommendations:

- **To expand participation, strengthen targeted outreach to EV owners**—such as clearer cross-promotion with charger rebates, dealership partnerships, or more visible placement on Entergy’s EV pages. Even modest improvements in discoverability could help reach customers who are already well-positioned to participate without changing the program’s simple design.
- **To support a smoother participant experience consider reinforcing clarity around enrollment confirmation, compliance status, and how AMI monitoring works.** Options might include a simple confirmation email, clearer monthly feedback when requirements are not met, or a basic online status page. These small improvements could reduce frustration without adding complexity to the passive program model.
- **To strengthen perceived value across diverse charging patterns, clarify the program’s intent as a light-touch behavioral nudge rather than a high-value bill-offsetting incentive.** Providing examples of typical participant profiles, or explaining why the incentive is structured as it is, could help set expectations. Over time, the program may also consider whether different incentive tiers or

telematics-based participation options could better accommodate households with varied charging needs.

2.1.3.14 Large C&I DR Findings and Recommendations

Findings:

- **Program operations appear well designed and effectively implemented, though conclusions about participant experience are limited by very low interview response rates.** The program's automated curtailment strategies, turnkey installation, and technical support structure function smoothly based on available data. The interviewed participant reported clear communication, reliable system performance, and high satisfaction with both financial and operational benefits.
- **Enrollment and engagement rely heavily on relationship-based outreach and technical facilitation, with trade allies and Key Account Representatives playing central roles.** Recruitment is driven by direct engagement, industry networks, and long-term relationship-building rather than broad marketing. Trade allies and implementers support enrollment, system programming, and ongoing adjustments, reducing barriers for technically capable customers. The interviewed participant learned about the program through professional networking and cited clear explanations and turnkey support as key motivators. While this model works well for some customers, it may limit reach to organizations without existing industry connections or technical expertise.

Recommendations:

The Evaluators do not have any additional recommendations.

2.1.3.15 Small Commercial Solutions Findings and Recommendations

Findings:

- **Program value is highly dependent on execution quality, with inconsistent communication and contractor performance driving most negative experiences and dropouts.** Participants who receive timely follow-up, clear cost information, and competent contractor work report strong satisfaction and meaningful bill savings. However, many others experience stalled projects, unclear next steps, or no follow-up after assessments. These breakdowns—often occurring between assessment and contractor engagement—lead to confusion, mistrust, and high dropout rates. Contractor variability further contributes to uneven outcomes, with some businesses reporting missed issues, incorrect installations, or lack of professionalism. As a result, satisfaction diverges sharply based on whether projects reach completion.
- **Outreach and customer understanding remain uneven, with generic marketing, unclear cost expectations, and reliance on referrals limiting program reach and clarity.** Most participants learn about the program through emails, web forms, or informal referrals. Communications are broad and not tailored to business type, and outreach timing appears inconsistent. Many small businesses enter the process expecting free upgrades, only to later encounter partial costs or unclear eligibility, creating frustration and disengagement. Near-participants frequently cite website confusion, unclear program requirements, and difficulty coordinating schedules or landlord approvals. These gaps suggest that awareness is widespread but understanding of the offering is not.

Recommendations:

- **To reduce dropouts and improve satisfaction, strengthen communication checkpoints and contractor quality assurance throughout the assessment-to-installation process.** Simple, structured follow-up—such as confirming assessment results, providing clear next steps, and ensuring trade allies contact customers within a defined timeframe—could address the most common failure points. Additional contractor oversight, standardized checklists, or clearer escalation pathways may help reduce quality issues and ensure participants receive consistent service regardless of contractor assignment.
- **To improve clarity and set accurate expectations, refine outreach materials and cost communication, with more tailored messaging for different business types.** Providing clearer explanations of which measures are free, which may require co-pays, and how rebates work could reduce confusion and build trust. More targeted outreach—such as sector-specific examples, simplified website navigation, or bill-insert messaging—may help businesses better understand the offering before opting in. These adjustments could support more informed participation and reduce the mismatch between initial expectations and actual program requirements.

2.1.3.16 Large C&I Solutions Findings and Recommendations

Findings:

- **Program awareness is low and understanding is inconsistent.** Most participants learned about the offering through trade allies, Key Account Reps, or internal networks rather than formal marketing. Several initially misunderstood eligibility or assumed the program was residential, and some expressed skepticism about program legitimacy due to limited educational content in outreach materials.
- **Trade allies and utility representatives drive nearly all project initiation and navigation.** Their role is central to scoping, documentation, and application submission. Participants who relied on these relationships reported smooth experiences, but those without established contacts faced knowledge gaps. Technical documentation—especially lighting workbooks and custom savings calculations—was cited as a barrier for less experienced customers.
- **Participant satisfaction is high once engaged, driven by strong communication and financial value.** Participants consistently praised staff responsiveness, technical support, and assistance with forms. Incentives significantly improved payback periods and motivated upgrades. However, participants still reported confusion around contractor requirements, application steps, and program processes, indicating gaps in early-stage guidance despite strong support later in the project.

Recommendations:

- **Strengthen marketing clarity and educational content by clearly explaining eligibility, incentive structure, and required steps.** Materials should address common misconceptions (e.g., residential vs. commercial applicability) and provide straightforward descriptions of how the program works.
- **Enhance support for complex documentation requirements.** Streamlined templates, clearer instructions for lighting workbooks, and short guidance sheets for custom projects would reduce participant confusion and reliance on staff for basic navigation.

- **Clarify contractor expectations and process steps upfront.** Participants requested clearer explanations of contractor requirements, application sequencing, and what to expect during scoping and verification. Providing this information early would reduce uncertainty and improve first-time participant experience.

2.1.3.17 C&I New Construction Findings and Recommendations

Findings:

- **The program is relationship-driven and technically strong, but long timelines and documentation requirements create administrative burden for some project teams.** The offering relies heavily on early engagement with architects, engineers, and contractors, and the implementer provides ongoing technical support throughout multi-year project cycles. This relationship-based model is appropriate for new construction, but the combination of long timelines, energy modeling requirements, and extensive documentation can be challenging for firms with limited experience in efficiency programs. Staff note that implementer support is often needed throughout the entire design-to-construction process.
- **Awareness and participation depend on professional networks, and the recent baseline adjustment reflects an effort to preserve savings opportunities under evolving code requirements.** Participation is driven almost entirely by trade allies, Key Account Reps, and repeat program users. The program is not marketed broadly, and success depends on identifying eligible projects early in the design process. The shift from a 2021 to a 2015 code baseline—approved by the City Council—was implemented to maintain meaningful savings potential as codes tightened, signaling the program’s need to adapt to regulatory changes.

Recommendations:

- **To reduce administrative friction, continue refining guidance and support materials for less experienced firms**—such as clearer documentation checklists, early scoping templates, or periodic touchpoints during long project timelines. These light-touch supports could help maintain engagement without altering the program’s technical rigor.
- **To sustain participation and savings, reinforce outreach within professional networks**—such as targeted engagement with design firms, engineering groups, and local development organizations. As codes evolve, maintaining clear communication about baseline assumptions and eligibility criteria may also help ensure that project teams understand how the program fits into their design and compliance strategies.

2.1.3.18 PFI Findings and Recommendations

Findings

- **The program is well-aligned with the needs of public institutions, but long approval cycles and procurement requirements create administrative complexity that requires sustained implementer support.** PFI projects often span multiple fiscal years, require internal approvals, and must comply with public procurement rules. As a result, they demand more hands-on assistance than typical commercial projects. Implementer staff frequently help with documentation, savings estimates, and navigating public-sector constraints. This support is essential, but it also means the program must maintain long-term engagement with customers and trade allies.

- **Participation is driven by relationships and repeat engagement, and motivations center on budget relief and deferred maintenance rather than efficiency alone.** PFI customers typically enter the program through Key Account Reps, trade allies, or prior participation. Motivations include offsetting capital costs, addressing deferred maintenance, and meeting public accountability or sustainability goals. Because the program is not marketed broadly, participation depends on maintaining strong relationships with institutional stakeholders and identifying opportunities early in the planning process.

Recommendations:

- **To ease administrative burden, continue refining tools that support multi-year planning**—such as clearer documentation templates, early scoping guidance, or periodic check-ins during long approval cycles. These light-touch supports could help institutions stay on track without requiring major program changes.
- **To sustain participation, reinforce outreach within institutional networks**—such as facility directors, school districts, and city agencies—and ensuring that these stakeholders understand how incentives can support long-term capital planning. Highlighting examples of successful PFI projects may also help demonstrate value and encourage repeat engagement.

2.1.4 Cost-Effectiveness Evaluation Findings

See Appendix B: Cost-Effectiveness Analysis of this report for additional information on the approach.

2.1.4.1 Results by Program

The results of the cost effectiveness analysis are in the table below.

TABLE 2-10 COST TEST RESULTS BY PROGRAM

Program	TRC	UCT	RIM	PCT	SCT
HPwES	1.08	1.09	0.40	4.31	1.42
RLA	0.37	0.35	0.20	5.06	0.42
RLA IQ	0.52	0.46	0.22	3.34	0.60
MF Solutions	1.16	1.22	0.37	4.65	1.49
MF Solutions IQ	1.61	1.55	0.45	4.98	2.21
IQW	1.50	1.42	0.54	2.81	2.17
A/C Solutions	1.16	1.36	0.43	3.14	1.39
A/C Solutions IQ	1.01	1.01	0.39	3.53	1.14
SK&E	0.78	0.78	0.26	6.69	0.91
Residential HVAC Midstream	0.32	0.35	0.27	1.83	0.42
Neighborhood-Based Delivery Pilot	1.28	1.22	0.49	3.61	1.84
Behavioral	1.50	1.50	0.33	0.00	1.50
EasyCool (BYOT)	0.96	0.61	0.60	0.00	0.96
PTR Pilot	0.28	0.21	0.21	0.00	0.28
BESS Pilot	0.18	0.10	0.10	0.00	0.18
Small C&I Solutions	0.92	0.89	0.30	5.19	1.10
Large C&I Solutions	1.14	1.66	0.35	3.80	1.39
PFI	0.81	0.84	0.27	5.34	0.95
C&I NC Solutions	6.47	0.42	0.22	21.27	6.58
Large C&I DR	0.54	0.38	0.38	0.00	0.54
EV Charging Pilot	0.10	0.08	0.08	0.00	0.10
Total	1.11	1.15	0.38	3.95	1.40

Sums may differ due to rounding.

The method used in the evaluation is described in Section 3.4.1.3.

3 EVALUATION METHODOLOGY

The general approach for calculation of verified energy savings (kWh) and demand reductions (kW) was to use the NO TRM V8.0. Further detail can be found in each program chapter for relevant measures. For demand response programs, the general approach for calculation of verified demand reductions (kW) was to use a Billing Data Analysis.

The gross impact evaluation effort included the following:

- Desk Reviews: The Evaluators utilized the NO TRM V8.0 values in assessing *ex post* gross energy savings (kWh) and demand reductions (kW). In addition to the TRM, the Evaluators also examined Excel workbooks and supplemental documentation used by implementation staff to assess savings by measure. The workbook utilizes TRM savings algorithms with trade ally inputs to calculate savings based on the measure and input parameters. The Evaluators verified the factor tables for each measure to ensure the values were appropriate.
- Data Tracking Review: Project data from the implementers was reviewed to ensure that tracking systems followed the TRM.
- Site Visits: Site visits were conducted on an as needed basis, where sites with higher uncertainties in project documentation were selected for on-site verification.
- Survey Analysis: Where applicable, results from participant survey results were utilized to determine in-service-rates and verification of savings parameters.
- Billing Data Analysis: Billing data analysis was performed for all DR programs and the Behavioral program. Billing analysis is effective when there is a large, relatively homogenous pool of participant customers implementing similar measures. The analysis compares consumption during DR events with baseline consumption. A Site-Specific Billing Data Analysis was used for the Large C&I DR program. The analysis compares consumption during DR events with baseline consumption on a site-specific basis.

This section details general evaluation methodologies by program-type as well as data collection methods applied to this evaluation and methods and activities used in the PY15 evaluation. This section will present full descriptions of gross savings estimation; net savings estimation; sampling methodologies; process evaluation methodologies; and data collection procedures.

3.1 Glossary of Terminology

As a foundational step in elucidating the evaluation methodologies, the Evaluators have provided an extensive glossary of terms:

- Baseline: The conditions, encompassing energy consumption, anticipated to occur in the absence of the subject energy efficiency activity. Baseline conditions are sometimes denoted as "business-as-usual" circumstances.
- Deemed Savings: An estimation of the energy or demand savings outcome (gross savings) for a single unit of an installed energy efficiency measure. This estimate is derived from widely accepted data sources and analytical methods and is applicable to the evaluated situation (e.g., assuming 284 kWh savings for a low-flow showerhead).
- Effective Useful Life (EUL): Also known as measure life, this term often denotes persistence. EUL offers an estimate of the duration of savings from a particular measure.

- **Evaluation:** A comprehensive range of assessment studies and activities aimed at determining the effects of a program (and/or portfolio) and understanding or documenting program performance, market dynamics, energy savings, or program cost-effectiveness.
- **Evaluation, Measurement, and Verification (EM&V):** An overarching term for evaluation activities conducted at the measure, project, program, or portfolio level. EM&V encompasses impact, process, market, and planning activities and is distinct from Measurement and Verification (M&V).
- **Savings:** Presents the various types of savings.
- **Impact Evaluation:** The process of determining the program-specific, directly or indirectly induced changes attributable to an energy efficiency program.
- **International Performance Measurement and Verification Protocol (IPMVP):** A guiding document outlining a framework and definitions describing four M&V approaches, developed by the Energy Valuation Organization.
- **Measure:** The installation of a single piece of equipment, subsystem, or system, or a single modification of equipment, subsystem, system, or operation at an end-use energy consumer facility with the purpose of reducing energy and/or demand.
- **Measurement and Verification (M&V):** A subset of program impact evaluation that documents energy savings at individual sites or projects using various methods such as measurements, engineering calculations, statistical analyses, and computer simulation modeling.
- **Portfolio:** The collection of all programs conducted by an organization, addressing different customer segments or market sectors.
- **Process Evaluation:** A systematic assessment of an energy efficiency program or component aimed at documenting operations, identifying improvements, and increasing program efficiency or effectiveness while maintaining participant satisfaction.
- **Program or Offering:** An activity, strategy, or action undertaken by an implementer, defined by a unique combination of program strategy, participation pathway, market segment, marketing approach, and energy efficiency measure(s).
- **Project:** An activity involving one or multiple energy efficiency measures at a single facility or site.
- **Gross Realization Rate:** The ratio of Ex Post Gross Savings to Ex Ante Gross Savings, indicating the degree of realization of predicted savings.
- **Rigor:** The level of expected confidence and precision in evaluation results, with higher rigor indicating greater confidence in the accuracy and precision of the findings.
- **Technical Reference Manual:** A prepared resource document containing savings estimates, assumptions, guidelines, and supporting documentation for prescriptive energy efficiency measures, vetted by stakeholders.
- **Uncertainty:** The range or interval of doubt surrounding a measured or calculated value, within which the true value is expected to fall with some degree of confidence.
- **Verification:** An assessment confirming that the program or project has been implemented per the program design, ensuring installation rates, quality standards, and operational correctness align with the intended objectives.

3.2 Sampling Approach

3.2.1 Sampling

Programs are evaluated on one of three bases:

- Census of all participants.
- Simple Random Sample; and
- Stratified Random Sample

3.2.1.1 Census

A census of participant data was used for selecting programs where such review is feasible. All program measures were evaluated.

3.2.1.2 Simple Random Sampling

For programs with relatively homogenous measures (largely in the residential portfolio), the Evaluators conducted a simple random sample of participants. The sample size for verification surveys is calculated to meet 90% confidence and 10% precision (90/10). The sample size to meet 90/10 requirements is calculated based on the coefficient of variation of savings for program participants. Coefficient of Variation (CV) is defined as:

$$CV = \frac{\text{Standard Deviation}_x}{\text{Mean}_x}$$

Where x is the average kWh savings per participant. Without data to use as a basis for a higher value, it is typical to apply a CV of .5 in residential program evaluations. The resulting sample size is estimated at:

$$n_0 = \left(\frac{1.645 * CV}{RP} \right)^2$$

Where:

1.645 = Z Score for 90% confidence interval in a normal distribution

CV = Coefficient of Variation

RP = Required Precision, 10% in this evaluation

3.2.1.3 Stratified Sampling

For the C&I NC, PFI, Small and Large C&I Solutions programs, Simple Random Sampling is not an effective sampling methodology as the CV values observed in business programs are typically very high because the distributions of savings are generally positively skewed. Often, a relatively small number of projects account for a high percentage of the estimated savings for the program.

To address this situation, the evaluators use a sample design for selecting projects for the M&V sample that takes such skewness into account. With this approach, the evaluators select a number of sites with large savings for the sample with certainty and take a random sample of the remaining sites. To further improve the precision, non-certainty sites are selected for the sample through systematic random sampling. That is, a random sample of sites remaining after the certainty sites have been selected is selected by ordering them according to the magnitude of their savings and using systematic random sampling. Sampling systematically from a list that is ordered according to the magnitude of savings ensures that any sample selected will have some units with high savings, some with moderate savings, and some with low savings. Samples cannot result

that have concentrations of sites with atypically high savings or atypically low savings. As a result of this methodology, the required sample for the C&I NC, PFI, Small and Large C&I Solutions programs were reduced to the following strata.

TABLE 3-1 STRATIFIED SAMPLING SUMMARY

Program	Strata	Sites Sampled
Small C&I Solutions	5	22
Large C&I Solutions	4, plus 1 certainty	26
C&I NC	N/A	3 (census)
PFI	5	10

3.2.2 Net Impact Calculations

Table 3-2 summarizes the net savings approach used for each program.

TABLE 3-2 SUMMARY OF NET SAVINGS APPROACHES

Program	Participant Surveys/Interviews	Literature Review	Billing Analysis/ Price Response Modeling	Deemed Value
HPwES	✓	✓		✓
HPwES Kits	✓	✓		✓
IQW		✓		✓
MF Solutions	✓	✓		✓
RLA	✓	✓		
HVAC Midstream				
Neighborhood-Based				
SK&E and AR&R	✓	✓		✓
Behavioral			✓	
DR Programs			✓	
Small C&I Solutions	✓			
Large C&I Solutions	✓			
PFI and C&I NC Solutions	✓			

3.3 Impact Evaluation

3.3.1 Gross Impact

The Evaluators approach to savings analysis depends largely on the types of measures installed.

In the following subsections gross savings calculation methodologies are detailed by measure category, as is appropriate.

3.3.1.1 NO TRM V8.0

Whenever possible, deemed savings values and algorithms from the New Orleans Technical Reference Manual version 8.0⁵ (herein referred to as the “New Orleans TRM” or simply, “NO TRM V8.0”) were used to determine verified program impacts. Care was taken to ensure any assumptions were reasonable and current, and that there were no errors in the algorithms. For each measure in the program, total *ex post* gross energy savings (kWh) and demand reductions (kW) savings were determined as a product of the number of measures verified as qualifying for an incentive and the deemed savings per measure.

3.3.1.2 Deemed and Prescriptive Savings Calculations

For the PY15 evaluation, the Evaluators utilized the NO TRM V8.0 for deemed projects. The varied approaches are as follows below.

- **Deemed Savings:** The deemed savings approach involves analysis based on the NO TRM V8.0 or measure-specific work papers. This method utilizes predetermined savings values for measures with well-established and documented average savings. Verification of deemed values entails confirming installations through on-site inspection and/or telephone surveys. Implementation may entail using a single savings value for all installations of a specific measure (e.g., residential refrigerators) or conducting site-specific analyses using partially deemed unit energy savings algorithms (e.g., assessing savings from deemed commercial lighting retrofits). In the latter case, certain inputs into the savings calculation, such as lighting hours of use, are site-specific.
- **Billing Data Analysis:** Billing data analysis is applicable when there is a sizable, relatively homogeneous pool of participant customers implementing similar energy efficiency measures. This method is effective for programs installing multiple measures in individual homes, which impact similar end uses and exhibit interactive effects. The analysis typically involves regression modeling of participants and a nonparticipant control group, comparing energy use in both groups before and after participation. This analysis method is utilized on demand response and behavioral programs and could potentially extend to weatherization programs.
- **Site-Specific Custom:** This approach pertains to programs where savings calculations must be performed on a per-site basis using primary data collected on-site or facility bills for unique, premise-level analyses. It contrasts with the large-scale, whole-program analysis described under the "Billing Data Analysis" bullet point. Site-specific custom protocols are required for certain Commercial and Industrial (C&I) programs in the portfolio, necessitating tailored approaches such as those outlined in the International Performance Measurement and Verification Protocol (IPMVP).

The table below summarizes the approaches that were applied.

⁵ The New Orleans TRM can be found here: https://www.energy-neworleans.com/energy_efficiency/energy_smart_filings/

TABLE 3-3 SAVINGS ESTIMATION APPROACHES FOR ENERGY SMART PROGRAMS

Sector	Program	Approach to Savings Estimation
Residential	HPwES	Deemed and Prescriptive Savings
	IQW	
	RLA	
	RLA - IQ	
	MF Solutions	
	MF Solutions - IQ	
	A/C Solutions	
	A/C Solutions - IQ	
	SK&E	
	Midstream	
	Neighborhood-Based Delivery	
	Behavioral	Whole Program Billing Analysis
	EasyCool (BYOT)	
	Peak Time Rebate Pilot	
	BESS Pilot	
	EV Charging Pilot	
C&I	Large C&I DR	Prescriptive, Custom and Facility-Level Billing Analysis
	Small C&I Solutions	
	Large C&I Solutions	
	C&I NC Solutions	
	PFI	

3.3.1.3 Avoided Replacement Costs

Avoided replacement costs associated with energy efficiency measures were derived from the AR TRM Version 9.1: Protocol L3: Non-Energy Benefits of Avoided and Deferred Equipment Replacement Costs.

The Evaluator utilizes the following two Protocols to calculate avoided replacement costs for Replacement on Burnout (ROB) measures:

- ROB 1 – baseline and efficient measures that have different useful lifetimes under static baselines over the lifetime of the measures; and
- ROB 2 - baseline and efficient measures that have different useful lifetimes under changing baselines over the lifetime of the measures.

The avoided replacement costs are summarized mathematically as:

$$\text{Avoided Replacement Cost} = NPV(RDR, ML, RLCC_t)$$

$$NPV = \text{Net Present Value function} = \sum_{t=1}^{ML} \frac{RLCC_t}{(1 + RDR)^t}$$

Where:

RDR = Real Discount Rate

ML = Program Measure Life (EUL)

RLCC_t = Real Levelized Carrying Charge in year t (annualized baseline installed cost at RDR)

The following equation defines the ARCs for ROB 1, under the assumption of different EULs for baseline and efficient measures and static baselines:

$$\text{Avoided Replacement Cost} = -PV(RDR, ML - EUL_B, RLCC_B)/(1 + RDR)^{EUL_B}$$

Where:

RDR = Real Discount Rate

ML = Program Measure Life (EUL)

EUL_B = Baseline Equipment Life

RLCC_B = -PMT (RDR, EUL_B, Baseline Installed Cost)

The following equations define the ARC for ROB 2, under the assumption of different EULs for baseline and efficient measures and changing baselines:

$$\begin{aligned}\text{Avoided Replacement Cost} &= \text{ARC (Tier 1)} + \text{ARC (Tier 2)} \\ \text{ARC (Tier 1)} &= -PV(RDR, NY - EUL_{T1}, RLCC_{T1})/(1 + RDR)^{EUL_{T1}} \\ \text{ARC (Tier 2)} &= -PV(RDR, ML - NY, RLCC_{T2})/(1 + RDR)^{NY}\end{aligned}$$

Where:

RDR = Real Discount Rate

ML = Program Measure Life (EUL)

EUL_{T1} = Baseline Equipment Life (Tier 1)

RLCC_{T1} = -PMT (RDR, EUL_{T1}, Baseline Installed Cost (Tier 1))

EUL_{T2} = Baseline Equipment Life (Tier 2)

RLCC_{T2} = -PMT (RDR, EUL_{T2}, Baseline Installed Cost (Tier 2))

NY = Number of years of Tier 1 installation

ARC estimates are found in each of the program chapters within this report.

3.3.1.4 Deviations from the New Orleans TRM

There were no diversions from the NO TRM.

3.3.1.5 Tracking System Review

The impact evaluation began with a review of program tracking data. The tracking data included a separate row for each measure installed. Every premise in the program had a unique incentive identifier, so each premise had multiple rows to reflect the different measures completed.

3.3.1.6 Literature Review

Literature reviews were performed to evaluate gross impacts of measures that were not found in site visits or had low samples. In cases where there are small samples, the literature review may be averaged with the site visit impact. Those literature reviews are found below.

TABLE 3-4 APS LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
2023 CPS Energy TRM	CPS Energy, TX	SF Smart Strip	DI in Wx	100.0%
2022 Hawaii TRM	NA	APS	DI in SF	100.0%
IL TRM V11.0	NA	APS	DI in SF	100.0%
MO Ameren PY21 EM&V	NA	APS	DI in SF	95.0%
PY23 EM&V Report	OG&E AR	APS	DI in SF	98.8%
				98.8%

TABLE 3-5 CEILING INSULATION LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY21 EM&V Report	Entergy, AR	SF Envelope	TA Installed Wx	100.0%
PY21 EM&V Report	Entergy, AR	MF Envelope	TA Installed Wx	100.0%
PY18 EM&V Report	RMP Utah	Envelope Wx	TA Installed Wx	100.0%
PY23 EM&V Report	OG&E AR	Ceiling Insulation	TA installed Wx	97.0%
PY8 SWEPCO EM&V Report	SWEPCO LA	Ceiling Insulation	TA installed Wx	100.0%
				99.4%

TABLE 3-6 ENERGY STAR DISHWASHER LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
Rhode Island TRM	RI TRM PY23	ENERGY STAR Dishwasher	Not specific	100.0%
PY2021 Residential Impact Report	Ameren IL PY2021	ENERGY STAR Dishwasher	Not specific	100.0%
				100.0%

TABLE 3-7 HEAT PUMP WATER HEATER LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
Rhode Island TRM	RI TRM PY23	HPWH	TA Installed	100.0%
PY2022 Black Hills EM&V Report	Black Hills, CO	HPWH	TA Installed	100.0%
PY21 - PY22 EM&V Report	Avista, WA	HPWH	TA Installed	100.0%
PY2022 EM&V Report	JCP&L, NJ	HPWH	TA Installed	100.0%
				100.0%

TABLE 3-8 SMART THERMOSTAT LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
2022 Hawaii TRM	NA	Smart thermostat	Not Specific	90.0%
PY22 EM&V Report	OG&E AR	Smart thermostat	TA Installed	100.0%
PY21 EM&V Report	SWEPCO AR	Smart thermostat	TA Installed	100.0%
2023 Rhode Island TRM	NA	Smart thermostat	Not Specific	100.0%

PY2022 Black Hills EM&V Report	Black Hills, CO	Smart thermostat	Not specific	100.0%
				98.0%

TABLE 3-9 BATHROOM AND KITCHEN AERATOR LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY21 EM&V Report	Entergy, AR	MF Domestic Hot Water	TA Installed Wx	100.0%
IL TRM V11.0	NA	Aerator	DI ISR	93.0%
New Orleans TRM V6.0	NA	Aerator	DI ISR	98.0%
IA TRM V7.0	NA	Aerator	DI ISR	95.0%
PY23 EM&V Report	OG&E AR	Aerator	TA installed Wx	100.0%
				97.2%

TABLE 3-10 HEAT PUMP REPLACEMENT LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY9 EM&V Report	SWEPCO LA	HP Replacement	TA Installed	100.0%
PY23 EM&V Report	OG&E AR	HP Replacement	TA Installed	100.0%
PY21 EM&V Report	SWEPCO AR	HP Replacement	TA Installed	100.0%
2023 Rhode Island TRM	NA	Central Heat Pump	TA Installed	100.0%
				100.0%

TABLE 3-11 LED LAMP LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY9 EM&V Report	SWEPCO LA	LED Lamp	TA Installed	100.0%
2023 CPS Energy TRM	CPS Energy, TX	LED Lamp	Not Specific	97.0%
AR TRM V9.1	NA	LED Lamp	Not Specific	97.0%
PY23 EM&V Report	OG&E AR	LED Lamp	DI in Wx	100.0%
Hawaii TRM PY2022	NA	LED Lamp	Not specific	97.0%
				98.2%

TABLE 3-12 LOW-FLOW SHOWERHEAD LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY21 EM&V Report	Entergy, AR	MF Domestic Hot Water	TA Installed Wx	100.0%
2022 Hawaii TRM	NA	Low-Flow Showerheads	DI ISR	93.0%
IL TRM V11.0	NA	Low-Flow Showerheads	DI ISR	96.0%
New Orleans TRM V6.0	NA	Low-Flow Showerheads	DI ISR	98.0%
IA TRM V7.0	NA	Low-Flow Showerheads	DI ISR	98.0%
PY23 EM&V Report	OG&E AR	Low-Flow Showerheads	TA installed Wx	100.0%
				97.5%

TABLE 3-13 DUCT SEALING LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY21 EM&V Report	SWEPCO AR	Duct Sealing	TA Installed	99.7%
PY21 EM&V Report	OG&E AR	Duct Sealing	TA Installed	100.0%
PY11 EM&V Report	Entergy NO	Duct Sealing	TA Installed	94.4%
2021 Rhode Island TRM	NA	Duct Sealing	Not Specific	100.0%
				98.5%

TABLE 3-14 ENERGY STAR CLOTHES DRYER LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY2022 EM&V Report	Nicor Gas	Clothes Dryer	Retail Buy-down	100.0%
PY21 - PY22 EM&V Report	Pacific Power CA	Clothes Dryer	Rebate	100.0%
PY20 Efficient Product EM&V Report	EfficiencyOne CA	Clothes Dryer	Rebate	100.0%
CT V20.0 TRM	NA	Clothes Dryer	Rebate	100.0%
				100.0%

TABLE 3-15 AIR CONDITIONER REPLACEMENT LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY11 EM&V Report	Entergy NO	AC Replacement	TA Installed	100.0%
PY21 EM&V Report	OG&E AR	AC Replacement	TA Installed	100.0%
PY21 EM&V Report	SWEPCO AR	AC Replacement	TA Installed	100.0%
2021 Rhode Island TRM	NA	Air Conditioning	TA Installed	100.0%
CT V20.0 TRM	NA	Window AC	Rebate	100.0%
				100.0%

TABLE 3-16 ENERGY STAR AIR PURIFIER LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
MA 2021 eTRM	NA	Room Air Cleaners	Not Specific	97.0%
RI 2021 TRM	NA	Room Air Cleaners	Not Specific	97.0%
PY21 EM&V Report	Entergy, AR	SF Appliances	DI in SF	78.2%
PY21 EM&V Report	OG&E AR	Air Purifiers	Mail-in-Rebate	100.0%
PY18 EM&V Report	RMP Utah	Appliances in SF	Mail-in-Rebate	100.0%
PY21 EM&V Report	SWEPCO AR	Air Purifier	DI in Wx	92.9%
				94.2%

TABLE 3-17 ENERGY STAR WINDOWS LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY2022 Statewide EM&V Report	Connecticut	Windows	Rebate	98.0%
PY2023 EM&V Report	SWEPCO AR	Windows	Rebate	100.0%
PY12 EM&V Report	New Orleans	Windows	Rebate	100.0%
				99.3%

TABLE 3-18 ENERGY STAR POOL PUMP LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY21 EM&V Report	DTE	Pool Pump	Mail-in-Rebate	85.0%
PY10 EM&V Report	Entergy NO	Pool Pump	Mail-in-Rebate	100.0%
2021 Rhode Island TRM	NA	Pool Pump	Mail-in-Rebate	100.0%
				95.0%

TABLE 3-19 AIR INFILTRATION LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
PY2022 Statewide EM&V Report	Connecticut	Air Sealing	TA Installed	92.0%
PY2023 EM&V Report	SWEPCO AR	Air Sealing	TA Installed	100.0%
PY2023 EM&V Report	OG&E AR	Air Sealing	TA Installed	99.0%
IL V11.0 TRM	NA	Air Sealing	TA DI	100.0%
				97.8%

TABLE 3-20 SCHOOL KIT LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
IL V11.0TRM	NA	Wx School Kit	Schools	58.0%
IL V11.0TRM	NA	School EE Kit	Schools	83.8%
Iowa V7.0 TRM	NA	School EE Kit	Schools	60.0%
Ameren Missouri PY21 TRM V2.0	NA	School EE Kit	Schools	90.0%
				73.0%

TABLE 3-21 FREEZER RECYCLING LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
MA - 1.3.2023 - eTRM	MASS Saves	Refrigerator/Freezer Recycling	TA Pickup	100.0%
Rhode Island 2023 TRM	National Grid	Freezer Recycling (ENERGY STAR Electric)	TA Pickup	100.0%
				100.0%

TABLE 3-22 REFRIGERATOR RECYCLING LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
MA - 1.3.2023 - eTRM	MASS Saves	Refrigerator/Freezer Recycling	TA Pickup	100.0%
Rhode Island 2023 TRM	National Grid	Recycling Refrigerator (SF Electric)	TA Pickup	100.0%
				100.0%

TABLE 3-23 REFRIGERATOR REPLACEMENT LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
MA - 1.3.2023 - eTRM	MASS Saves	Refrigerators (ENERGY STAR)	Rebate	100.0%
Rhode Island 23 TRM	National Grid	Replacement Refrigerator (SF)	Rebate	100.0%
				100.0%

TABLE 3-24 MAILER PULL KIT REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
IL V11.0 TRM	NA	Market Rate Kit	Direct mail	91.8%
IL V11.0 TRM	NA	LI Kit	Direct mail	60.0%
IL V11.0 TRM	NA	Wx Kit	Direct mail	68.0%
NO TRM V6.0	Entergy New Orleans	Mailer Kit	Direct mail	62.0%
Ameren MO TRM 2022	Ameren, MO	Mailer Kit	Direct mail	54.0%
Ameren MO TRM 2022	Ameren, MO	Mailer Kit	Direct mail	100.0%
				72.6%

TABLE 3-25 MAILER PUSH KIT LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
Vermont 2018 TRM	NA	Low-Flow Showerhead	Home Energy Kit	56.0%
Vermont 2018 TRM	NA	Aerator (bath/kitchen)	Home Energy Kit	57.0%
Vermont 2018 TRM	NA	Advanced Power Strips	Home Energy Kit	63.0%
Vermont 2018 TRM	NA	LED Lamp	Home Energy Kit	90.0%
IL V11.0 TRM	NA	Wx Measure	Home Energy Kit	60.0%
				65.2%

TABLE 3-26 PIPE INSULATION LITERATURE REVIEW RESULT

Source	Utility	Measure Name	Delivery Mechanism	In-Service Rate
CT V20.0 TRM	NA	Pipe Insulation (Residential)	TA DI	72.0%
IL V11.0 TRM	NA	Domestic Hot Water Pipe Insulation	TA DI	100.0%
RI 2023 TRM	NA	Pipe Insulation	TA DI	90.0%
				87.3%

3.3.1.7 In-Services Rates to be Applied

The table below outlines the ISR values to be applied in the residential desk reviews. The ISR values were estimated using participant survey responses, site visit observations, literature review results, past evaluation results.

TABLE 3-27 RESIDENTIAL ISR VALUES

Program	Measure	NO TRM V8.0 ISR	PY13 Site Visit ISR	Lit Review ISR	PY14 (2024) ISR	PY15 ISR
A/C Solutions	AC Replacement	NA	N/A	100%	100%	100%
A/C Solutions	AC Tune-up	NA	N/A	NA	99%	100%
A/C Solutions	Duct Sealing	NA	N/A	99%	99%	88%
HPwES	Smart Thermostat	NA	100%	98%	100%	100%
HPwES	Water Heater Pipe Insulation	NA	100%	87%	96%	97%
HPwES	Low-Flow Showerhead	98%	91%	98%	98%	93%
HPwES	LED	NA	100%	98%	97%	98%

HPwES	Aerator	98%	82%	97%	89%	89%
HPwES	Duct Sealing	NA	100%	99%	96%	92%
HPwES	Ceiling Insulation	NA	100%	99%	100%	100%
HPwES	Air Infiltration	NA	93%	98%	88%	95%
HPwES	Advanced Power Strip (Tier 2)	NA	89%	99%	86%	89%
IQW	Smart Thermostat	NA	97%	98%	100%	99%
IQW	Water Heater Pipe Insulation	NA	100%	87%	94%	89%
IQW	Low-Flow Showerhead	98%	79%	98%	89%	92%
IQW	LED Lamp	NA	96%	98%	87%	95%
IQW	Aerator	98%	100%	97%	98%	99%
IQW	Duct Sealing	NA	100%	99%	96%	96%
IQW	Ceiling Insulation	NA	100%	99%	94%	100%
IQW	Air Infiltration	NA	100%	98%	90%	94%
IQW	Advanced Power Strip (Tier 2)	NA	87%	99%	92%	83%
MF Solutions	Smart Thermostat	NA	N/A	98%	83%	83%
MF Solutions	Water Heater Pipe Insulation	NA	N/A	87%	96%	89%
MF Solutions	Low-Flow Showerhead	98%	N/A	98%	84%	96%
MF Solutions	LED Lamp	NA	N/A	98%	85%	97%
MF Solutions	Aerator	98%	N/A	97%	88%	95%
MF Solutions	Duct Sealing	NA	N/A	99%	83%	90%
MF Solutions	Air Infiltration	NA	N/A	98%	83%	93%
MF Solutions	Advanced Power Strip (Tier 2)	NA	N/A	99%	66%	75%
RLA	LED Lamp (OLM)	NA	N/A	98%	92%	98%
RLA	Smart Thermostat	NA	100%	98%	91%	95%
RLA	Pool Pump	NA	N/A	95%	98%	93%
RLA	Low-Flow Showerhead	98%	20%	98%	94%	98%
RLA	Refrigerator Replacement	NA	100%	100%	100%	98%
RLA	Advanced Power Strip (Tier 1)	NA	75%	99%	82%	90%
RLA	Heat Pump Water Heater	NA	100%	100%	99%	98%
RLA	Window Air Conditioner	NA	100%	100%	99%	100%
RLA	Aerator	45%	N/A	97%	79%	96%
RLA	Water Heater Pipe Insulation	NA	0%	87%	76%	94%
RLA	Air Purifier	NA	99%	94%	94%	97%
RLA	Dehumidifier	NA	100%	NA	100%	98%
RLA	Advanced Power Strip (Tier 2)	NA	N/A	99%	82%	90%
SK&E	School Kit - Low-Flow Showerhead	NA	66%	73%	65%	66%
SK&E	School Kit - Kitchen Aerator (1.5)	NA	65%	73%	57%	65%

SK&E	School Kit - APS	NA	83%	73%	60%	83%
SK&E	School Kit - Weather Stripping (17")	NA	76%	73%	70%	76%

3.3.2 Net Impact

This section discusses the approaches used to estimate net savings. This section provides additional detail on the approaches outline for each program in Table 3-2.

3.3.2.1 Demand Response and Behavioral Programs

For DR and behavioral programs, it is typically assumed that there are neither spillover nor free-ridership effects (customers are not expected to curtail without participating).

For DR, although customers can find workarounds to make up for lost productivity due to demand response events, they are compensated only if they reduce their load during the peak demand window, the primary program goal.

As such, the NTG ratio for these programs is assumed to be 100%.

3.3.2.2 Low Income Programs

Assigned a NTG of 1.0 for the SK&E, IQW, and Neighborhood-Based Delivery programs.

3.3.2.3 Non-Low Income Programs

This section discusses self-report methodologies used to estimate the net savings of the residential programs.

3.3.2.3.1 AC Solutions, HPwES, and RLA Free-Ridership

The free ridership approach was applied to all relevant AC Solutions, HPwES, and RLA measures. To accomplish this, the Evaluators administered a survey to program participants that contained questions regarding the participants' plans to implement the incentivized measures and the likelihood of implementing those measures in the absence of program incentives and informational support. Respondents who met all of the following criteria will be considered free riders; all others will not be considered free riders.

- The participant was planning to complete the same project/install the same measure before learning about the program.
- The participant's budget would accommodate the full cost of the project/measure in the absence of program support.
- The participant would have completed the same project or done something more efficient without program support.
- The participant would have completed the same project/installed the same measure or something more energy efficient within one year if the program was not available.

3.3.2.3.2 Participant Spillover Assessment

Program participants may implement additional energy saving measures without receiving a program incentive because of their participation in the program. The energy savings resulting from these additional measures constitute program participant spillover effects.

To assess participant spillover savings, survey respondents were asked whether or not they implemented any additional energy saving measures for which they did not receive a program incentive. Respondents that indicated that they had installed additional measures were determined to have spillover savings if follow-up

questioning suggested their program participation had influenced and/or been important in their decision to make the additional purchase or installation and sufficient information was collected to assign savings estimates.

3.3.2.4 HVAC Midstream

Because the program is newly launched and no process data—such as participant surveys or distributor or contractor interviews—was collected, the Evaluators relied on a literature review to inform free-ridership assumptions. We examined results from comparable HVAC midstream programs across several jurisdictions, summarized in the table below, which show free-ridership estimates ranging from 16% to 96% with an average of 46%.

TABLE 3-28 HVAC MIDSTREAM FREE RIDERSHIP LITERATURE REVIEW

Methodology	Program Administrator	State	Sector	Year of Study	Equipment Type	Free Ridership	Reference
Distributor Interviews	ComED	IL	Residential	2023	Heat pumps (including midstream DMSHP, ASHP, and GSHP) and Ductless Mini-Splits	16%	ComEd Contractor Midstream Program NTG Memo
					Central AC	31%	ComEd Contractor Midstream Program NTG Memo
Distributor and Contractors	Ameren	IL	Residential	2020	Mixed	53%	AIC 2024 Midstream HVAC Channel Initiative Net-to-Gross Findings Memo
Distributors and Contractors	Comfortably California	CA	Both	2021	Mixed	96%	PY 2021 Statewide Third-Party Programs Evaluation – Comfortably California HVAC (DNV; statewide upstream/midstream commercial HVAC).
Distributors and Customers	Indiana Michigan Power Company	IN	Residential	2024	Mixed	34%	2024 Indiana Residential Portfolio EM&V Report Volume I of II
Average		46%					

3.3.2.5 Multifamily Solutions

The Evaluator developed free-ridership estimates using a savings-weighted average of the PY12 and PY13 free ridership estimates.

3.3.2.6 C&I NC Solutions, PFI, Small C&I Solutions, and Large C&I Solutions

Participant interview responses were used to estimate the net energy impacts for the Small C&I, Large C&I, PFI, NC offerings. The methodology used is described in detail below.

Several criteria were used for determining what portion of a customer's savings for a particular project should be attributed to free-ridership. The first criterion was based on the response to the question: "Would you have been financially able to install energy efficient [Measure/Equipment] at the location without the financial incentive from the Program?" Customers that answer "No" to this question are asked to confirm that they would not have allocated funds to the project without the incentive. If a customer confirms that they would not have allocated the funds if the incentives were not available, the customer was not deemed a free-rider.

For decision makers that indicated that they were able to undertake energy efficiency projects without financial assistance from the program, three factors were analyzed to determine what percentage of savings may be attributed to free-ridership. The three factors were:

- Plans and intentions of firm to install a measure even without support from the program;
- Influence that the program had on the decision to install a measure; and
- A firm's previous experience with a measure installed under the program.

For each of these factors, rules were applied to develop binary variables indicating whether or not a participant's behavior showed free-ridership.

The first factor requires determining if a participant stated that his or her intention was to install an energy efficiency measure even without the program. The answers to a combination of several questions were used with a set of rules to determine whether a participant's behavior indicates likely free-ridership. Two binary variables were constructed to account for customer plans and intentions: one, based on a more restrictive set of criteria that may describe a high likelihood of free-ridership, and a second, based on a less restrictive set of criteria that may describe a relatively lower likelihood of free-ridership.

The first, more restrictive criteria indicating customer plans and intentions that likely signify free-ridership are as follows (Definition 1):

- The respondent answers "yes" to the following two questions: "Did you have plans to install energy efficient [Measure/Equipment] at the location before deciding to participate in the program?" and "Would you have gone ahead with this planned project if you had not received the rebate through the program?"
- The respondent answers "definitely would have installed" to the following question: "If the rebates from the program had not been available, how likely is it that you would have installed energy efficient [Measure/Equipment] at the location anyway?"
- The respondent answers "no, program did not affect timing of purchase and installation" to the following question: "Did you purchase and install energy efficient [Measure/Equipment] earlier than you otherwise would have without the program?"
- The respondent answers "no, program did not affect level of efficiency chosen for equipment" in response to the following question: "Did you choose equipment that was more energy efficient than you would have chosen had you not participated in the program?"

The second, less restrictive criteria indicating customer plans and intentions that likely signify free-ridership are as follows (Definition 2):

- The respondent answers “yes” to the following two questions: “Did you have plans to install energy efficient [Measure/Equipment] at the location before participating in the program?” and “Would you have gone ahead with this planned installation even if you had not participated in the program?”
- Either the respondent answers “definitely would have installed” or “probably would have installed” to the following question: “If the rebates from the program had not been available, how likely is it that you would have installed energy efficient [Measure/Equipment] at the location anyway?”
- Either the respondent answers “no, program did not affect timing of purchase and installation” to the following question: “Did you purchase and install energy efficient [Measure/Equipment] earlier than you otherwise would have without the program?” or the respondent indicates that while program information and financial incentives did affect the timing of equipment purchase and installation, in the absence of the program they would have purchased and installed the equipment within the next two years.
- The respondent answers “no, program did not affect level of efficiency chosen for equipment” in response to the following question: “Did you choose equipment that was more energy efficient than you would have chosen had you not participated in the program?”

The second factor requires determining if a customer reported that a recommendation from a program representative or past experience with the program was influential in the decision to install a particular piece of equipment or measure.

The criterion indicating that program influence may signify a lower likelihood of free-ridership is that either of the following conditions is true:

- The respondent answers “very important” to the following question: “How important was previous experience with the program in making your decision to install energy efficient [Measure/Equipment] at the location?”
- The respondent answers “probably would not have” or “definitely would not have” to the following question: “If the program representative had not recommended [Measure/Equipment], how likely is it that you would have installed it anyway?”

The third factor requires determining if a participant in the program indicates that he or she had previously installed an energy efficiency measure similar to one that they installed under the program without an energy efficiency program incentive during the last three years. A participant indicating that he or she had installed a similar measure is considered to have a likelihood of free-ridership.

The criteria indicating that previous experience may signify a higher likelihood of free-ridership are as follows:

- The respondent answers “yes” to the following question: “Had your organization ALREADY ordered or purchased the [specific project/measure] BEFORE you heard about the program?”
- The respondent answers “no” to the following question: “Did the incentive help the [specific project/measures] project receive implementation approval from your organization?”

The four sets of rules described above were used to construct four different indicator variables that address free-ridership behavior. For each customer, a free-ridership value was assigned based on the combination of variables. With the four indicator variables, there are 11 applicable combinations for assigning free-ridership scores for each respondent, depending on the combination of answers to the questions creating the indicator variables. **Error! Reference source not found.** shows these values.

TABLE 3-29 FREE-RIDERSHIP SCORES FOR COMBINATIONS OF INDICATOR VARIABLE RESPONSES

Indicator Variables				Free-ridership Score
Had Plans and Intentions to Install Measure without Program? (Definition 1)	Had Plans and Intentions to Install Measure without Program? (Definition 2)	Program had influence on Decision to Install Measure?	Had Previous Experience with Measure?	
Y	N/A	Y	Y	100%
Y	N/A	N	N	100%
Y	N/A	N	Y	67%
Y	N/A	Y	N	67%
N	Y	N	Y	67%
N	N	N	Y	33%
N	Y	N	N	33%
N	Y	Y	N	0%
N	N	N	N	0%
N	N	Y	N	0%
N	N	Y	Y	0%

Additionally, due to the small interview sample size, we created a weighted average of the free-ridership scores from PY12, PY13, and PY15. The PY15 scores were used for the individuals included in the interview sample, and all other respondents were assigned the weighted average NTG score.

3.3.2.6.1 Spillover Assessment

Program participants may implement additional energy saving measures without receiving a program incentive because of their participation in the program. The energy savings resulting from these additional measures constitute program participant spillover effects.

To assess participant spillover savings, interview respondents were asked whether or not they implemented any additional energy saving measures for which they did not receive a program incentive. Respondents that indicated that they had installed additional measures were determined to have spillover savings if follow-up questioning suggested their program participation had been important in their decision to make the additional purchase or installation and sufficient information was collected to assign savings estimates.

3.3.2.7 NTG Ratios to be Applied

The table below outlines the NTG values for residential programs by measure. SK&E and IQW have a deemed NTG ratio of 100%.

TABLE 3-30 RESIDENTIAL MEASURE-LEVEL NTG VALUES

Program	Measure	2024 NTG	Free Ridership	Spillover	NTG	Source
AC Solutions	A/C Tune Up	90.3%	5.7%	0.0%	94.3%	PY15 Survey
AC Solutions	Duct Sealing	102.8%	5.7%	0.0%	94.3%	PY15 Survey
AC Solutions	Air Source Heat Pump	102.8%	5.7%	0.0%	94.3%	PY15 Survey
AC Solutions	Central A/C	102.8%	5.7%	0.0%	94.3%	PY15 Survey
AC Solutions	Smart Thermostat	102.8%	5.7%	0.0%	94.3%	PY15 Survey
AC Solutions	Ductless Heat Pump	102.8%	5.7%	0.0%	94.3%	PY15 Survey
HPwES	Smart Thermostat	97.8%	4.8%	0.0%	95.3%	PY15 Survey
HPwES	Air Sealing	97.8%	0.0%	0.0%	100.0%	PY15 Survey
HPwES	Ceiling Insulation	97.8%	0.0%	0.0%	100.0%	PY15 Survey
HPwES	Duct Sealing	97.8%	0.0%	0.0%	100.0%	PY15 Survey
HPwES	Pipewrap	98.6%	-	-	98.6%	PY14 Survey
HPwES	LED Lighting	98.6%	-	-	98.6%	PY14 Survey
HPwES	Bathroom Aerator	98.6%	-	-	98.6%	PY14 Survey
HPwES	Kitchen Aerator	98.6%	-	-	98.6%	PY14 Survey
HPwES	Showerhead	98.6%	-	-	98.6%	PY14 Survey
HPwES	Advanced Power Strip	98.6%	-	-	98.6%	PY14 Survey
HVAC Midstream	All	-	-	-	54.0%	Literature Review
IQW	All	100.0%	0.0%	0.0%	100.0%	Deemed 1.0
Multifamily	All	90.2%	-	-	90.2%	PY12 and PY13 Survey
Neighborhood	All	100.0%	0.0%	0.0%	100.0%	Deemed 1.0
RLA	Air Purifier	84.5%	9.8%	0.4%	90.7%	PY15 Survey
RLA	Smart Thermostat	88.5%	22.2%	0.4%	78.2%	PY15 Survey
RLA	Advanced Power Strip	72.0%	28.6%	0.4%	71.9%	PY15 Survey
RLA	Dehumidifier	79.7%	28.6%	0.4%	71.9%	PY15 Survey
RLA	Heat Pump Water Heater	74.3%	28.6%	0.4%	71.9%	PY15 Survey
RLA	Refrigerator	53.5%	28.6%	0.4%	71.9%	PY15 Survey
RLA	Thermostatic Shower Valve	-	28.6%	0.4%	71.9%	PY15 Survey
RLA	Window AC	73.0%	28.6%	0.4%	71.9%	PY15 Survey
RLA	Pipe Insulation	88.0%	28.6%	0.4%	71.9%	PY15 Survey
School Kits	All	100.0%	0.0%	0.0%	100.0%	Deemed 1.0

For the commercial programs, interviews were conducted to estimate NTG. The average weighted NTG for Small C&I Solutions is 83.1%, Large C&I Solutions is estimated at 98.4%, PFI NTG is 92.9% and C&I NC Solutions is estimated at 68.2%.

3.4 Process Evaluation

3.4.1 Approach

The Evaluator's approach to process evaluation begins with an assessment of whether the timing and circumstances warrant such an evaluation. During this initial review, the Evaluators identify which components of the program merit closer examination.

Process evaluations focus on the organizational and procedural elements of a program. Their purpose is to provide feedback on aspects that are functioning effectively and to offer recommendations when improvements are needed.

A process evaluation also draws on information from multiple sources, including program staff and program participants. To strengthen the validity of the findings, Evaluators collect data from several perspectives and triangulate the results to identify consistent patterns across groups. This approach enhances the overall reliability of the conclusions.

A comprehensive process evaluation should address several key issues, including:

- Supporting program designers and managers in structuring programs to achieve cost-effective savings while maintaining high customer satisfaction.
- Assessing program awareness to refine marketing strategies and reduce participation barriers.
- Recommending changes to program structure, management, administration, design, delivery, operations, or target audiences.
- Evaluating the use of best practices and identifying additional practices that should be adopted.
- Collecting data from diverse sources to reduce bias and strengthen the credibility of findings

TABLE 3-31 KEY PROCESS EVALUATION ACTIVITIES

Process Evaluation Activity				
Key Researchable Issues	Materials Review	Database Review	Staff Interview	Customer Survey/Interviews
Program Effectiveness	✓		✓	✓
Tracking Systems		✓	✓	
Rebate Application Processing		✓	✓	
Trade ally Reporting/ Tracking		✓	✓	
Overall Program Satisfaction				✓
Satisfaction with Trade Allies			✓	✓
Satisfaction with Utility				✓
Satisfaction with Implementer			✓	
Market Effects	✓		✓	✓
Changes in Stocking Practices			✓	
Barriers to Participation			✓	✓
Awareness Levels				✓
Reasons for Participation				✓

The process evaluation for PY15 consists of a multiple step process that is outlined in the following sections.

3.4.2 Review of Program Materials

The Evaluators reviewed prior evaluation reports along with program information and materials available on the program website to assess clarity and consistency with program objectives. As an initial step in the PY15 process evaluation, this review helped clarify what information is communicated to participants, how it is presented, and where gaps or opportunities for improvement may exist.

3.4.3 Program Staff and Implementer Interviews

The program staff in-depth interviews were conducted via Teams calls and addressed the key process evaluation objectives discussed previously. These discussions focused on the program history, design, and identifying areas for improvement. The interviews were open-ended, in that there is a discussion guide, but responses will not be limited to a specific set of choices.

The third-party implementer interviews were also conducted on Teams. The Evaluators discussed the implementers' perceptions of how the programs operate, what program data is tracked and captured, how that data is managed and maintained, and how the programs are promoted to motivate trade allies and customers.

3.4.4 Participant Surveys and Interviews

The Evaluators conducted surveys and interviews across the residential and commercial energy efficiency programs. These activities focused on program awareness, participants' decision-making process, program operations, customer satisfaction with eligible measures, and satisfaction with the program. In some cases, these instruments included questions to assess the program's influence on the decision to implement the energy efficiency measure, verify measure installations and collected other data necessary to support the impact evaluation. Survey and interview summaries can be found in each program chapter.

3.5 Cost-Effectiveness Evaluation

See Appendix B: Cost-Effectiveness Analysis for additional details on this approach. The results by each program and the portfolio for cost test is shown in the table below.

TABLE 3-32 PY15 COST-EFFECTIVENESS RESULTS

Program	TRC	UCT	RIM	PCT	SCT
HPwES	1.10	1.11	0.40	4.31	1.45
RLA	0.38	0.36	0.20	5.06	0.44
RLA IQ	0.52	0.47	0.22	3.34	0.60
MF Solutions	1.15	1.21	0.37	4.65	1.48
MF Solutions IQ	1.60	1.54	0.45	4.98	2.19
IQW	1.52	1.44	0.55	2.81	2.19
A/C Solutions	1.17	1.37	0.44	3.14	1.40
A/C Solutions IQ	1.00	1.00	0.39	3.53	1.13
SK&E	0.79	0.79	0.26	6.69	0.92
Residential HVAC Midstream	0.28	0.30	0.24	1.83	0.37
Neighborhood-Based Delivery Pilot	1.21	1.16	0.48	3.61	1.75
Behavioral	1.23	1.23	0.31	0.00	1.23
EasyCool (BYOT)	0.90	0.60	0.59	0.00	0.90
PTR Pilot	0.28	0.21	0.21	0.00	0.28
BESS Pilot	0.12	0.08	0.08	0.00	0.12
Small C&I Solutions	0.89	0.86	0.30	5.19	1.06
Large C&I Solutions	1.15	1.67	0.35	3.83	1.41
PFI	0.75	0.78	0.27	5.34	0.88
C&I NC Solutions	5.90	0.39	0.21	21.27	6.00
Large C&I DR	0.43	0.32	0.32	0.00	0.43
EV Charging Pilot	0.06	0.05	0.05	0.00	0.06
Total	1.08	1.11	0.38	3.96	1.36

The portfolio and ten of 21 programs pass the TRC and the UCT. The portfolio has \$2,616,841 in TRC net benefits and is cost-effective.

The details of each program evaluation are found in the sections below.

4 HOME PERFORMANCE WITH ENERGY STAR

4.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable.

TABLE 4-1 PY15 HPWES ENERGY SAVINGS (KWH)

Measure	<i>Ex Ante</i> Gross Energy Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	NTG	<i>Ex Post Net</i> Energy Savings (kWh)
Advanced Power Strip	384,428	88.8%	341,315	98.6%	336,616
Air Infiltration	771,921	96.1%	741,720	100.0%	741,720
Assessment	0	N/A	0	N/A	0
Ceiling Insulation	106,874	114.7%	122,634	100.0%	122,634
Custom Repairs	0	N/A	0	N/A	0
Duct Sealing	1,146,502	105.5%	1,209,437	100.0%	1,209,437
Faucet Aerator	6,084	88.5%	5,383	98.6%	5,308
LED 11W A-Type (Standard)	743	106.5%	791	98.6%	780
LED 11W BR30 (Specialty)	6,165	110.9%	6,840	98.6%	6,746
LED 15W PAR38 (Outdoor) (Specialty)	17,032	99.2%	16,892	98.6%	16,660
LED 5W Candelabra (Specialty)	8,798	98.6%	8,671	98.6%	8,552
LED 6W Globe (Specialty)	1,412	97.1%	1,371	98.6%	1,352
LED 8W BR30 (Specialty)	565	107.4%	607	98.6%	598
LED 9W A-Type (Standard)	3,611	85.8%	3,099	98.6%	3,056
Low-Flow Showerhead	51,756	93.1%	48,163	98.6%	47,500
Smart Thermostat	140,840	105.6%	148,725	95.3%	141,735
Water Heater Pipe Insulation	17,833	94.4%	16,832	98.6%	16,600
Total	2,664,563	100.3%	2,672,480	99.5%	2,659,294

Sums may differ due to rounding.

TABLE 4-2 PY15 HPWES DEMAND REDUCTIONS (kW)

Measure	<i>Ex Ante</i> Gross Demand Reductions (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	NTG	<i>Ex Post Net</i> Demand Reductions (kW)
Advanced Power Strip	39.63	38.6%	15.29	98.6%	15.08
Air Infiltration	306.30	94.5%	289.58	100.0%	289.58
Assessment	0.00	N/A	0.00	N/A	0.00
Ceiling Insulation	183.37	102.5%	187.96	100.0%	187.96
Custom Repairs	0.00	N/A	0.00	N/A	0.00
Duct Sealing	397.81	115.2%	458.17	100.0%	458.17
Faucet Aerator	0.63	89.0%	0.56	98.6%	0.55
LED 11W A-Type (Standard)	0.14	106.7%	0.15	98.6%	0.15

LED 11W BR30 (Specialty)	1.11	110.9%	1.24	98.6%	1.22
LED 15W PAR38 (Outdoor) (Specialty)	0.00	N/A	0.00	N/A	0.00
LED 5W Candelabra (Specialty)	1.54	99.0%	1.52	98.6%	1.50
LED 6W Globe (Specialty)	0.24	98.3%	0.23	98.6%	0.23
LED 8W BR30 (Specialty)	0.09	107.4%	0.09	98.6%	0.09
LED 9W A-Type (Standard)	0.61	87.2%	0.54	98.6%	0.53
Low-Flow Showerhead	5.38	93.1%	5.01	98.6%	4.94
Smart Thermostat	0.00	N/A	0.00	N/A	0.00
Water Heater Pipe Insulation	2.02	94.4%	1.91	98.6%	1.88
Total	938.87	102.5%	962.25	102.8%	961.89

Sums may differ due to rounding.

TABLE 4-3 PY15 HPWE LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
Advanced Power Strip	10	3,413,149	3,366,156
Air Infiltration	11	8,158,917	8,158,917
Assessment	1	0	0
Ceiling Insulation	30	3,679,015	3,679,015
Custom	1	0	0
Duct Sealing	18	21,769,872	21,769,872
Faucet Aerator	10	53,825	53,084
LED 11W A-Type (Standard)	0.5	395	390
LED 11W BR30 (Specialty)	0.5	3,420	3,373
LED 15W PAR38 (Outdoor) (Specialty)	0.5	8,446	8,330
LED 5W Candelabra (Specialty)	0.5	4,336	4,276
LED 6W Globe (Specialty)	0.5	686	676
LED 8W BR30 (Specialty)	0.5	303	299
LED 9W A-Type (Standard)	0.5	1,550	1,528
Low-Flow Showerhead	10	481,629	474,998
Smart Thermostat	9.1	1,353,397	1,289,787
Water Heater Pipe Insulation	13	218,813	215,801
Total	14.5	39,147,753	39,026,503

Sums may differ due to rounding.

TABLE 4-4 PY15 HPWES COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Advanced Power Strip	1,262	\$69,320
Air Infiltration	540	\$296,640
Assessment	896	\$147,840
Ceiling Insulation	51	\$37,042
Custom	2	\$4,877
Duct Sealing	522	\$186,169
Faucet Aerator	163	\$269

LED 11W A-Type (Standard)	62	\$223
LED 11W BR30 (Specialty)	283	\$1,070
LED 15W PAR38 (Outdoor) (Specialty)	131	\$1,057
LED 5W Candelabra (Specialty)	451	\$1,169
LED 6W Globe (Specialty)	72	\$220
LED 8W BR30 (Specialty)	22	\$83
LED 9W A-Type (Standard)	346	\$718
Low-Flow Showerhead	227	\$1,131
Smart Thermostat	184	\$27,650
Water Heater Pipe Insulation	501	\$198
Total	5,715	\$775,675

Sums may differ due to rounding.

4.2 Program Description

The HPwES program is designed to achieve long-term, significantly cost-effective electric savings through the use of local auditors and trade allies who help residential customers analyze their energy use and identify opportunities to improve efficiency, install low-cost energy-saving measures, and identify and implement more comprehensive home efficiency projects. The program is implemented by Franklin, who helps oversee HPwES as well as additional residential programs. HPwES offers three levels of home energy audits. The Level I Assessment includes a “walk-through” inspection and direct installation of low-cost measures, such as LED lamps and water conservation measures. To generate additional savings at the time of the audit, demand response-enabled smart thermostats were added as a direct install measure. The Level II and III Assessments are comprehensive home inspections with diagnostic testing, performed by a qualified trade ally, targeted to achieve deeper savings within the home.

To meet the needs of New Orleans’ unique housing stock of double shot-gun homes and smaller multifamily configurations, the program also offers HPwES incentives to buildings with four or fewer units. These types of homes often function more like single-family homes, with owners occupying one of the units, thus minimizing the split-incentive barrier.

4.2.1 Program Delivery Channels and Expected Savings

A total of 1,116 distinct households participated in PY15. Participation included:

- 896 distinct homes receiving traditional assessments;
- 750 distinct homes receiving major measures;
- 808 distinct homes receiving direct install measures;

4.2.1.1 Direct Install and Major Measures

Below, Figure 4-1 illustrates and compares the differences in energy savings (kWh) contributions by each measure.

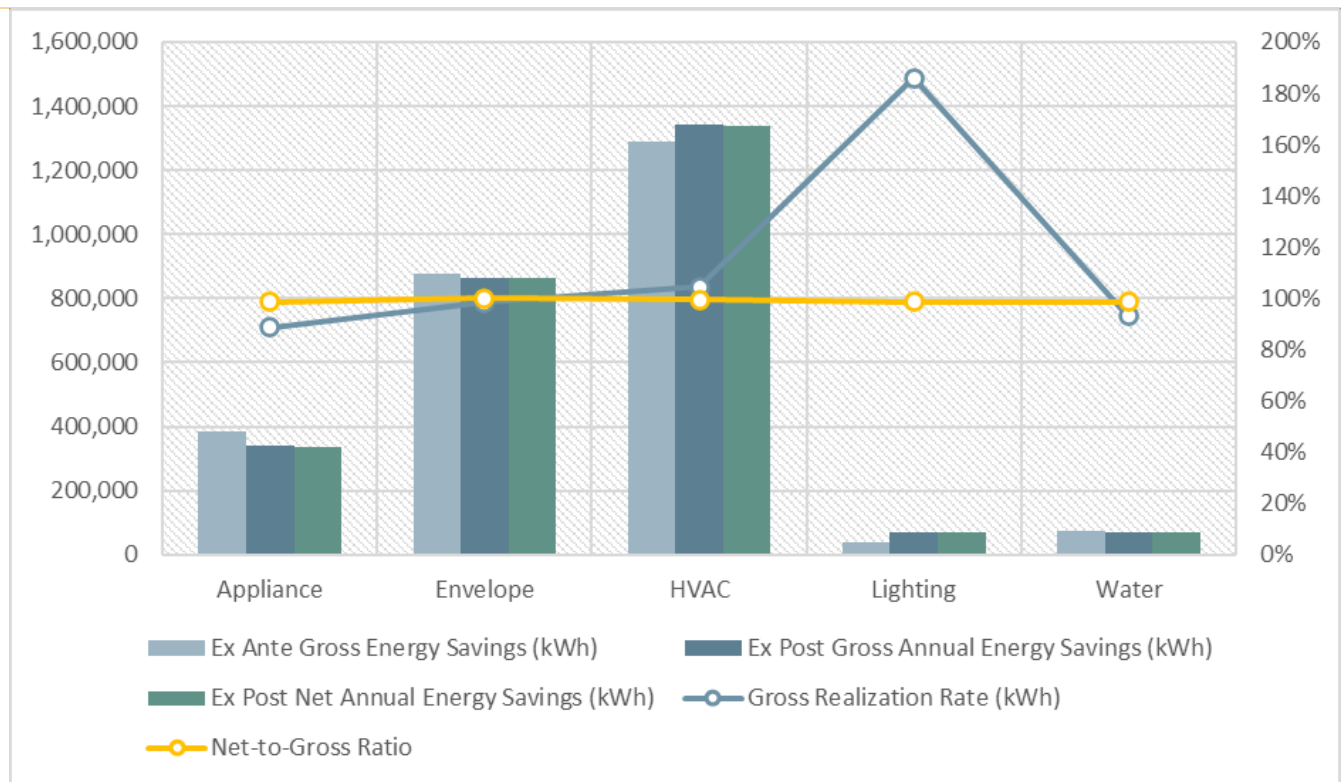


FIGURE 4-1 HPwES CONTRIBUTION TO SAVINGS BY END USE

In PY15, the HVAC measures (smart thermostat and duct sealing) contributed 48.3% of expected energy (kWh) savings (compared to 50.3% in PY14), the envelope measures (air infiltration and ceiling insulation) contributed 33.0% (compared to 30.0% in PY14) the lighting measures (LED lamp) contributed 1.4% (compared to 5.9% in PY14), the appliance measures (advanced power strip) contributed 14.4% (compared to 11.1% in PY14), and finally, the hot water measures (pipe wrap, aerator, showerhead) contributed 2.8% (compared to 2.5% of expected energy savings in PY14). The bulk of PY15 energy savings come from the duct sealing, air infiltration, and advanced power strips.

4.2.2 Timing of Projects

The figure below shows *ex ante* energy savings (kWh) for HPwES by end use, by month.

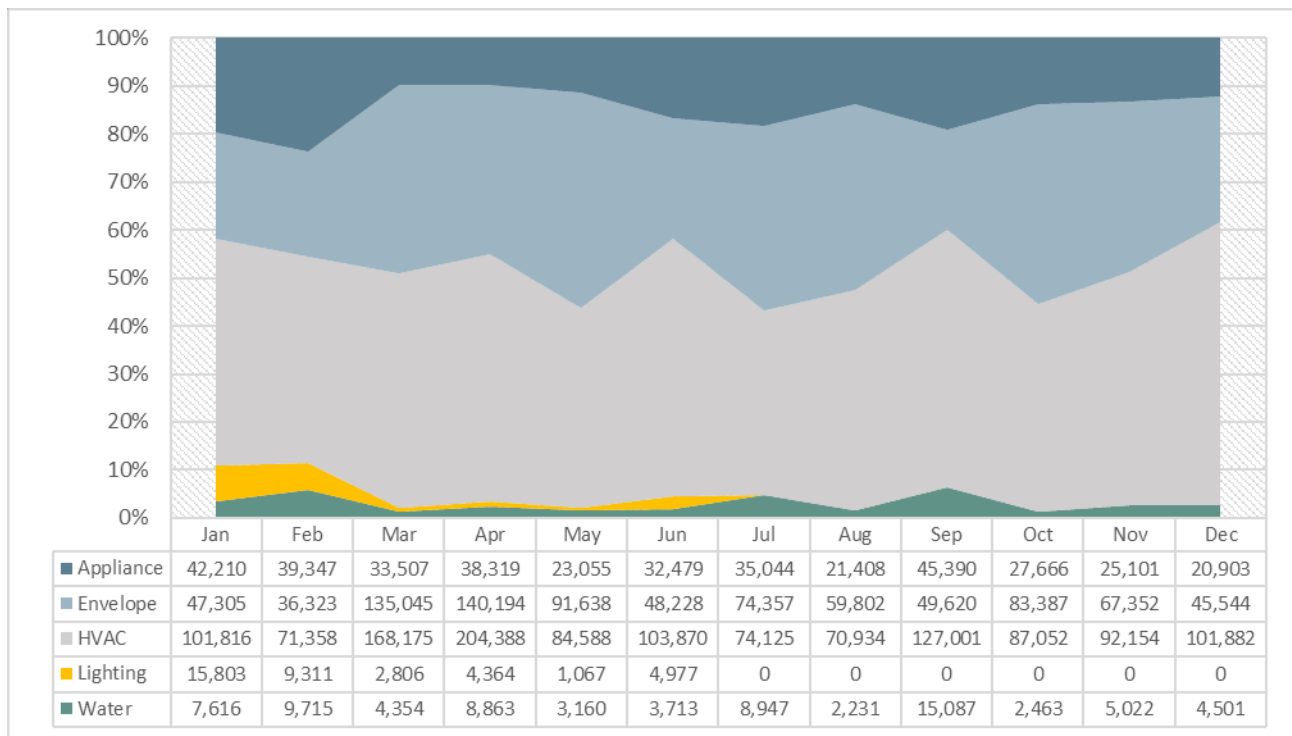


FIGURE 4-2 *EX ANTE* SAVINGS BY END USE BY MONTH

4.2.3 Trade Allies

There are 17 trade allies in the HPwES program, one of which is the TPI, Franklin Energy (Franklin). Franklin is the sole installer of direct install measures and performs all assessments; the trade allies install air infiltration, ceiling insulation, and duct sealing. Franklin projects represent 24% of *ex ante* gross energy savings (kWh) and 32% of incentives paid.

The table below shows the distribution of savings across all trade allies and Franklin.

TABLE 4-5 HPwES TRADE ALLY ACTIVITY

Trade Ally	<i>Ex Ante</i> Gross Energy Savings (kWh)	% of kWh Savings
TA 1	1,039,120	39%
Franklin Energy	639,267	24%
TA 2	255,479	10%
TA 3	139,311	5%
TA 4	128,843	5%
TA 5	100,419	4%
TA 6	77,515	3%
TA 7	61,872	2%
TA 8	56,244	2%
TA 9	49,160	2%
TA 10	32,537	1%
TA 11	31,116	1%
TA 12	27,080	1%

TA 13	18,976	< 1%
TA 14	5,214	< 1%
TA 15	2,413	< 1%
TA 16	0	< 1%
Total	2,664,563	100%

4.2.4 Goal Achievement

Total verified savings and percentage of goals for the HPwES are summarized in the tables below.

TABLE 4-6 PY15 HPWES PROGRAM VERIFIED SAVINGS

<i>Ex Post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex Post</i> Gross Savings (kW) Target	% to kW Target
2,118,135	126.2%	841.62	111.6%

4.3 EM&V Methodology

The HPwES program received impact and process evaluations in PY15. The evaluations included site visits and participant surveys, which produced NTG and in-service rate estimates, assessed program satisfaction, provided strategic recommendations for program improvement, and documented participant experience with program participation.

Verified savings were calculated using methods and inputs in the NO TRM V8.0 and incorporated results from literature reviews, participant surveys, property manager interviews and site visits to determine appropriate adjustment factors, such as in-service rates (ISR) for each measure.

4.3.1 Site Visits

The Evaluators performed six-eight (68) site visits on projects in the program. The table below outlines the measures encountered and verified through the site visits.

TABLE 4-7 SITE VISIT SUMMARY

Measures	PY15 Measure Count	Expected Measure Count During PY15 Site Visits	Verified Measure Count During PY15 Site Visits
Advanced Power Strips	1,264	74	65
Air Infiltration	540	50	50
Ceiling Insulation	52	1	1
Duct Sealing	522	49	49
Faucet Aerators	163	27	21
LEDs	1,367	142	140
Low-Flow Showerheads	227	23	19
Smart Thermostats	184	6	6
Water Heater Pipe Insulation	501	12	11

Measure-specific findings of note are outlined in the bullets below:

- Air Infiltration: during the site visits conducted in PY15, the Evaluators' field staff conducted blower door testing in 50 homes to validate post-retrofit home leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 92.3% of expected leakage reductions. That is, of 50 homes the Evaluators found that the air infiltration CFM50_{post} results were 8.7% lower than those reported in tracking data. The Evaluators opted to supplement the air infiltration

site visit finding with literature review results, as well as blending the findings with ISRs from the NO TRM 8.0.

- **Duct Sealing:** during the site visits conducted in PY15, the Evaluators' field staff conducted duct system pressurization testing in 49 homes to validate post-retrofit duct leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 75.1% of expected leakage reductions. That is, of 49 homes the Evaluators found that duct sealing CFM25_{post} results were 24.9% higher than those reported in tracking data. The Evaluators opted to supplement the air infiltration site visit finding with literature review results, as well as blending the findings with ISRs from the NO TRM 8.0.

Additional measure-specific impacts were derived from the PY15 participant survey, which is described further in Section 4.4.3.5 below.

4.3.2 Deemed Savings Calculations

4.3.2.1 Air Infiltration

Methods for deemed savings for air infiltration reduction came from the NO TRM V8.0, Section 1.4.7. Deemed savings multipliers were developed through EnergyGauge, a simulation software program. Multiple equipment configurations were simulated in developing savings values denominated in deemed savings per CFM50 of air leakage rate reduction. Table 4-8 summarizes the deemed savings values for New Orleans.

TABLE 4-8 DEEMED SAVINGS VALUES FOR AIR INFILTRATION REDUCTION

Equipment Type	kWh/CFM Savings	kW/CFM Savings
Electric AC with Gas Heat	0.4108	0.000331
Elec. Resistance w/ AC	1.0180	0.000332
Heat Pump	0.7210	0.000332

For example, consider a residence with electric AC and gas heat located. If the residence had a leakage rate of 7,200 CFM50 before air infiltration reduction and a leakage rate of 3,500 CFM50 after, then the residence would have an annual savings of:

$$\text{Air Infiltration Savings} = 0.4108 \frac{\text{kWh Savings}}{\text{CFM}_{50}} \times (7,200 \text{ CFM}_{50 \text{ pre}} - 3,500 \text{ CFM}_{50 \text{ post}})$$

$$\text{Air Infiltration Savings} = 1,519.96 \text{ kWh}$$

4.3.2.2 Duct Sealing

Duct sealing savings were calculated using the following savings algorithms from the NO TRM V8.0, Section 1.3.8.

Energy (kWh) savings:

$$\text{kWh}_{\text{savings (Cooling)}} = \frac{(DL_{\text{pre}} - DL_{\text{post}}) \times EFLH_c \times (h_{\text{out}}\rho_{\text{out}} - h_{\text{in}}\rho_{\text{in}}) \times 60}{1,000 \times SEER}$$

$$\text{kWh}_{\text{savings (Heating)}} = \frac{(DL_{\text{pre}} - DL_{\text{post}}) / ((CAP/12,000) \times 400) \times EFLH_h \times CAP \times TRF_{\text{heat}}}{\eta_{\text{Heat}} / 3,412}$$

Where:

DL_{pre} = Pre-improvement duct leakage at 25 Pa (ft³/min)

DL_{post} = Post-improvement duct leakage at 25 Pa (ft³/min)

ΔDSE = Assumed improvement in distribution system efficiency = 5% = 0.05

$EFLH_C$ = Equivalent Full Load Hours - cooling (1,637)

h_{out} = Outdoor design specific enthalpy (Btu/lb)

h_{in} = Indoor design specific enthalpy (Btu/lb.)

ρ_{out} = Density of outdoor air at 95°F = 0.0740 (lb./ft³)⁶

ρ_{in} = Density of conditioned air at 75°F = 0.0756 (lb./ft³)

$EFLH_H$ = Equivalent Full Load Hours - heating (600)

12,000 = Btu/ton conversion factor

TRF_{heat} = Thermal Regain Factor for heating = 1.0 Unconditioned; 0.4 Semi-conditioned space

η_{Heat} = Efficiency in COP of Heating equipment = Actual. If unavailable, use 2.40.

3,412 = Conversion of BTU/kWh.

Demand (kW) Reductions:

$$kW_{reductions} = \frac{kWh_{savings (Cooling)}}{EFLH_C} \times CF$$

$kWh_{savings (Cooling)}$ = Calculated kWh savings for cooling

$EFLH_C$ = Equivalent Full Load Hours - cooling (1,637)

CF = Coincidence factor = 0.77

TABLE 4-9 DEEMED INPUT VALUES FOR DUCT SEALING CALCULATIONS

Parameter Input	Value
$EFLH_C$	1,637
$EFLH_H$	600
h_{out}	40
h_{in}	30
ρ_{in}	0.076
ρ_{out}	0.074
SEER	13
HSPF	7.30

⁶ ASHRAE Fundamentals 2009, Chapter 1: Psychometrics, Equation 11, Equation 41, Table 2.

4.3.2.3 LED Lamp

Methods for calculating deemed savings came from NO TRM V8.0. The methodology for ENERGY STAR directional, decorative, and omni-directional LED lamp is found in Sections 1.5.

$$kWh_{savings} = ((W_{base} - W_{post})/1000) \times Hours \times ISR \times IEF_E$$

$$kW_{savings} = ((W_{base} - W_{post})/1000) \times CF \times ISR \times IEF_D$$

Where:

W_{base} = Based on wattage equivalent of the lumen output of the installed

W_{post} = Actual wattage of LED lamp installed

$Hours$ = Average hours of use per year: 870.5 hours for indoor LED lamps, 4,319 hours for outdoor

IEF_E = Interactive Effects Factor to account for cooling energy savings and heating energy penalties

IEF_D = Interactive Effects Factor to account for cooling demand reductions and heating energy penalties

CF = Coincidence Factor, (11.12%)

ISR = In-Service Rate

TABLE 4-10 LED ENERGY AND DEMAND INTERACTIVE FACTORS

Parameter Input	IEF_E	IEF_D
Gas Heat with AC	1.10	1.29
Gas Heat with no AC	1.00	1.00
Electric Resistance Heat with AC	0.83	1.29
Electric Resistance Heat with no AC	0.73	1.00
Heat Pump	0.96	1.29
Heating/Cooling Unknown ⁷	0.91	1.25

The implementer, in accordance with the NO TRM V8.0, had trade allies collect the baseline bulb for each LED lamp direct installed in the program. The Evaluators counted those LED lamps and compared them to program counts.

4.3.2.4 Other Measures

For remaining measures, the Evaluators used the following NO TRM V8.0 sections and tables to verify savings.

⁷ Unknown factors are based on EnergyStar interactive effects, weighted by primary data collected on New Orleans typical HVAC arrangements.

TABLE 4-11 NO TRM V8.0 SECTIONS FOR OTHER MEASURES - HPWES

Measure	TRM Section	Calculated / Deemed	TRM Table(s)	Table Page(s)
Faucet Aerator	1.2.4	Deemed	Table 1-51	83
Ceiling Insulation	1.4.2	Deemed	Table 1-110, 1-111	146
Pipe Wrap	1.2.3	Calculated	N/A	N/A
Advanced Power Strip	1.1.7	Deemed	Table 1-17	37
Showerhead	1.2.5	Deemed	Table 1-59	91
Smart Thermostat	1.3.9	Calculated	N/A	N/A

4.4 Evaluation Findings

Evaluation findings, by measure, can be reviewed in Section 4.1.

4.4.1 Gross Impact Findings

4.4.1.1 Advanced Power Strip (Tier 2)

Expected and verified savings for Tier 2 advanced power strips are summarized below. There were 1,262 units installed at 743 homes.

TABLE 4-12 PY15 HPWES EXPECTED AND VERIFIED ADVANCED POWER STRIP SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
384,428	341,315	88.8%	39.63	15.29	38.6%

4.4.1.2 Aerator (Bathroom & Kitchen)

Expected and verified savings for aerators are summarized below. There were 163 aerators installed in 124 homes.

TABLE 4-13 PY15 HPWES EXPECTED AND VERIFIED AERATORS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
6,084	5,383	88.5%	0.63	0.56	89.0%

4.4.1.3 Air Infiltration

The savings resulting from using NO TRM V8.0 algorithms and deemed savings parameters, plus the application of the measure ISR are summarized in Table 4-14. There were 540 installations.

TABLE 4-14 PY15 HPWES EXPECTED AND VERIFIED AIR INFILTRATION SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
771,921	741,720	96.1%	306.30	289.58	94.5%

4.4.1.4 Ceiling Insulation

Expected and verified savings for the ceiling insulation projects are summarized below. There were 51 installations of this measure.

TABLE 4-15 PY15 HPWES EXPECTED AND VERIFIED CEILING INSULATION SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
106,874	122,634	114.7%	183.37	187.96	102.5%

4.4.1.5 Duct Sealing

The savings resulting from using NO TRM V8.0 algorithms and deemed savings parameters, plus the application of the measure ISR are summarized in Table 4-16. There were 522 installations of duct sealing.

TABLE 4-16 PY15 HPWES EXPECTED AND VERIFIED DUCT SEALING SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
1,146,502	1,209,437	105.5%	397.81	458.17	115.2%

4.4.1.6 LED Lamp (Direct Install)

Expected and verified savings LED lamps are summarized below. There were 959 specialty and 408 standard LED lamps; installed in both indoor and outdoor applications.

TABLE 4-17 PY15 HPWES EXPECTED AND VERIFIED LED SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
38,326	38,272	99.9%	3.73	3.77	101.1%

4.4.1.7 Water Heater Pipe Wrap

Expected and verified savings for the pipe wrap projects are summarized below. Pipe wrap was installed at 144 residences.

TABLE 4-18 PY15 HPWES EXPECTED AND VERIFIED PIPE WRAP SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
17,833	16,832	94.4%	2.02	1.91	94.4%

4.4.1.8 Low-Flow Showerhead

Expected and verified savings for showerheads are summarized below. There were 227 low-flow showerheads installed at 140 residences.

TABLE 4-19 PY15 HPWES EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
51,756	48,163	93.1%	5.38	5.01	93.1%

4.4.1.9 Smart Thermostat

Expected and verified savings for smart thermostats are summarized below. There were 184 smart thermostats installed at 155 residences.

TABLE 4-20 PY15 HPWES EXPECTED AND VERIFIED SMART THERMOSTAT SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
140,840	148,725	105.6%	0.00	0.00	N/A

4.4.2 Net Impact Findings

The Evaluators conducted surveys and applied net-to-gross ratios based on their results. Previous year results were used in the absence of sufficient responses.

- The Participant survey responses were used to estimate the net energy impacts of the program. The program net savings are equal to gross savings, less savings associated with free-ridership, plus participant spillover savings.
- To estimate program-level free-ridership, the Evaluator calculated free-ridership scores for major measures, weighted by the participants' gross energy savings.
- A spillover ratio was developed by dividing the total energy savings resulting from spillover measures by the total gross energy savings for the sample of survey respondents. The methodology is cited in Section 3.3.2.3.2.

The tables below summarize the net impacts for the HPwES program.

TABLE 4-21 PY15 HPWES PROGRAM NET SAVINGS

<i>Ex Post</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Net Energy Savings (kWh)	NTG kWh	<i>Ex Post</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Net Demand Reductions (kW)	NTG kW
2,690,875	2,659,294	99.5%	965.59	961.89	100.0%

4.4.3 Process Findings

The Evaluators conducted a process evaluation of the HPwES program in PY15. Process activities included a database review, participant survey, and staff and implementer interviews.

A total of 126 customers of Entergy New Orleans who participated in the Home Performance with ENERGY STAR program completed the survey. Program participants received different services depending on qualifications and preferences. The table below shows the number of respondents who received each measure.

TABLE 4-22 HPWES MEASURES RECEIVED BY SURVEY RESPONDENTS (N=126)

Survey Participants by Measure	Number of Responses
Home Energy Assessment	114
Advanced Power Strips	75
Air Infiltration	28
Duct Sealing	29
Smart Thermostats	21
Energy and Water Efficient Showerheads	17
Water Heater Pipe Insulation	14
LEDs	15
Kitchen Faucet Aerators	11
Ceiling Insulation	8
Bathroom Faucet Aerators	5

4.4.3.1 Program Design and Implementation

The Home Performance program is structured around DOE criteria and aligned with ENERGY STAR standards. This program aims to address residential energy inefficiency, particularly related to building envelope and HVAC system performance. The program addresses barriers to efficiency improvements such as limited awareness of energy-saving opportunities and the high upfront cost of deeper retrofits by offering no-cost assessments and incentives for upgrades.

The program includes an initial home energy assessment, direct install measures, and recommendations for deeper-savings measures such as air sealing, duct sealing, and ceiling insulation. Participants may also receive recommendations for A/C tune-ups through the A/C Solutions Program.

The implementer uses Qualus evaluation requirements and a Salesforce-based field tool (Clipboard) to collect data, deliver assessments, and generate participant reports.

4.4.3.2 Marketing and Outreach

The Home Performance with ENERGY STAR® program marketing approach is primarily oriented toward broad-reach digital channels, supplemented by targeted community-based outreach. Digital efforts include utility newsletters, email campaigns, direct mail, social media, and digital advertising, which collectively support awareness and customer engagement at scale.

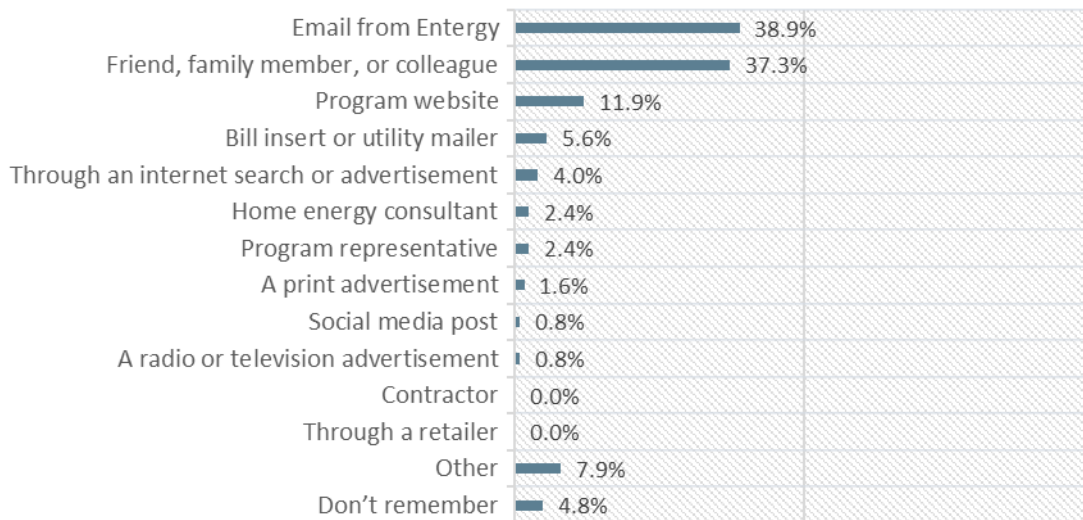
Community outreach activities, such as tabling at Entergy payment centers and partnership with Thrive New Orleans, extend program visibility in local settings and support engagement in low-income areas through in-person interactions and events.

Once a customer requests a home assessment, the implementation contractor assigns a contractor to reach out and schedule the visit.

4.4.3.3 Participant Awareness and Motivations

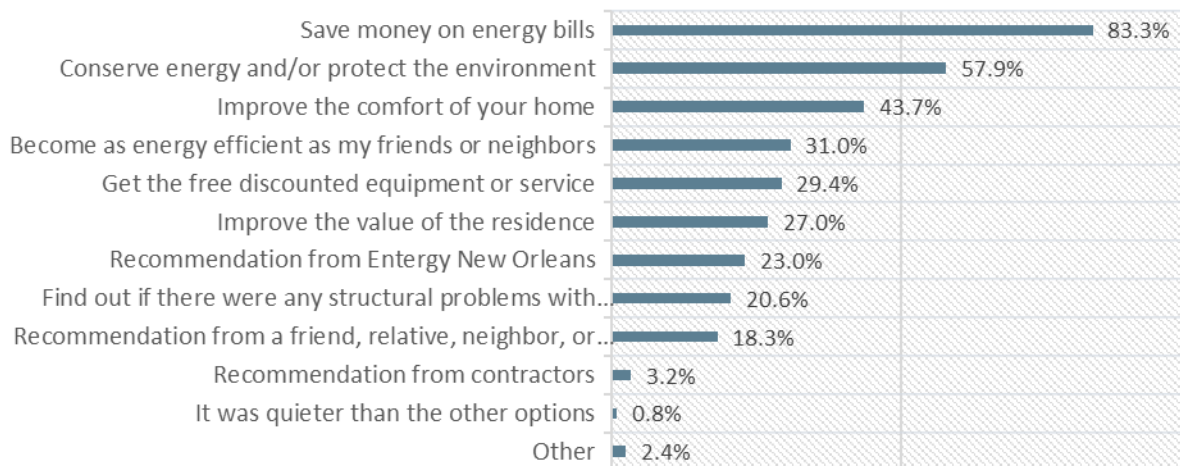
Survey results indicate that program-led digital marketing efforts were the primary driver of customer awareness, with word-of-mouth also contributing significantly to how participants learned about the program. Awareness is driven by direct and interpersonal channels, led by emails from Entergy (38.9%) and word-of-mouth via friends, family, and colleagues (37.3%). The program website plays a secondary role (11.9%), while paid media advertisements and contractors contribute minimally ($\leq 4\%$ each), reinforcing that trust-based and utility-initiated outreach are the primary discovery paths.

FIGURE 4-3 SOURCES OF PROGRAM AWARENESS (N=126)



Motivation to participate was overwhelmingly cost-driven, with 83.3% citing saving money on energy bills as the top reason. Environmental benefits were also important considerations (57.9% conserving energy/protecting the environment), followed by home comfort (43.7%). Social and access-based motivators are notable but secondary (31.0% keeping up with neighbors; 29.4% free/discounted equipment).

FIGURE 4-4 REASONS FOR PARTICIPATION (N=126)



4.4.3.4 Participation in Program Offerings

4.4.3.4.1 Participant Journey Overview

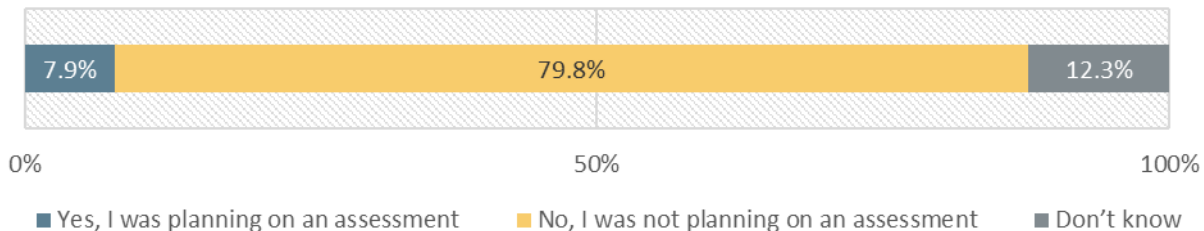
Program implementers provided an overview of the process that program participants and contractors go through to complete projects. This overview helps contextualize the delivery of assessments and measures and provides insight into the customer-facing experience. The steps are as follows:

1. Customers request a home energy assessment by entering their account number into an online portal or calling the call center.
2. The implementation contractor verifies the customer's account information and assigns them to a contractor.
3. The assigned contractor contacts the customer to schedule the assessment, which typically occurs about six weeks after the initial request. The assessment is performed by a BPI-certified contractor.
4. During the assessment visit, contractors install direct install measures and collect data using the Clipboard field audit tool.
5. The home energy report is reviewed with the customer on-site via tablet and emailed (or mailed, if needed) following the visit.
6. Based on findings, contractors may apply for additional incentives for deeper savings measures such as air sealing and insulation on the customer's behalf, or refer the customer to A/C Solutions for HVAC tune-ups.

4.4.3.4.2 Home Energy Assessments

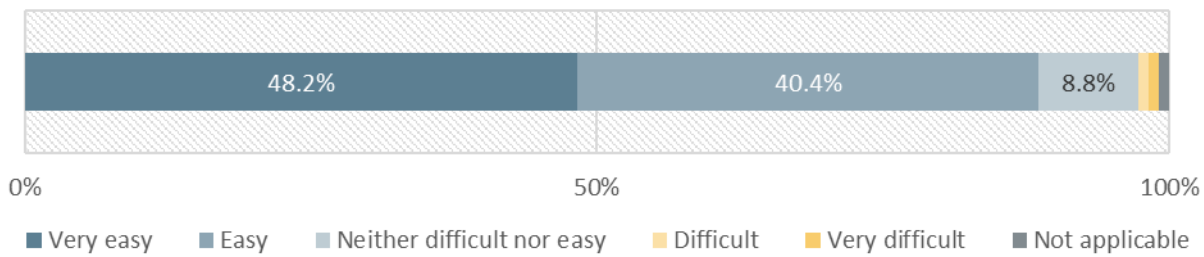
Survey results suggest the program prompted assessments that would not have otherwise occurred. Most respondents (79.8%) reported they had not planned to complete an assessment prior to the program, while 7.9% indicated they had planned one, indicating limited free-ridership.

FIGURE 4-5 PLANNED ASSESSMENT BEFORE PARTICIPATING (N=114)



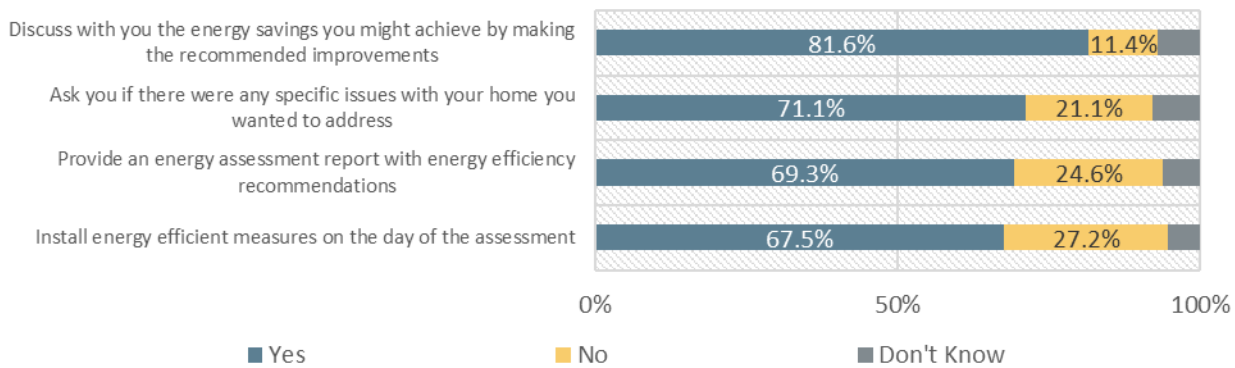
Findings from the participant survey suggest that the program is effectively delivering its core service, with most respondents (n=114) reporting receipt of a home energy assessment. The scheduling process represents a program strength, with 88.6% of respondents indicating it was easy or very easy to schedule and fewer than 2% reporting difficulty, indicating limited barriers to initial participation.

FIGURE 4-6 EASE OF SCHEDULING ASSESSMENT (N=114)



Delivery of home energy assessments generally aligned with key elements of the ENERGY STAR Home Performance assessment model, though results indicate inconsistency in adherence across assessment components.⁸ A large share of respondents confirmed discussions of potential energy savings (81.6%) and engagement around homeowner priorities (71.1%) with the assessor. Fewer respondents reported receiving a written energy assessment report with efficiency recommendations (69.3%) or having energy-efficient measures installed on the day of the assessment (67.5%). The lower reported frequency of written documentation and same-day installations suggests variability in how completely the ENERGY STAR assessment model is implemented in practice and may reflect operational, eligibility, customer preferences, or workflow constraints.

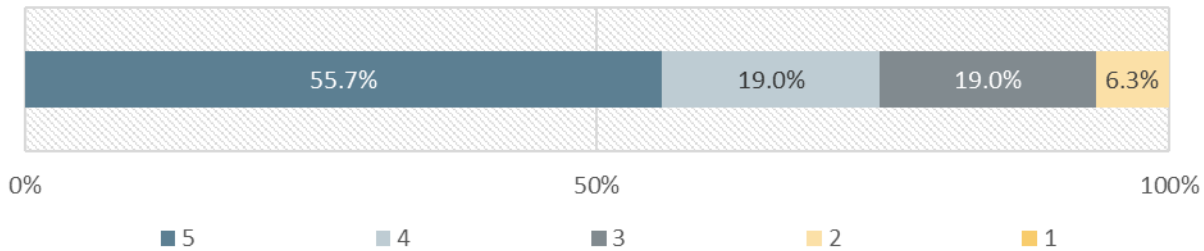
FIGURE 4-7 WHAT ASSESSOR DID DURING HOME VISIT (N=114)



Among those who recall receiving a report, 74.7% rate it helpful (4–5), including 55.7% giving the top score, though 25.3% rate it neutral or lower, indicating variability in perceived usefulness.

⁸ https://www.energystar.gov/sites/default/files/asset/document/HPwES_Sponsor_Guide_v1-5_0.pdf

FIGURE 4-8 HELPFULNESS OF ASSESSMENT (N=79)



Most participants take action to make energy efficient improvements after the assessment (see Figure 4-9): 73.7% made at least some recommended improvements (21.1% made all; 52.6% made some). However, 12.3% made none, suggesting barriers emerge post-assessment. Most participants take action to make energy efficient improvements after the assessment: 73.7% made at least some recommended improvements (21.1% made all; 52.6% made some). However, 12.3% made none, suggesting barriers emerge post-assessment (see Figure 4-10). The biggest constraint is cost (51.4%), followed by still planning to implement (35.1%) and needing more information (13.5%). Time (10.8%) and homeownership constraints (8.1%) also play a role, pointing to affordability and clarity as the main barriers.

FIGURE 4-9 IMPROVEMENTS MADE SINCE ASSESSMENT (N=114)

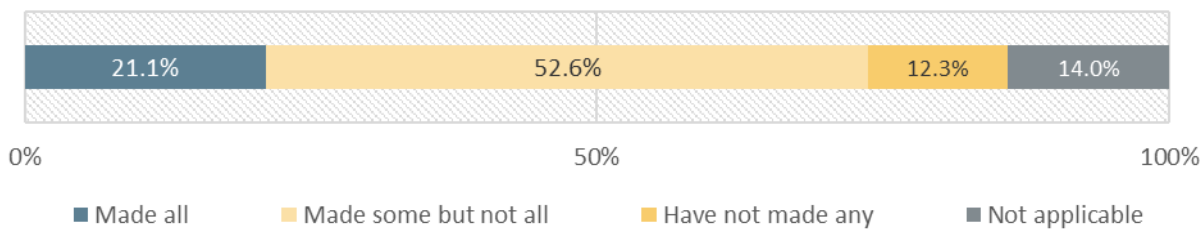
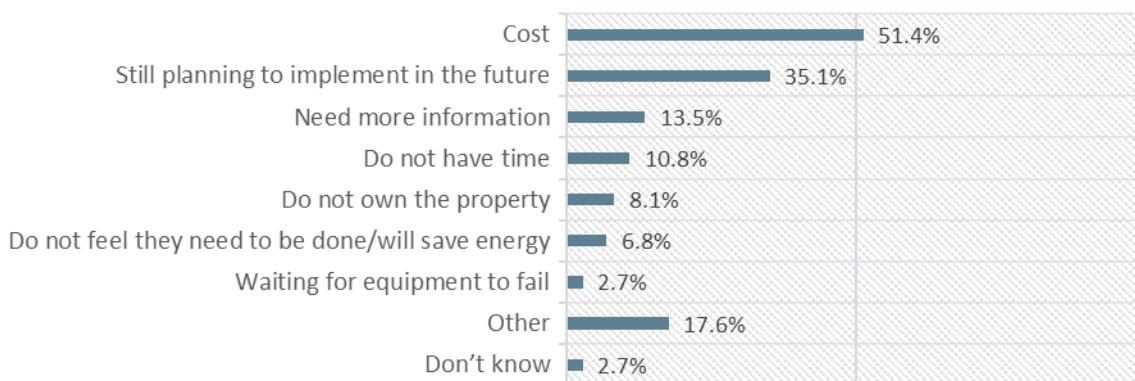


FIGURE 4-10 REASON FOR NOT COMPLETING ALL RECOMMENDATIONS (N=74)

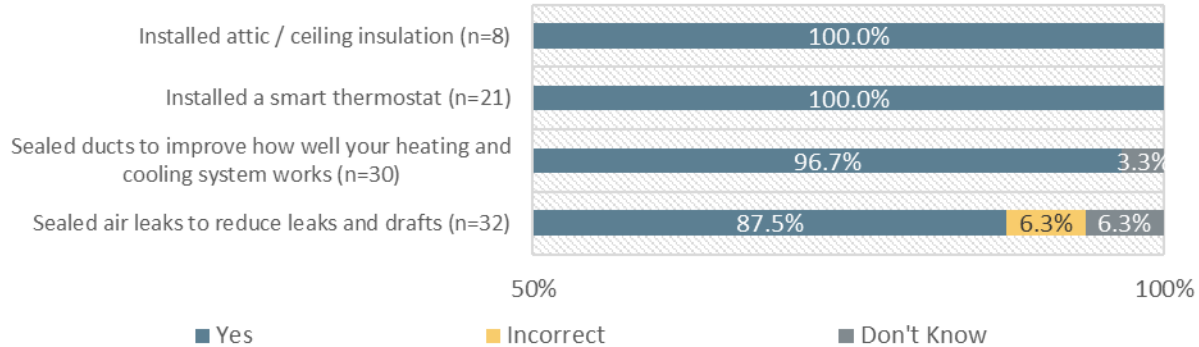


4.4.3.4.3 Major Measure Improvements

Contractors may recommend and apply for incentives on behalf of participants for deeper energy-saving measures, such as air sealing, duct sealing, and ceiling insulation. These measures are typically installed in follow-up visits, particularly in homes with high identified needs.

There was alignment between program records and participant recall of installed measures in most cases.

FIGURE 4-11 VERIFICATION OF INSTALLED MEASURES (N=74)



Most thermostats replaced standard units (71.4%) and control both heating and cooling systems (95.2%).

FIGURE 4-12 TYPE OF THERMOSTAT INSTALLATION (N=21)

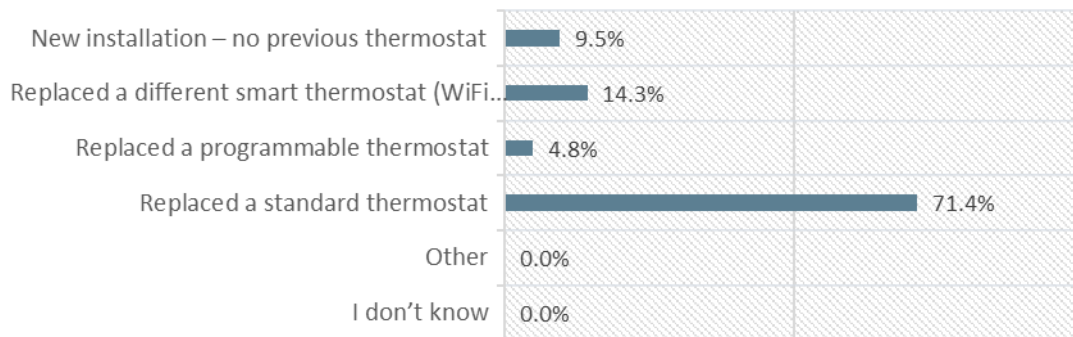
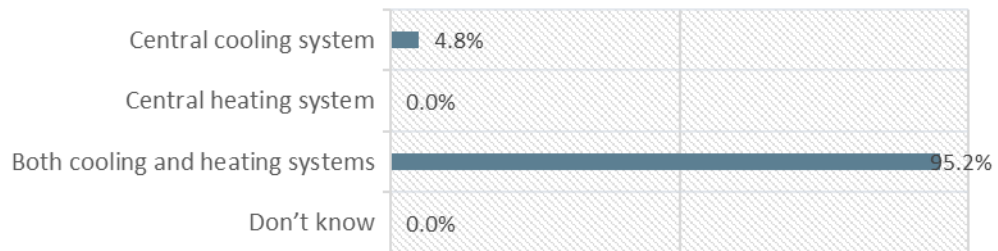
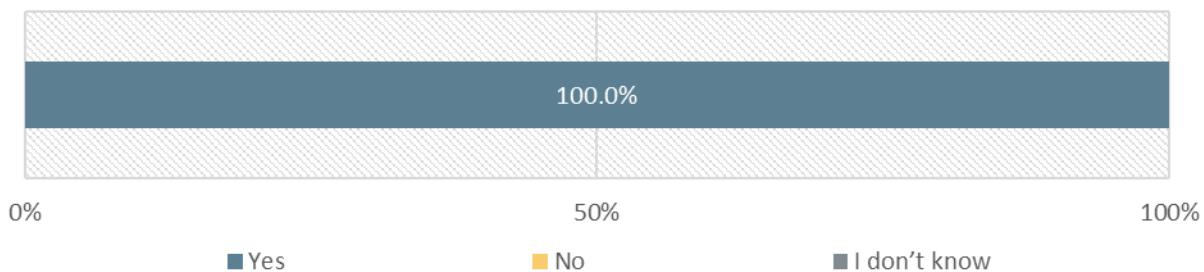


FIGURE 4-13 WHAT THERMOSTAT CONTROLS (N=21)



All thermostats were currently installed (100%), suggesting high adoption and persistence once installed.

FIGURE 4-14 INSTALLATION OF THERMOSTAT (N=21)



4.4.3.4.4 Direct Install Measures

Contractors install eligible direct install measures during the initial assessment visit. A recently added offering includes thermostatic shower valves, which are provided to homes with electric water heating to reduce hot water waste during shower warm-up.

All survey respondents confirmed LED bulbs were installed. 93.3% reported no removals.

FIGURE 4-15 LED BULB INSTALLATION (N=15)

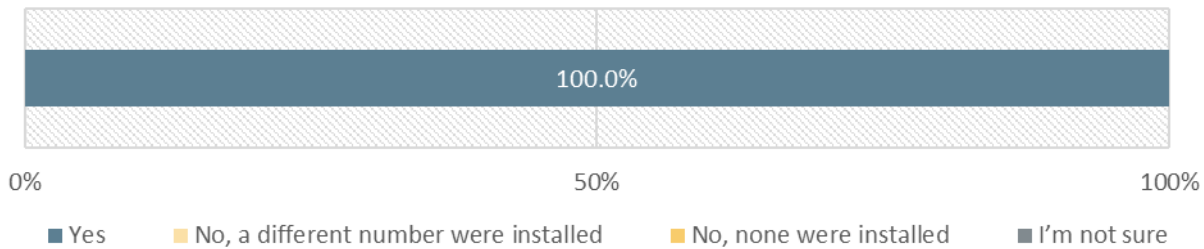
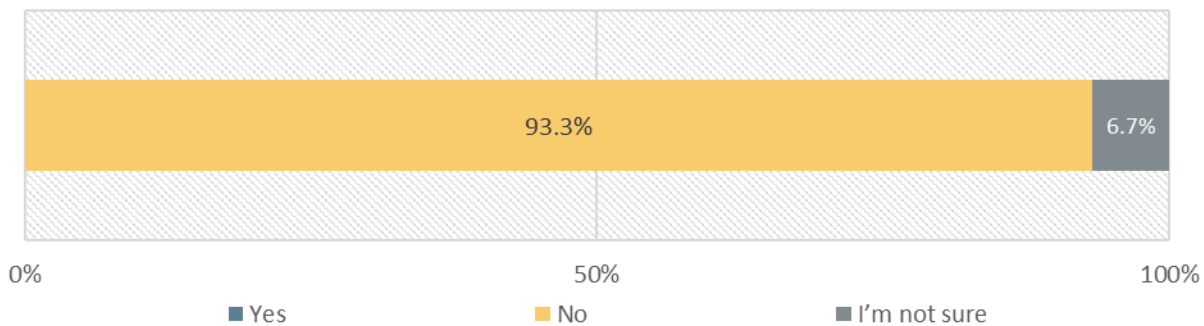


FIGURE 4-16 LED BULB REMOVAL (N=15)



Most faucet aerators remained in place, but two kitchen aerators were removed. One respondent reported removing the faucet aerator because of low water pressure and another because it wasn't working.

FIGURE 4-17 BATHROOM FAUCET AERATOR INSTALLATION (N=7)

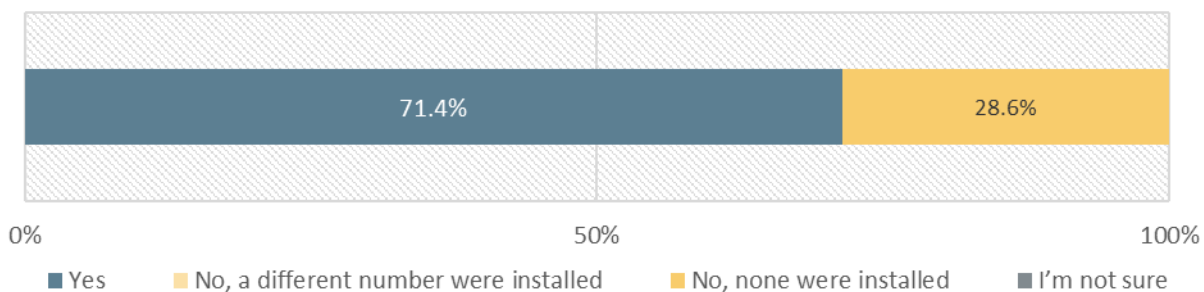


FIGURE 4-18 BATHROOM FAUCET AERATOR REMOVAL (N=5)

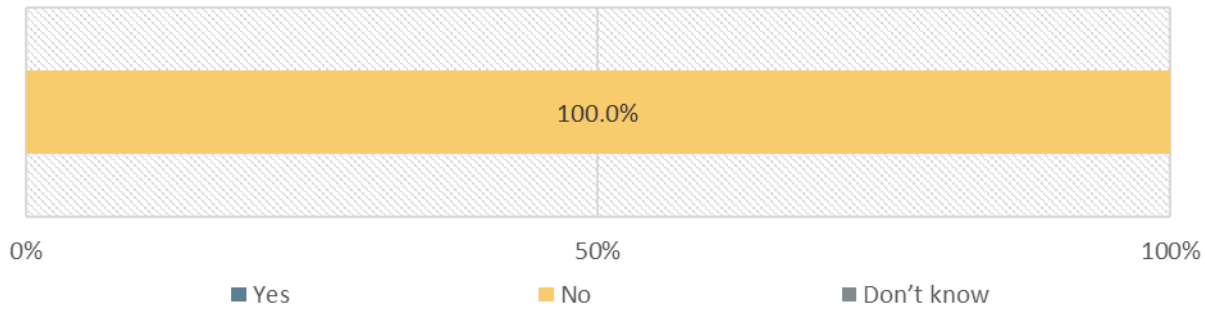


FIGURE 4-19 KITCHEN FAUCET AERATOR INSTALLATION (N=13)

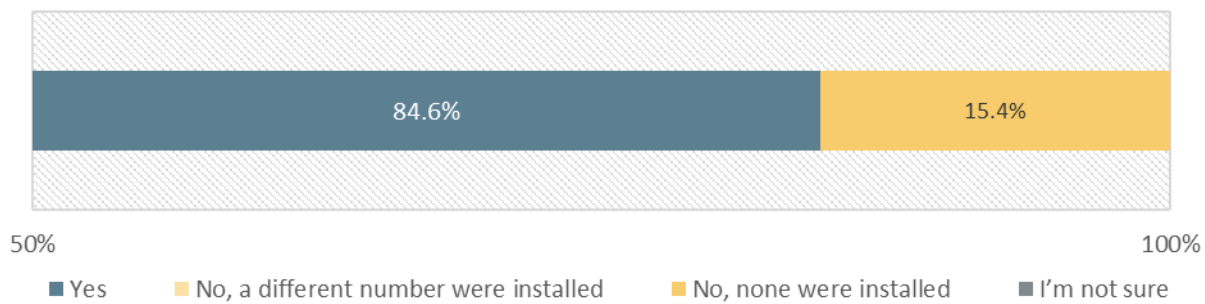


FIGURE 4-20 KITCHEN FAUCET AERATOR REMOVAL (N=11)

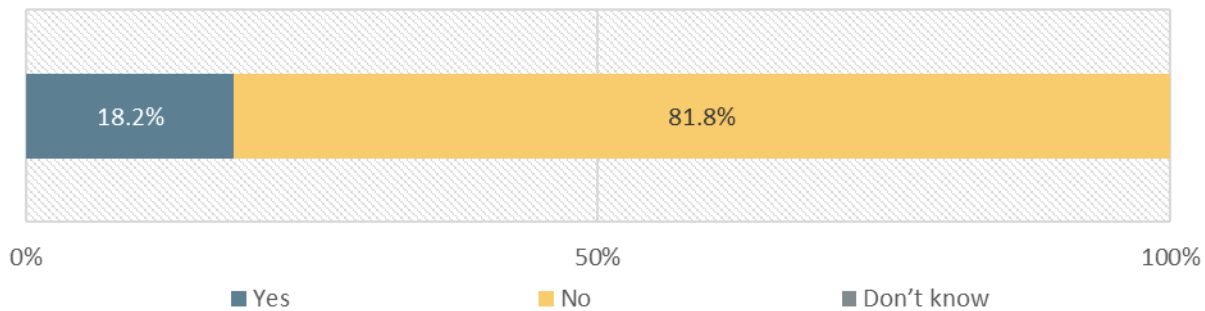
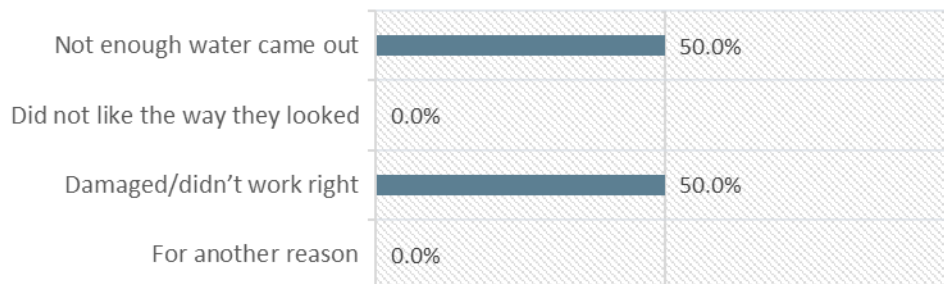
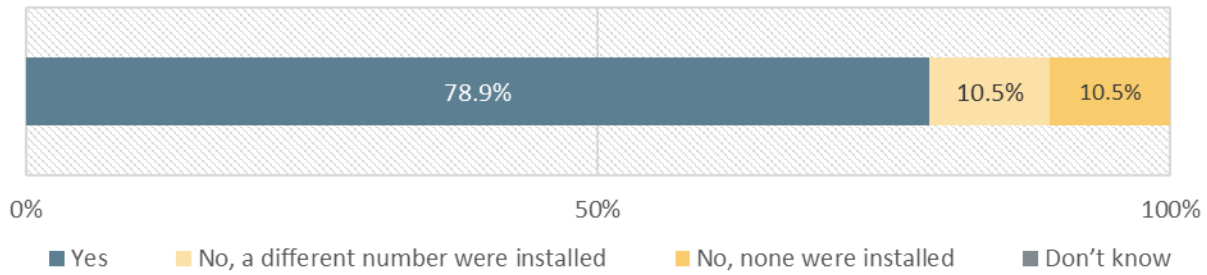


FIGURE 4-21 REASONS FOR KITCHEN FAUCET AERATOR REMOVAL (N=2)



Among those who received an energy efficient showerhead, most installed the product.

FIGURE 4-22 SHOWERHEAD INSTALLATION (N=19)



86.7% of installed showerheads remain installed. Two respondents removed the showerheads due to insufficient water flow.

FIGURE 4-23 SHOWERHEAD REMOVAL (N=15)

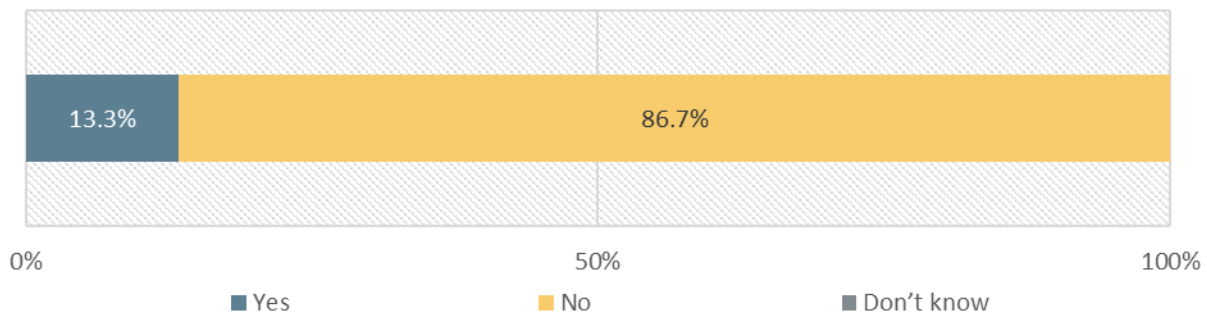
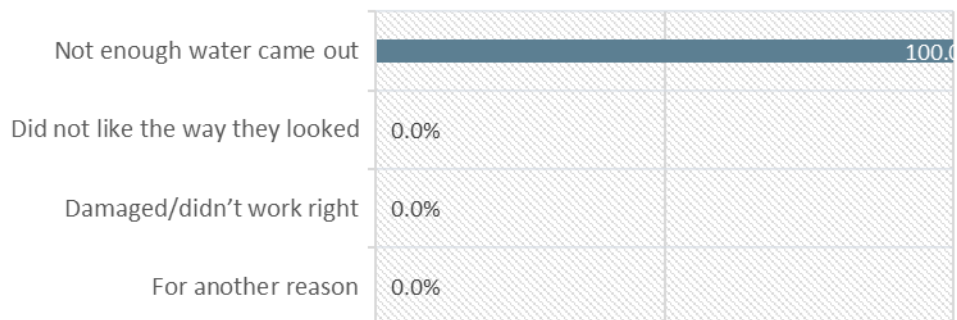
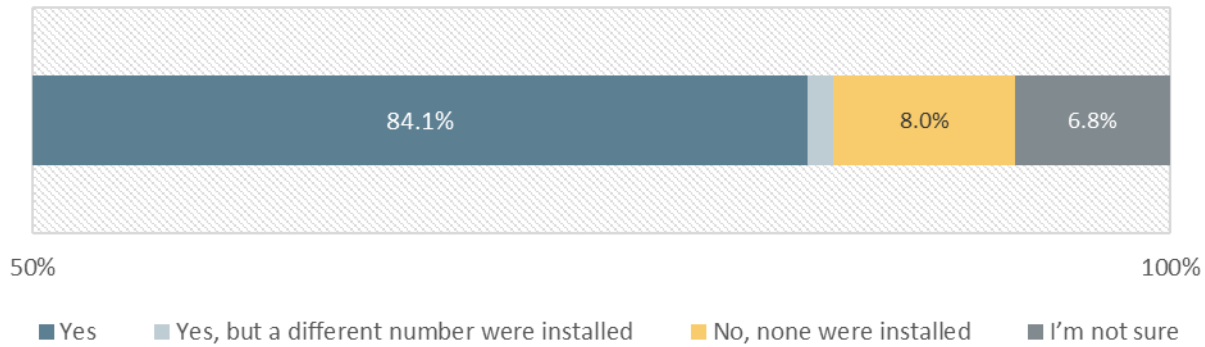


FIGURE 4-24 REASONS FOR SHOWERHEAD REMOVAL (N=2)



Most households who received advanced power strips confirm installation (85.2%) and continued use (81.3% still using them).

FIGURE 4-25 INSTALLATION OF APS (N=88)



Some respondents, 17.3%, stopped using the advanced power strips. Reasons for discontinuing use center on devices turning off unexpectedly (53.8%) and not understanding how to use them (38.5%), pointing to an education opportunity, which may also address the concerns about devices shutting off.

FIGURE 4-26 REMOVAL OF APS (N=75)

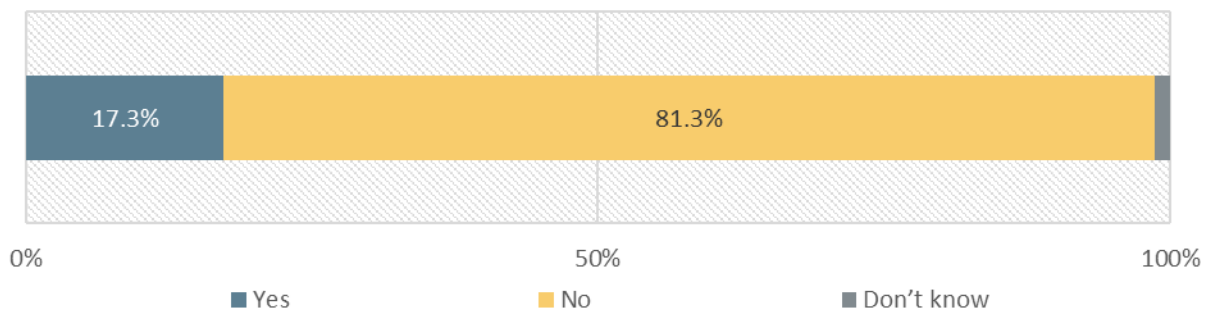
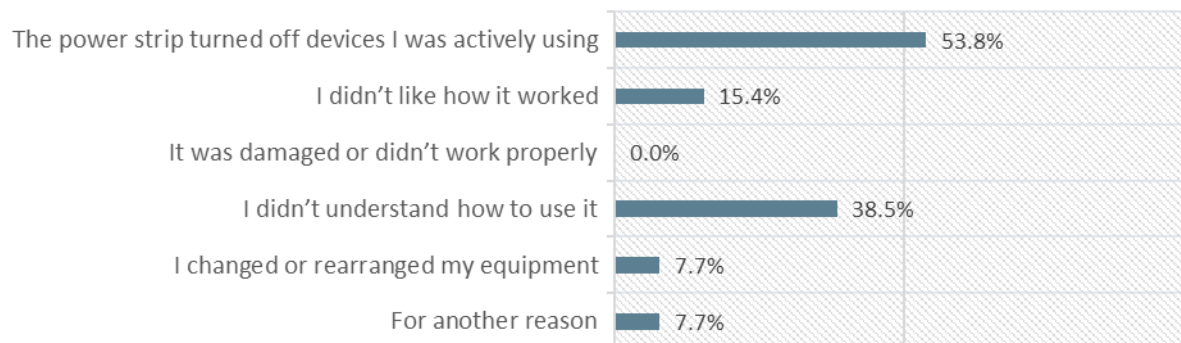


FIGURE 4-27 REASON FOR REMOVAL OF APS (N=13)



4.4.3.5 Participant Experience and Satisfaction

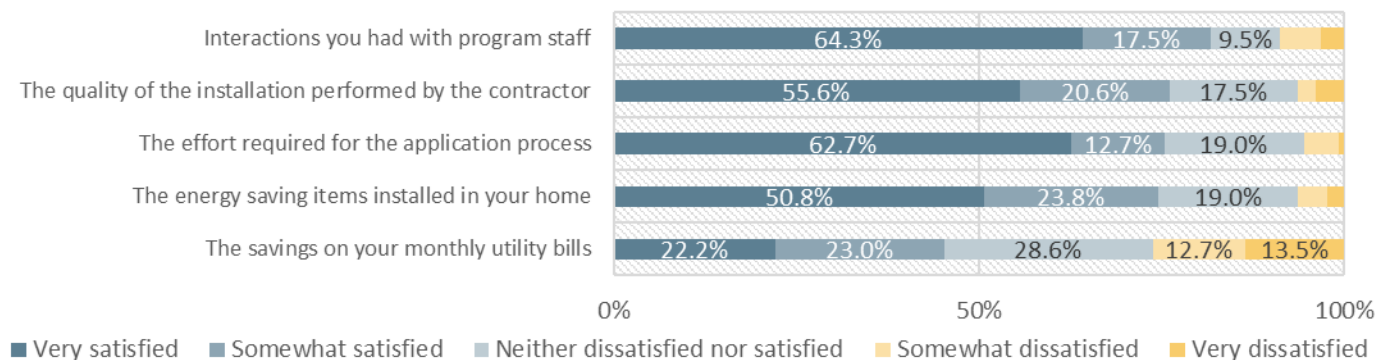
Contractors review findings with the customer during the assessment and provide the final report in digital or physical format. Market rate customers are made aware of any additional costs for deeper measures before

installation. The implementer reported that the process is generally working well for participants, with minimal issues raised to date.

Survey responses broadly support the view that the program process is generally working well. Participants report favorable experiences with program staff interactions, with 81.8% indicating they were somewhat or very satisfied. Perceived effort required to complete the application process also performs well, with 75.4% reporting satisfaction. Similarly, satisfaction with installed items is relatively strong at 74.6%, suggesting installations generally met participant expectations.

In contrast, perceptions of monthly bill savings are notably lower: 45.2% of respondents report satisfaction with savings, while 26.2% report dissatisfaction. This gap indicates that while program operations are functioning as intended, participants are less convinced that the program is delivering meaningful reductions in monthly energy costs.

FIGURE 4-28 SATISFACTION WITH KEY ASPECTS (N=126)

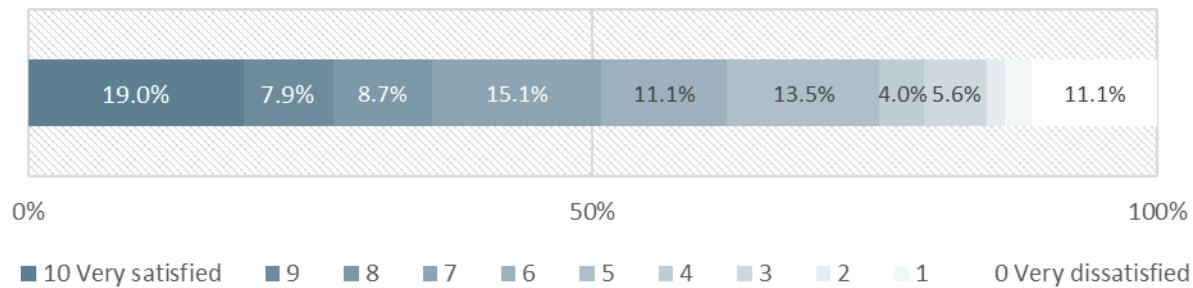


Open-ended feedback (n=40) from participants reporting dissatisfaction primarily points to a lack of noticeable bill savings, incomplete or inconsistent follow-up work, and concerns about contractor quality. Respondents also express broader dissatisfaction with Entergy billing, reinforcing a distinction between generally positive program experiences and weaker perceptions of financial benefits. For example:

- "I don't see any decrease in my energy consumption."
- "I don't see any difference in my Entergy bill."
- "It was hard to get the contractors to come out after we qualified. They said we qualified for free stuff and then they tried to charge us. I had to stay on the phone and talk to supervisors to get them to talk to the contractors."
- "They never came back to complete the service."

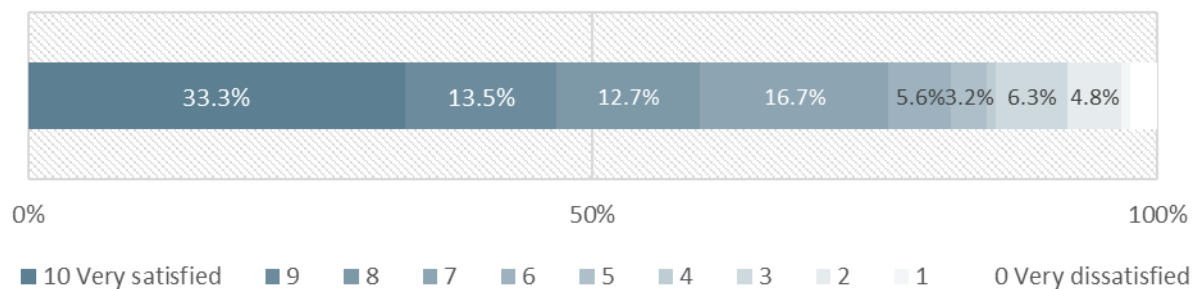
Sentiment toward Entergy is mixed: 35.7% rate 8–10, while 22.7% rate 0–3, indicating external utility perceptions may temper program goodwill.

FIGURE 4-29 SATISFACTION WITH ENTERGY NEW ORLEANS OVERALL (N=126)



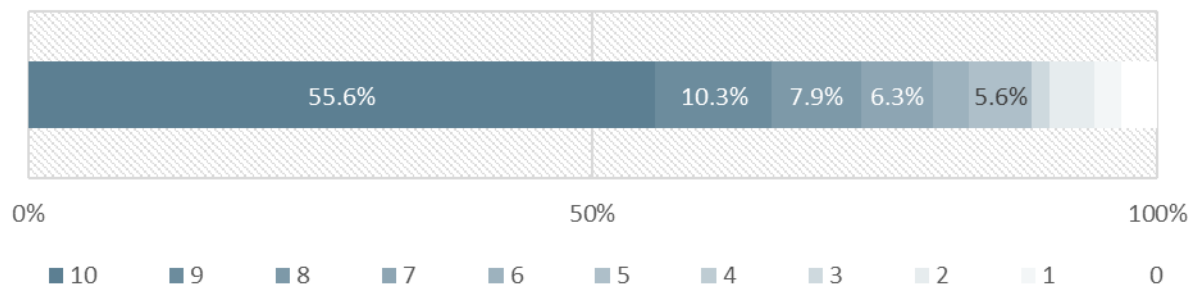
Program satisfaction is stronger than brand sentiment, with 60.2% rating 8–10, including 33.3% giving a 10, suggesting the program itself outperforms the parent brand.

FIGURE 4-30 SATISFACTION WITH PROGRAM OVERALL (N=126)



Advocacy is very strong: 55.6% give a “10”, and 73.8% rate 8–10 when asked whether they would recommend the program, positioning the program as a powerful word-of-mouth driver—consistent with program awareness patterns.

FIGURE 4-31 LIKELIHOOD TO RECOMMEND THE PROGRAM (N=126)



Recommendation of this program is primarily driven by clear bill savings, free/easy access, and positive staff interactions, with many promoters highlighting real financial impact.

Lower ratings are concentrated around lack of follow-up, incomplete service delivery, and limited measurable savings, underscoring the importance of consistent execution and visible results to sustain advocacy.

TABLE 4-23 REASON FOR RECOMMENDATION (N=126)

Why participants recommend (or hesitate to) recommend - Coded	Promoter	Passive	Detractor	Total	Total %
Rebates and Financial Incentive (Savings, Checks, Discount)	21	2	1	24	19.2%
Ease / Convenient	13	2	1	16	12.8%
Generally Good Experience	13	3	0	16	12.8%
Contractor Issues	2	4	8	14	11.2%
Great Staff Experience	7	0	0	7	5.6%
Issues with Accessing the Incentives / Cost Barriers	1	1	2	4	3.2%
Great for Education / Awareness	4	0	0	4	3.2%
Low Savings / No Value / Doesn't Work	0	0	3	3	2.4%
Other or Unclear	23	6	9	38	29.6%

4.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY14 data were generally present in PY15.

The following bullets outline notes from reviewing the HPwES data:

- Participant information: In general, participant contact names, contact phone numbers, and email addresses were provided in PY15 data, however, there were many projects that were missing these fields:
 - Participant primary contact name: all projects had contact names
 - Participant main phone number: 43 projects (17 out of 1,117)
 - Participant email address (blank or invalid): 313 projects (105 out of 1,117)
- Measure level parameters: The majority of measure information required to estimate savings was available in the program tracking data. However, a limited number of projects required additional follow-up due to missing or unclear information necessary to determine measure savings. These projects are summarized below.
 - Two duct sealing projects were missing CFM25 test-out values.
 - One hundred fifty-five smart thermostat projects were missing baseline information for existing HVAC systems, including system type, baseline efficiency ratings, and cooling and heating capacities.
- During the tracking data review, ten projects were identified for removal from the evaluation sample due to tracking corrections.

4.6 Findings and Recommendations

Findings:

- **The program successfully drives new engagement, but many customers struggle to complete deeper upgrades due to cost and limited clarity.** The program reaches customers who otherwise would not pursue an assessment, with 79.8% reporting no prior plans to get one. However, 21.1% completed all recommended improvements and 12.3% completed none. Cost (51.4%) and uncertainty about next steps (13.5%) are the main barriers.
- **Home energy assessments are generally being delivered in alignment with the core intent of the ENERGY STAR Home Performance assessment model, but implementation is uneven across key components.** Most participants recall meaningful interaction with assessors, including discussions of potential energy savings and homeowner priorities, indicating strengths in customer engagement. However, fewer participants report receiving written assessment reports or having measures installed on the day of the visit, signaling gaps in documentation and follow-through. This variability suggests that while assessors are consistently addressing high-level engagement elements, operational, eligibility, customer choice, or workflow constraints may limit full execution of the model in practice, resulting in an inconsistent customer experience and incomplete delivery of assessment outcomes.
- **The program is effectively delivering its core service and facilitating entry into participation, as most surveyed participants report receiving a home energy assessment.** The scheduling process, in particular, is a clear program strength: nearly nine in ten respondents describe scheduling as easy or very easy, and reports of difficulty are rare. This indicates that administrative and access barriers at the front end of the customer journey are minimal, supporting broad participation and timely engagement.
- **Direct install measures generally remain installed, but certain products face comfort and usability issues that reduce long-term retention.** LEDs show strong persistence (93.3% remain installed). In contrast, some water-saving devices are removed due to low flow, and 17.3% of advanced power strip recipients discontinue use due to unexpected shutoffs or confusion about operation.
- **Satisfaction is the program experience is generally high, but perceived bill savings are low, weakening the program's value proposition for some participants.** Participants report strong satisfaction with staff (81.8%), application effort (75.4%), and installed items (74.6%). However, only 45.2% are satisfied with bill savings, and 26.2% are dissatisfied. Many comments cite no noticeable change in bills.

Recommendations:

- **Consider strengthening the post-assessment experience so customers feel more equipped to act.** Options might include presenting recommendations in a clearer “priority” format, offering general cost ranges to help customers plan, or adding light follow-up touchpoints that remind participants of their top opportunities. Even modest enhancements to clarity and timing could help customers move from intention to action without adding significant burden to program operations.
- **Conduct an internal audit or work with the Evaluator to identify what recommended measures are least likely to be adopted to identify and mitigate barriers to their implementation.** This data-based review will help focus the program on additional energy saving opportunities by facilitating measure adoption.
- **To improve assessment consistency, reinforce a few core communication expectations for contractors.** This could include a brief, standardized summary of key findings, clearer explanation of what happens after the assessment, or periodic refresher training focused on customer communication. Light

quality-assurance checks—such as short post-visit surveys—could help identify where additional support would be most beneficial.

- **Review product selection and customer education to support long-term use.** For water-saving devices, ensuring that chosen models balance efficiency with comfort could reduce removals. For advanced power strips, simple user-friendly guidance, either provided at installation or in follow-up materials, may help customers avoid incorrect usage and increase the in-service rate. These adjustments could improve persistence without requiring major program redesign.
- **To strengthen perceived value, it may help to set clearer expectations about savings.** This could involve presenting estimated savings ranges in more relatable terms or offering brief follow-up communication explaining when savings are most likely to appear. Highlighting non-energy benefits, such as comfort improvements, may also help participants recognize value even when bill impacts are modest.

5 INCOME QUALIFIED WEATHERIZATION

5.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable.

TABLE 5-1 PY15 IQW ENERGY SAVINGS (KWH)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Advanced Power Strip	624,522	83.0%	518,081	100.00%	518,081
Air Infiltration	1,275,742	96.4%	1,229,574	100.00%	1,229,574
Audit	0	N/A	0	N/A	0
Ceiling Insulation	1,577,359	82.6%	1,303,154	100.00%	1,303,154
Custom Repairs	0	N/A	0	N/A	0
Duct Sealing	1,846,214	110.6%	2,042,518	100.00%	2,042,518
Faucet Aerator	9,782	98.5%	9,636	100.00%	9,636
LED 11W A-Type (Standard)	345	103.4%	357	100.00%	357
LED 11W BR30 (Specialty)	4,227	112.3%	4,746	100.00%	4,746
LED 15W PAR38 (Outdoor) (Specialty)	13,854	128.7%	17,824	100.00%	17,824
LED 5W Candelabra (Specialty)	9,712	100.4%	9,746	100.00%	9,746
LED 6W Globe (Specialty)	962	105.5%	1,015	100.00%	1,015
LED 8W BR30 (Specialty)	1,026	111.1%	1,140	100.00%	1,140
LED 9W A-Type (Standard)	3,195	99.1%	3,167	100.00%	3,167
Low-Flow Showerhead	93,480	92.2%	86,198	100.00%	86,198
Smart Thermostat	330,847	76.6%	253,423	100.0%	253,423
Water Heater Pipe Insulation	23,654	87.8%	20,779	100.00%	20,779
Total	5,814,921	94.6%	5,501,358	100.0%	5,501,358

Sums may differ due to rounding.

TABLE 5-2 PY15 IQW DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Advanced Power Strip	64.25	35.8%	23.01	100.0%	23.01
Air Infiltration	600.87	95.4%	573.32	100.0%	573.32
Audit	0.00	N/A	0.00	N/A	0.00
Ceiling Insulation	3,142.21	63.9%	2,008.53	100.0%	2,008.53
Custom Repairs	0.00	N/A	0.00	N/A	0.00
Duct Sealing	661.94	113.7%	752.61	100.0%	752.61

Faucet Aerator	1.01	99.0%	1.00	100.0%	1.00
LED 11W A-Type (Standard)	0.05	103.6%	0.05	100.0%	0.05
LED 11W BR30 (Specialty)	0.72	112.0%	0.81	100.0%	0.81
LED 15W PAR38 (Outdoor) (Specialty)	0.00	N/A	0.00	N/A	0.00
LED 5W Candelabra (Specialty)	1.59	100.6%	1.60	100.0%	1.60
LED 6W Globe (Specialty)	0.16	107.1%	0.17	100.0%	0.17
LED 8W BR30 (Specialty)	0.17	111.1%	0.18	100.0%	0.18
LED 9W A-Type (Standard)	0.53	99.1%	0.53	100.0%	0.53
Low-Flow Showerhead	9.72	92.3%	8.96	100.0%	8.96
Smart Thermostat	0.00	N/A	0.00	N/A	0.00
Water Heater Pipe Insulation	2.68	87.9%	2.35	100.0%	2.35
Total	4,485.91	75.2%	3,373.13	100.0%	3,373.13

Sums may differ due to rounding.

TABLE 5-3 PY15 IQW LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Advanced Power Strip	10	5,180,806	5,180,806
Air Infiltration	11	13,525,319	13,525,319
Audit	N/A	0	0
Ceiling Insulation	30	39,094,623	39,094,623
Custom Repairs	N/A	0	0
Duct Sealing	18	36,765,321	36,765,321
Faucet Aerator	10	96,363	96,363
LED 11W A-Type (Standard)	0.5	178	178
LED 11W BR30 (Specialty)	0.5	2,373	2,373
LED 15W PAR38 (Outdoor) (Specialty)	0.5	8,912	8,912
LED 5W Candelabra (Specialty)	0.5	4,873	4,873
LED 6W Globe (Specialty)	0.5	507	507
LED 8W BR30 (Specialty)	0.5	570	570
LED 9W A-Type (Standard)	0.5	1,583	1,583
Low-Flow Showerhead	10	861,977	861,977
Smart Thermostat	9.1	2,306,147	2,306,147
Water Heater Pipe Insulation	13	270,132	270,132
Total	17.7	98,119,685	98,119,685

Sums may differ due to rounding.

TABLE 5-4 PY15 IQW PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Advanced Power Strip	2,037	\$112,020
Air Infiltration	1,083	\$904,674
Audit	1,496	\$246,840
Ceiling Insulation	837	\$1,680,145
Custom Repairs	1	\$898
Duct Sealing	888	\$672,508
Faucet Aerator	263	\$429
LED 11W A-Type (Standard)	23	\$83
LED 11W BR30 (Specialty)	184	\$696
LED 15W PAR38 (Outdoor) (Specialty)	103	\$838
LED 5W Candelabra (Specialty)	473	\$1,159
LED 6W Globe (Specialty)	49	\$138
LED 8W BR30 (Specialty)	42	\$159
LED 9W A-Type (Standard)	347	\$614
Low-Flow Showerhead	410	\$2,112
Smart Thermostat	329	\$49,350
Water Heater Pipe Insulation	645	\$245
Total	9,210	\$3,672,905

Sums may differ due to rounding.

5.2 Program Description

The Income Qualified Weatherization (IQW) program, implemented by Franklin, offers comprehensive weatherization services to qualified low-income, single-family homes and low-rise, multi-family dwellings of four or fewer units. The program also provides comprehensive home assessments, direct install measures, as well as deeper energy efficiency upgrades when necessary. The Program's objective is to educate customers on their energy usage, identify opportunities for energy savings specific to their home, and prioritize a wide range of energy conservation measures that will allow customers to save energy.

Customers with household incomes of 80% of the Area Median Income level are eligible to participate in the IQW program and will receive a home energy assessment and necessary upgrades at no cost. Customers' income qualification is determined by an online scheduling tool or the Energy Smart call center when scheduling the home energy assessment.

5.2.1 Program Delivery Channels and Expected Savings

The evaluation approach for PY15 included the following activities: database review, desk reviews, site visits, and participant surveys.

A total of 1,821 (1,496 assessments, 7,714 measures installed) households participated in IQW. Below, Figure 5-1 shows individual measure contribution as part of the overall offering expected savings.

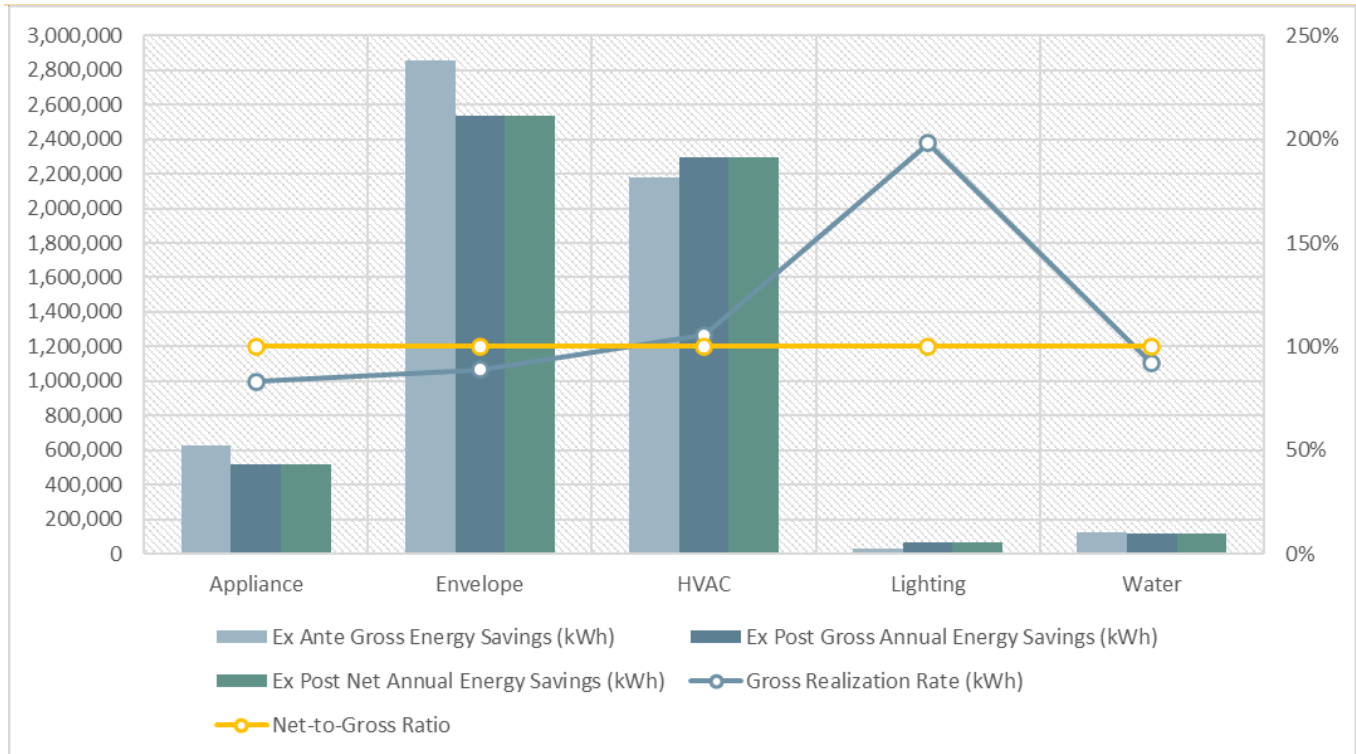


FIGURE 5-1 IQW SAVINGS CONTRIBUTION BY END USE

In PY15, the HVAC measures (smart thermostat and duct sealing) contributed 37.4% of expected energy (kWh) savings (compared to 40.0% in PY14), the envelope measures (air infiltration and ceiling insulation) contributed 49.1% (compared to 48.0% in PY14), the lighting measures (LED lamp) contributed 0.6% (compared to 4.6% in PY14), the appliance measures (advanced power strip) contributed 10.7% (compared to 8.1% PY14), and the hot water measures (pipe wrap, aerator, showerhead) contributed 2.2% (compared to 2.4% of expected savings in PY14). The bulk of PY15 energy savings (kWh) come from the duct sealing, air infiltration, and ceiling insulation projects.

Finally, in PY15 there were a total of 1,821 distinct homes accounting for 5,814,921 kWh of expected savings. Compared to PY14, there were a total of 1,151 distinct homes accounting for 3,581,137 kWh of expected savings. This accounts for a 58.2% increase in participation and a 62.2% increase in expected savings in PY15.

5.2.2 Timing of Projects

The figure below shows *ex ante* energy savings (kWh) for IQW by end use, by month.

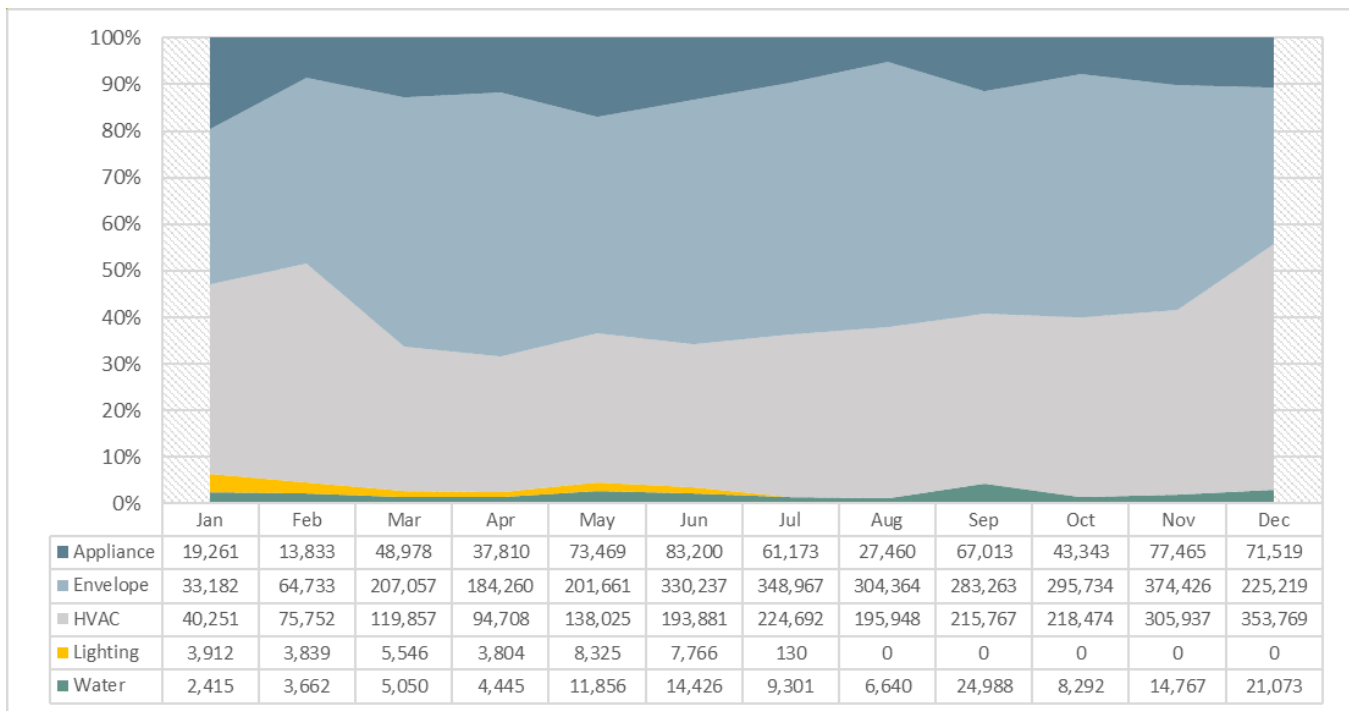


FIGURE 5-2 *EX ANTE* SAVINGS BY END USE BY MONTH

5.2.3 Trade Allies

The IQW program had 19 participating trade allies in PY15. Eighteen of the reported trade allies perform weatherization work, including the following measures: duct sealing, ceiling insulation, air infiltration.

Additionally, in place of trade allies, the implementer (Franklin) installs all direct install measures, including the following: advanced power strip, smart thermostat, water heater pipe wrap, aerator, low-flow showerhead, and all lighting. They performed all assessments, representing 19% of the claimed savings. The top performing TA, not Franklin, installs air infiltration, ceiling insulation, and duct sealing. The table below shows the distribution of savings across all trade allies and the implementer.

TABLE 5-5 IQW TRADE ALLY ACTIVITY

Trade Ally	Energy Savings (kWh)	% of Savings
TA 1	2,118,178	36%
Franklin Energy	1,115,606	19%
TA 2	401,090	7%
TA 3	358,195	6%
TA 4	327,331	6%
TA 5	262,240	5%
TA 6	194,287	3%
TA 7	189,961	3%
TA 8	180,883	3%
TA 9	150,532	3%
TA 10	149,593	3%
TA 11	122,779	2%

TA 12	101,649	2%
TA 13	87,758	2%
TA 14	31,573	< 1%
TA 15	12,398	< 1%
TA 16	6,027	< 1%
TA 17	4,843	< 1%
TA 18	0	< 1%

Sums may differ due to rounding.

5.2.4 Goal Achievement

Total verified savings and percentage of goals for the IQW program are summarized in the table below.

TABLE 5-6 PY15 IQW PERFORMANCE TOWARDS GOALS AND TARGETS

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Savings (kW) Target	% to kW Target
4,339,616	126.8%	3,329.06	101.3%

Sums may differ due to rounding.

5.3 EM&V Methodology

Impact savings were calculated using methods and inputs in the NO TRM V8.0 and incorporated results from historic on-site testing where appropriate.

5.3.1 Site Visits

The Evaluators performed 39 site visits on projects in the IQW program. The table below outlines the measures captured in site visits.

TABLE 5-7 SITE VISIT SUMMARY

Measures	PY15 Measure Count	Expected Measure Count During PY15 Site Visits	Verified Measures Count During PY15 Site Visits
Advanced Power Strips	2,037	44	29
Air Infiltration	1,083	34	34
Ceiling Insulation	837	15	15
Duct Sealing	888	32	32
Faucet Aerators	263	4	4
LEDs	1,221	30	27
Low-Flow Showerheads	410	8	8
Smart Thermostats	329	5	5
Water Heater Pipe Insulation	645	3	2

Measure-specific findings of note are outlined in the bullets below:

- Air Infiltration: During the site visits conducted in PY15, the Evaluators' field staff conducted blower door testing in 34 homes to validate post-retrofit home leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 81.2% of expected leakage reductions. That is, of 34 homes the Evaluators found that air infiltration CFM50_{post} results were 18.8% lower than those reported in tracking data. The Evaluators opted to supplement the air infiltration site

visit finding with literature review results, as well as blending the findings with ISRs from the NO TRM 8.0.

- **Duct Sealing:** During the site visits conducted in PY15, the Evaluators' field staff conducted duct system pressurization testing in 32 homes to validate post-retrofit duct leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 86.3% of expected leakage reductions. That is, of 32 homes the Evaluators found that duct sealing CFM25_{post} results were 13.7% lower than those reported in tracking data. The Evaluators opted to supplement the air infiltration site visit finding with literature review results, as well as blending the findings with ISRs from the NO TRM 8.0

Additional measure-specific impacts were derived from the PY15 participant survey.

ISR results were calculated using a blended approach that incorporated findings from site visits and the PY15 participant survey. Resulting values were benchmarked against comparable regional programs to confirm alignment with established EM&V industry standards.

The largest barrier to scaling site visits was effective participant contact information.

5.3.2 Deemed Savings Calculations

Impact methodologies for IQW are the same as described for HPwES, described in Section 4.3.2.

5.4 Evaluation Findings

5.4.1 Gross Impact Findings

The followings sections outline the results of the gross impact evaluation of the IQW program.

5.4.1.1 Aerator

Expected and verified savings for PY15 IQW aerators are summarized below. There were 263 aerators installed in 197 residences.

TABLE 5-8 PY15 IQW EXPECTED AND VERIFIED AERATORS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
9,782	9,636	98.5%	1.01	1.00	99.0%

5.4.1.2 Advanced Power Strip (Tier 2)

Expected and verified savings for advanced power strips are summarized below. There were 2,037 advanced power strips installed at 1,182 residences. The slightly lower realization rate may be attributed to the measure ISR that was applied in PY15.

TABLE 5-9 PY15 IQW EXPECTED AND VERIFIED ADVANCED POWER STRIPS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
624,522	518,081	83.0%	64.25	23.01	35.8%

5.4.1.3 Air Infiltration

Expected and verified savings for the air infiltration projects are summarized below. There were 1,083 air infiltration projects at the same number of residences. The slightly lower realization rate may be attributed to the measure ISR that was applied in PY15.

TABLE 5-10 PY15 IQW EXPECTED AND VERIFIED AIR INFILTRATION SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
1,275,742	1,229,574	96.4%	600.87	573.32	95.4%

5.4.1.4 Ceiling Insulation

Expected and verified savings for the ceiling insulation projects are summarized below. Ceiling insulation was installed at 837 residences.

TABLE 5-11 PY15 IQW EXPECTED AND VERIFIED CEILING INSULATION SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
1,577,359	1,303,154	82.6%	3,142.21	2,008.53	63.9%

5.4.1.5 Duct Sealing

Expected and verified savings for duct sealing projects are summarized below. Duct sealing was installed at 888 residences.

TABLE 5-12 PY15 IQW EXPECTED AND VERIFIED DUCT SEALING SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
1,846,214	2,042,518	110.6%	661.94	752.61	113.7%

5.4.1.6 LED Lamp (Direct Install)

Expected and verified savings for LED lamps are summarized below. There were 1,221 LED lamps installed in 193 residences.

TABLE 5-13 PY15 IQW EXPECTED AND VERIFIED LEDS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
33,322	37,995	114.0%	3.22	3.35	103.8%

5.4.1.7 Water Heater Pipe Wrap

Expected and verified savings for water heater pipe wrap projects are summarized below. Pipe wrap was installed in 202 residences. The slightly lower realization rate may be attributed to the measure ISR that was applied in PY15.

TABLE 5-14 PY15 IQW EXPECTED AND VERIFIED PIPE WRAP SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
23,654	20,779	87.8%	2.68	2.35	87.9%

5.4.1.8 Low-Flow Showerhead

Expected and verified savings for low-flow showerheads are summarized below. There were 410 low-flow showerheads installed in 244 residences.

TABLE 5-15 PY15 IQW EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
93,480	86,198	92.2%	9.72	8.96	92.3%

5.4.1.9 Smart Thermostat

Expected and verified savings for smart thermostats are summarized below. There were 329 smart thermostats installed at 293 residences.

THERE ARE TABLE 5-16 PY15 IQW EXPECTED AND VERIFIED SMART THERMOSTATS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
330,847	253,423	76.6%	0.00	0.00	N/A

5.4.2 Net Impact Findings

The NTG ratio is assumed to be 100% in line with common practice for estimation of low-income offering net savings, thus *ex post* net values are equal to *ex post* gross values.

Table 5-17 summarizes the program net impacts of the IQW Program.

TABLE 5-17 IQW PROGRAM NET SAVINGS

<i>Ex Post</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Net Energy Savings (kWh)	NTG kWh	<i>Ex Post</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Net Demand Reductions (kW)	NTG kW
5,501,358	5,501,358	100.0%	3,373.13	3,373.13	100.0%

Sums may differ due to rounding.

Individual measure net savings are summarized in Section 5.1 of this chapter.

5.4.3 Process Findings

The Evaluators conducted a process evaluation of the IQW program in PY15. Process activities included a database review, participant survey, and staff and implementer interviews.

Overall, 120 IQW customers completed the participant survey. The table below shows the number of survey respondents for each IQW measure.

TABLE 5-18 MEASURES RECEIVED BY IQW SURVEY RESPONDENTS

Survey Participants by Measure	Number of Responses
Home Energy Assessment	99
Advanced Power Strips	75
Smart Thermostats	30
Air Infiltration	28
Ceiling Insulation	25
Energy and Water Efficient Showerheads	18
Water Heater Pipe Insulation	10
Duct Sealing	16
Kitchen Faucet Aerators	8
LEDs	7
Bathroom Faucet Aerators	7

5.4.3.1 Program Design and Implementation

The Income Qualified Weatherization program is designed to mirror the structure of the Home Performance program but is tailored specifically for income-eligible customers. The eligibility threshold recently changed from 200% of the federal poverty level to 80% of Area Median Income, to better reflect local income conditions. Participants self-attest to their income level through a simple form, which allows the program to avoid collecting sensitive personal financial information.

The IQW program includes a no-cost home energy assessment, installation of direct install measures, and contractor-recommended deeper savings upgrades. The same clipboard-based Salesforce tool is used for data collection and reporting. Participants are served through the Quality Contractor Network, which includes BPI-certified contractors who follow safety and combustion testing protocols.

The program addresses common barriers for income-qualified customers, including financial constraints, health and safety concerns, and older or under-maintained housing stock. Although there is no separate budget for health and safety repairs, the program uses deferrals when conditions (e.g., gas leaks, mold, structural issues) pose safety risks that must be resolved before work can proceed.

Program staff emphasized that once a participant qualifies for an income-qualified offering, they are not required to pay any copay or contribution—all services are provided at no cost. This applies broadly across income-qualified offerings and reinforces the program’s commitment to accessibility. Staff also noted that Entergy New Orleans restructured the residential portfolio to significantly increase the proportion of funding and offerings dedicated to income-qualified programs, in alignment with City Council priorities and the high percentage of low-income households in the service area.

5.4.3.2 Marketing and Outreach

Outreach strategies for IQW include:

- Direct mail and email campaigns
- In-person outreach at Entergy payment centers
- Tabling events through Thrive New Orleans, a community-based outreach partner
- Word-of-mouth and neighborhood visibility (e.g., signs placed at homes being served)

Thrive New Orleans plays an important role in reaching underserved communities by leveraging its connections with churches, local organizations, and community events. Their involvement has expanded the program’s reach to areas and customer segments that were previously harder to engage.

5.4.3.3 Trade Ally Role and Involvement

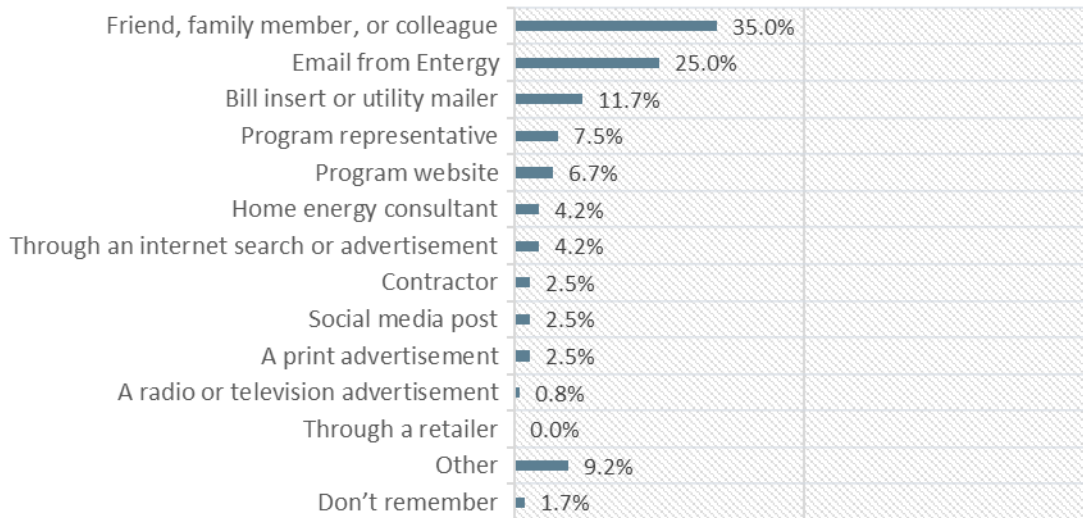
Contractors in the IQW program are part of the same Quality Contractor Network used for market-rate offerings. They are BPI-certified and follow standard energy assessment and installation procedures. In addition to implementation, contractors may generate leads and refer eligible customers to the program.

Because IQW services are provided at no cost to participants, the program offers higher incentives to trade allies to ensure adequate compensation and encourage participation. Contractors are instructed not to upcharge income-qualified customers, and the program seeks to ensure pricing transparency and fairness.

5.4.3.4 Participant Awareness and Motivation

Awareness is driven primarily by social and trust-based channels, led by friends/family/colleagues (35%), followed by email from Entergy (25%). Utility-owned channels beyond email play a secondary role (bill inserts 11.7%, website 6.7%), while paid media and contractors contribute minimally (≤4%), reinforcing the importance of word-of-mouth for income-qualified programs.

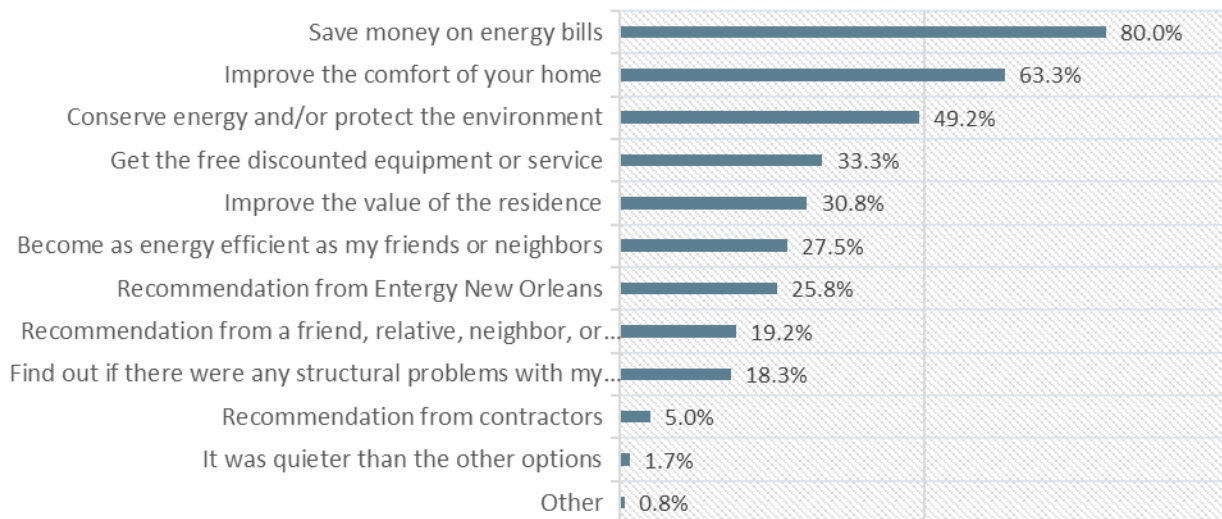
FIGURE 5-3 SOURCES OF PROGRAM AWARENESS (N=120)



According to program staff, Thrive New Orleans has also helped boost awareness in low-income neighborhoods that may not be reached effectively through digital marketing.

Motivation is strongly financial and comfort-driven, with 80% citing saving money on energy bills and 63.3% improving home comfort. Environmental motivations are also meaningful (49.2%), while access-based benefits (33.3% free/discounted equipment) and home value improvements (30.8%) provide additional reinforcement.

FIGURE 5-4 MOTIVATION TO PARTICIPATE (N=120)



5.4.3.5 Participation in Program Offerings

5.4.3.5.1 Participant Journey Overview

IQW participants follow a similar journey as those in the HPwES program. The key difference is that all services are provided at no cost, and eligibility is based on self-attested income.

1. Customers sign up for the program online or through a call center and complete an income attestation.
2. The implementation contractor verifies eligibility and assigns a contractor.
3. The contractor contacts the participant to schedule the home assessment.
4. During the visit, contractors install DI measures and identify deeper energy-saving opportunities.
5. A personalized energy report is reviewed with the participant and shared via email or mail.
6. Contractors apply for incentives on the participant's behalf to complete deeper upgrades.

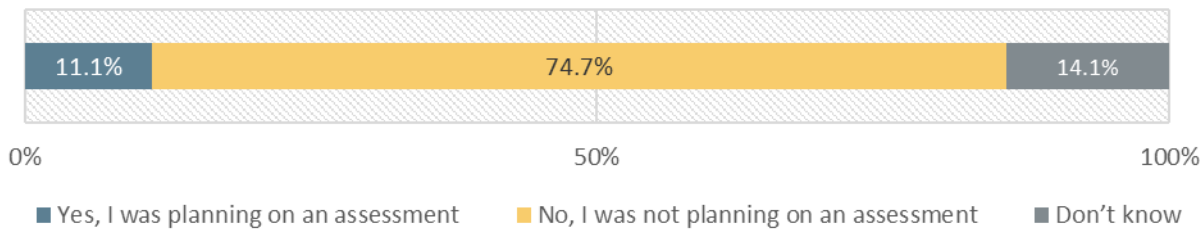
5.4.3.5.2 Home Energy Assessments

All IQW participants should receive a no-cost home assessment from BPI-certified contractors, using the standardized clipboard tool for data collection and reporting.

In total, 99 respondents recall receiving a home energy assessment.

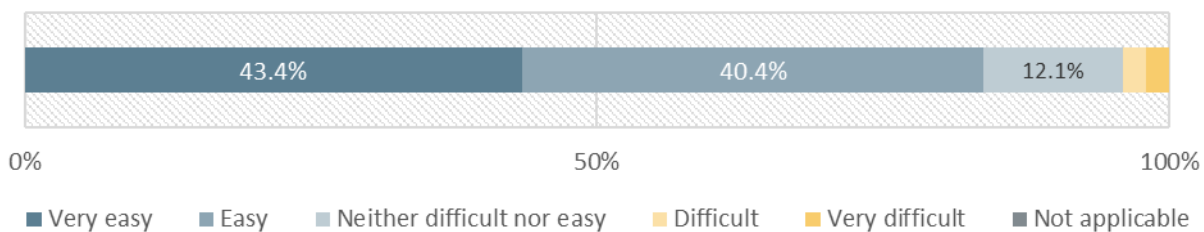
Most participants were not planning to have an assessment prior to engaging with the program, with 74.7% not planning to have an assessment beforehand and 11.1% planning one.

FIGURE 5-5 PLANNED HOME ASSESSMENT PRIOR TO PROGRAM AWARENESS (N=99)



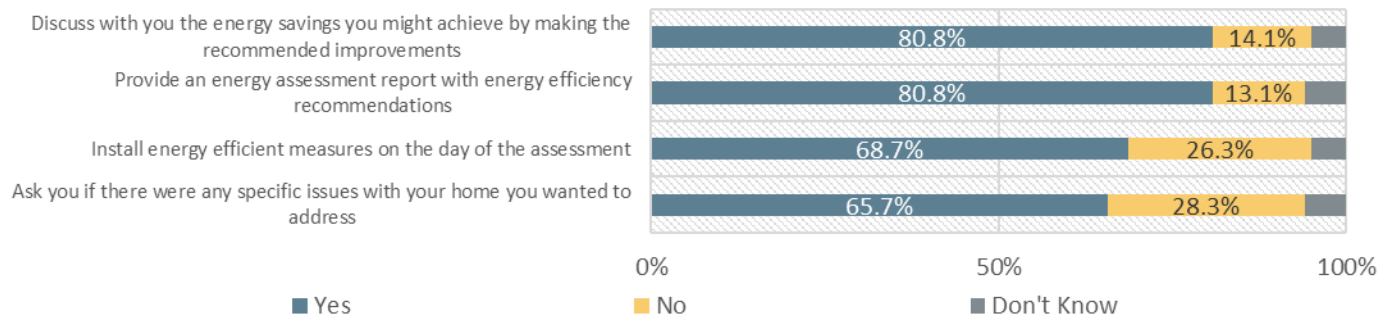
Scheduling is a program strength, with 83.8% rating the process easy or very easy, while only 4.0% found it difficult, suggesting low administrative friction at the entry point.

FIGURE 5-6 EASE OF SCHEDULING HOME ENERGY ASSESSMENT (N=99)



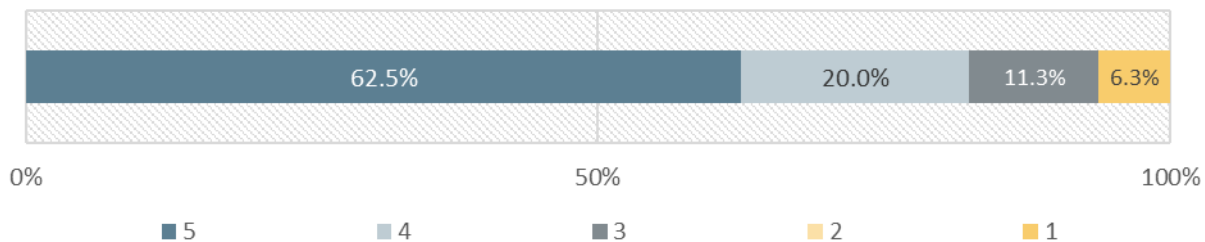
Most assessments are comprehensive, though not universal. This indicates strong core delivery, with room to improve consistency around customization and on-site installations.

FIGURE 5-7 ACTIONS TAKEN BY ASSESSORS DURING VISIT (N=99)



Perceived value is high, with 82.5% rating the assessment report helpful (4–5) and 62.5% giving the top score, though 17.6% rate it neutral or lower, indicating uneven clarity or applicability for some households.

FIGURE 5-8 HELPFULNESS OF ASSESSMENT REPORT (N=80)

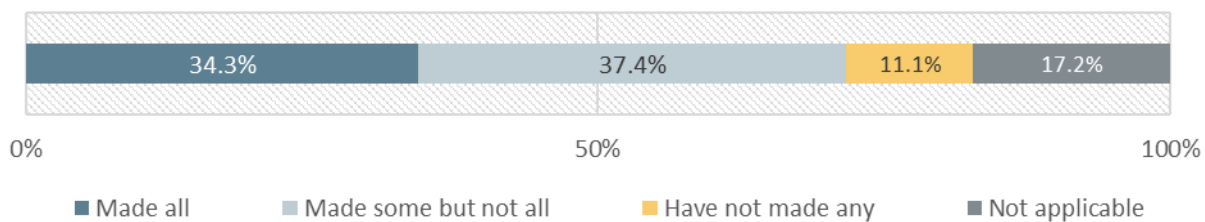


5.4.3.5.3 Major Measure Improvements

The most common upgrades include air sealing, duct sealing, and ceiling insulation. Uptake of these measures is higher in the IQW program than in market-rate due to greater household need and housing stock conditions.

Most participants take action after the home assessment, with 71.7% making at least some improvements (34.3% all; 37.4% some), while 11.1% made none, highlighting generally strong engagement post-assessment.

FIGURE 5-9 IMPROVEMENTS MADE SINCE ASSESSMENT (N=99)

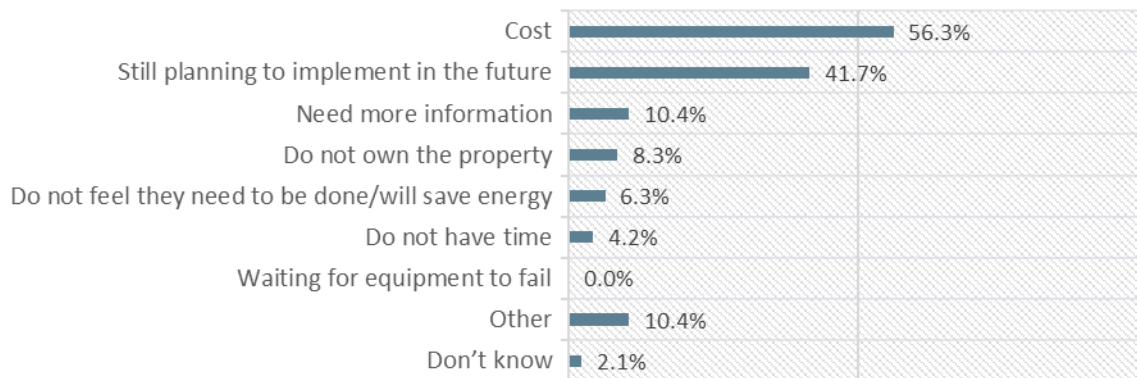


The dominant barrier to completing program improvements is cost (56.3%), followed by plans to implement later (41.7%). Informational gaps (10.4%) and homeownership constraints (8.3%) play smaller roles, reinforcing that affordability—not motivation—is the primary limiter.

Although cost was the most frequently cited barrier to completing program improvements (56.3%), the program does not require participant financial contributions for eligible measures. This suggests that reported cost

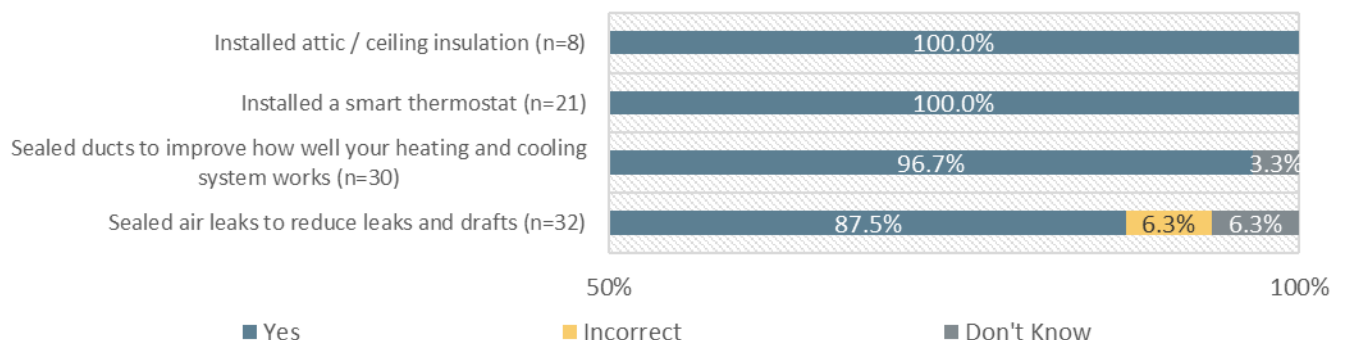
barriers may reflect factors other than program fees, such as unclear communication regarding incentive coverage or contractor recommendations that extend beyond program-funded measures. Survey response patterns may also partially reflect measurement error, with cost serving as a proxy for broader implementation challenges. Nevertheless, these findings indicate an opportunity for the program to better align recommended measures with funded offerings and to reinforce participant understanding of what the program covers, potentially reducing the gap between recommendations and completed improvements.

FIGURE 5-10 REASONS FOR NOT COMPLETING ALL RECOMMENDATIONS (N=48)



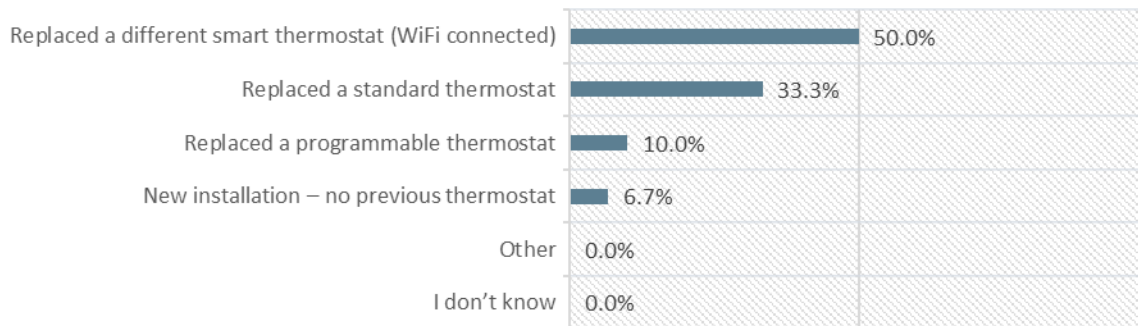
Most reported measure installations were confirmed by survey respondents.

FIGURE 5-11 VERIFICATION OF INSTALLED IMPROVEMENTS



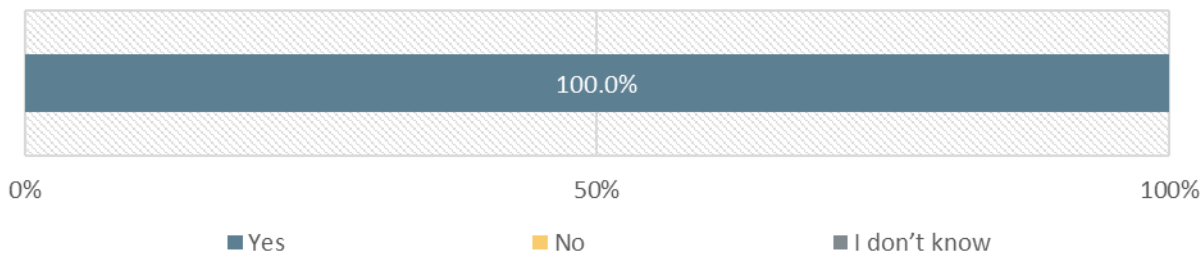
Most thermostats replaced existing equipment (93.3%) – primarily standard thermostats (33.3%) or other smart units (50.0%). Program staff should investigate why some thermostats are replacing existing smart thermostats. There may be legitimate reasons for doing so, but the expected savings for these types of replacements may not be realized.

FIGURE 5-12 TYPE OF THERMOSTAT REPLACED (N=21)



All thermostats control both heating and cooling (100%) and remain installed (100%).

FIGURE 5-13 INSTALLATION OF THERMOSTATS (N=21)

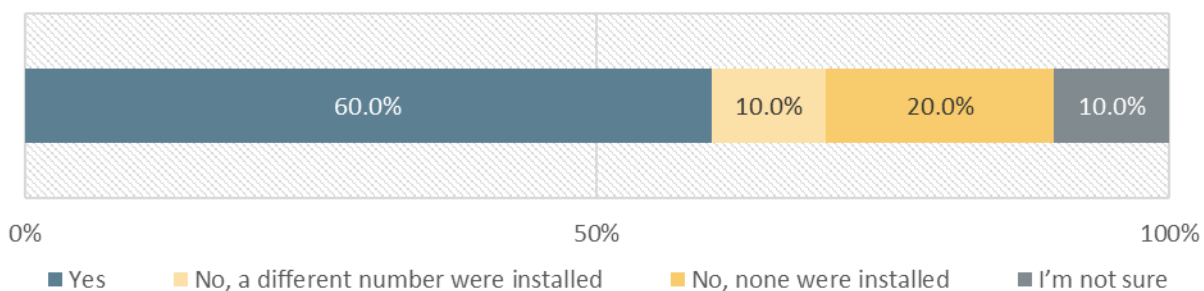


5.4.3.5.4 Direct Install Measures

DI measures are installed during the assessment visit. These include standard efficiency upgrades as well as newer offerings like thermostatic shower valves for electric water heating.

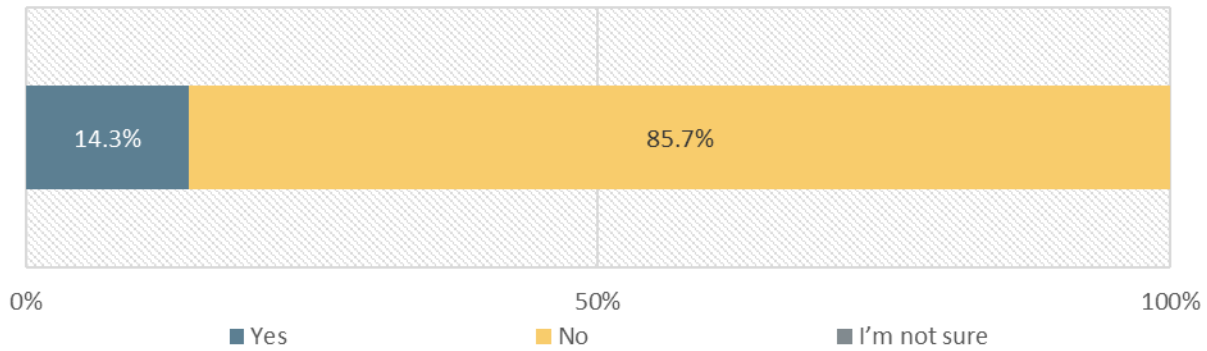
60% confirm installation of the LED light bulbs received through the program, while 20% report none installed and 10% are unsure, suggesting recall gaps for smaller, passive measures.

FIGURE 5-14 INSTALLATION OF LED BULBS (N=10)



Among those confirming installation, 85.7% report no removals. One respondent said they removed two lightbulbs because they stopped working.

FIGURE 5-15 REMOVAL OF LED BULBS (N=7)



Most aerators remain installed, with no reported removals for bathroom fixtures and 75% retention for kitchen aerators, though uncertainty remains for a quarter of respondents.

FIGURE 5-16 INSTALLATION OF BATHROOM FAUCET AERATORS (N=9)

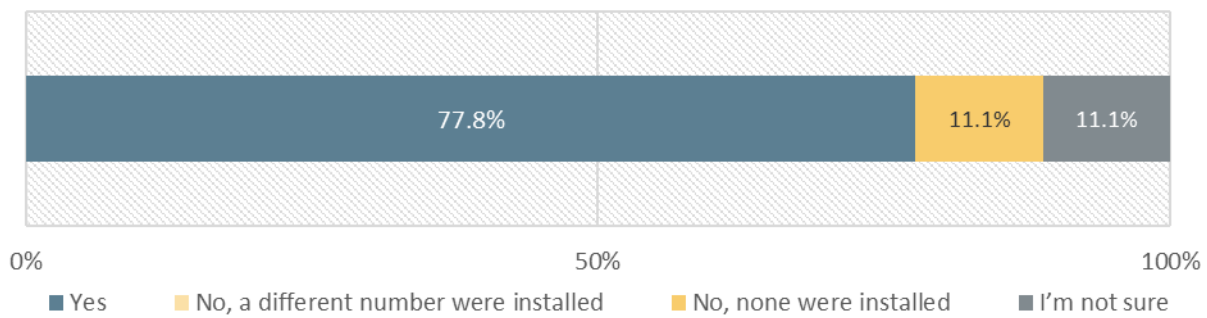


FIGURE 5-17 REMOVAL OF BATHROOM FAUCET AERATORS (N=7)

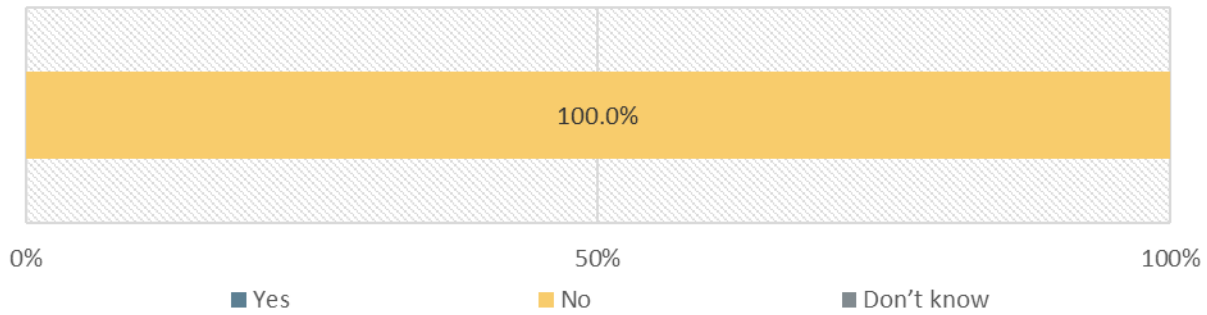


FIGURE 5-18 INSTALLATION OF KITCHEN FAUCET AERATORS (N=11)

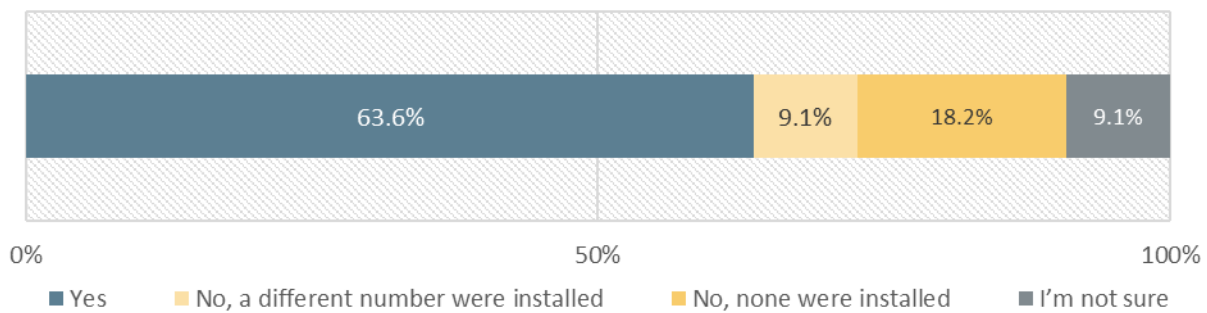
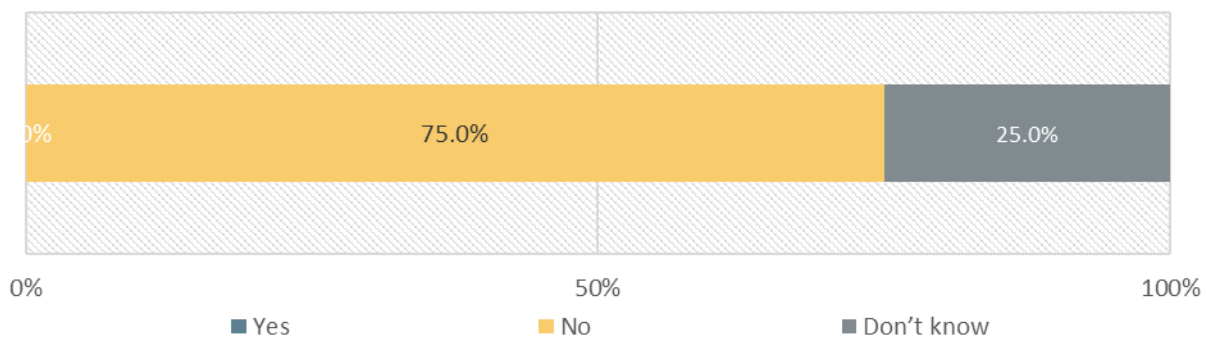


FIGURE 5-19 REMOVAL OF KITCHEN FAUCET AERATORS (N=8)



Most showerheads also remain installed (82.4%), with removals driven primarily by insufficient water flow (66.7%).

FIGURE 5-20 INSTALLATION OF SHOWERHEADS (N=22)

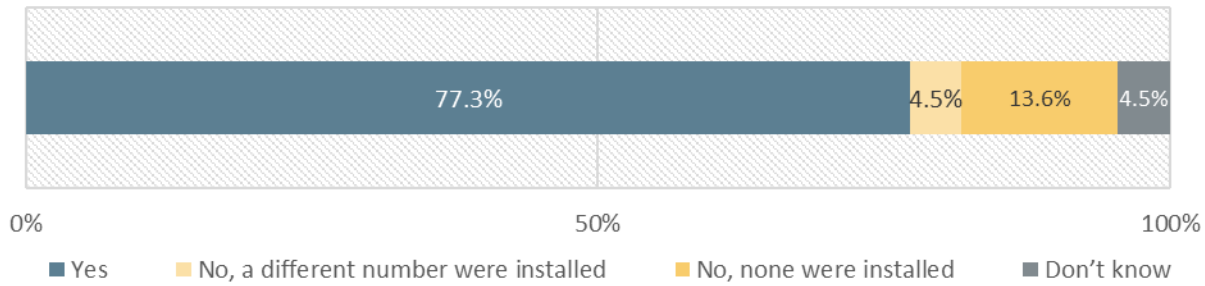


FIGURE 5-21 REMOVAL OF SHOWERHEADS (N=17)

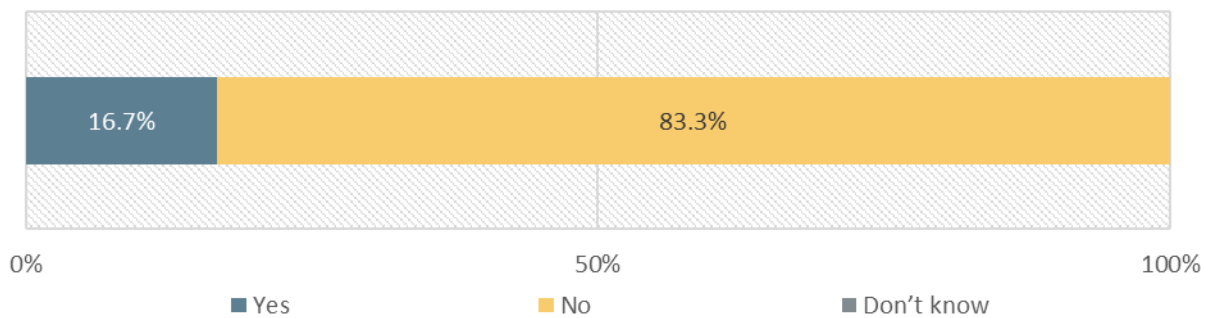
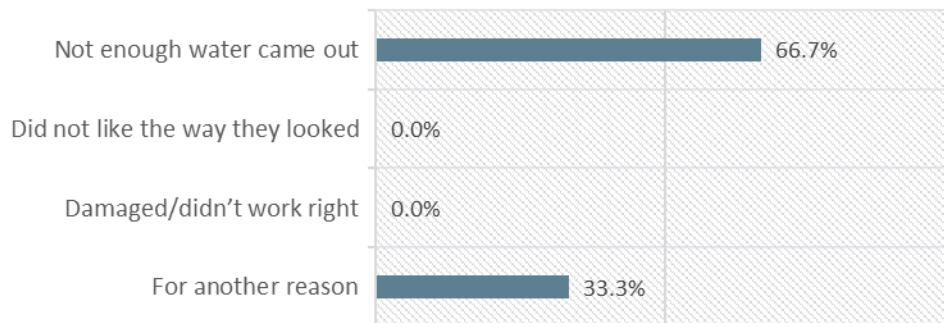
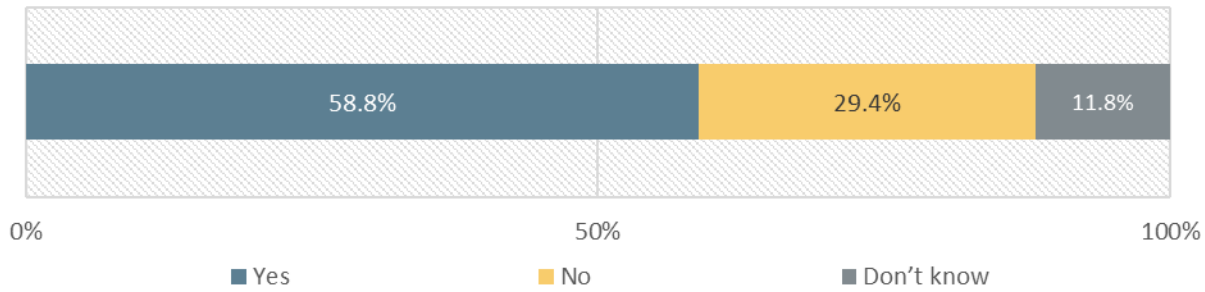


FIGURE 5-22 REASON FOR SHOWERHEAD REMOVAL (N=3)



Just under 60% of respondents confirm installation of water heater pipe wrap, while 29.4% report that it was not installed and 11.8% are unsure. The variation in responses may be related to the lower visibility of this measure and the fact that it does not produce easily observable changes in day-to-day household activities.

FIGURE 5-23 INSTALLATION OF WATER HEATER PIPE WRAP (N=17)



Most households confirm installation of advanced power strips (90.3%) and continued use (77.3% are still using them). Among those who stopped using them (17.3%), reasons center on lack of understanding (30.8%), dislike of how they worked (23.1%), and devices shutting off unexpectedly (15.4%), pointing to a need for clearer usage guidance.

FIGURE 5-24 INSTALLATION OF APS (N=83)

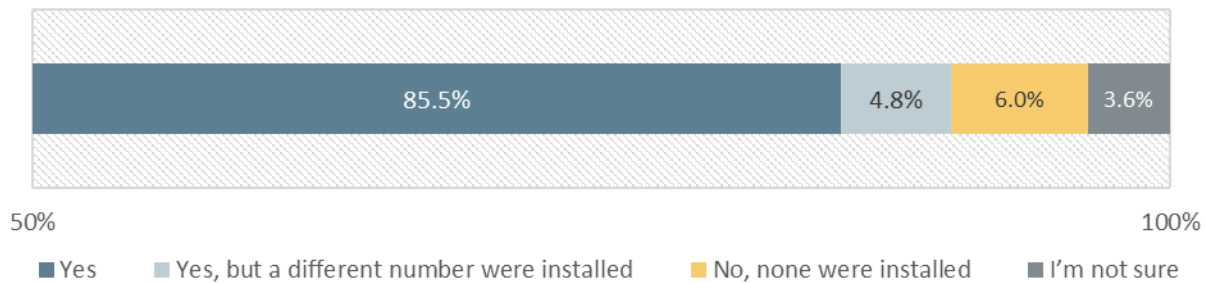


FIGURE 5-25 REMOVAL OF APS (N=75)

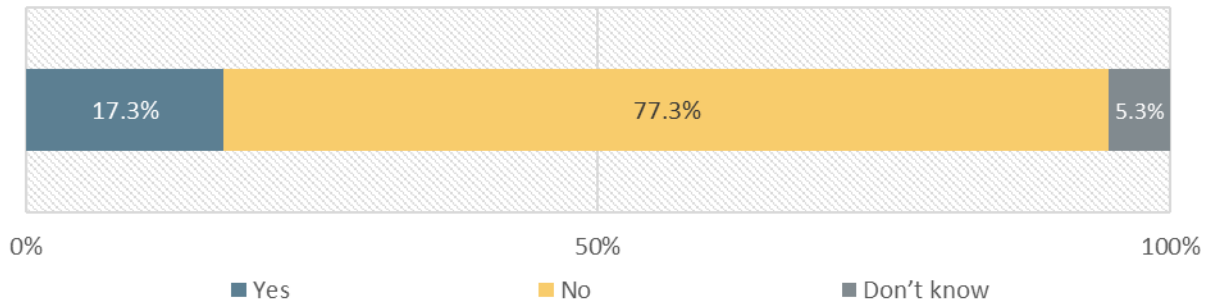
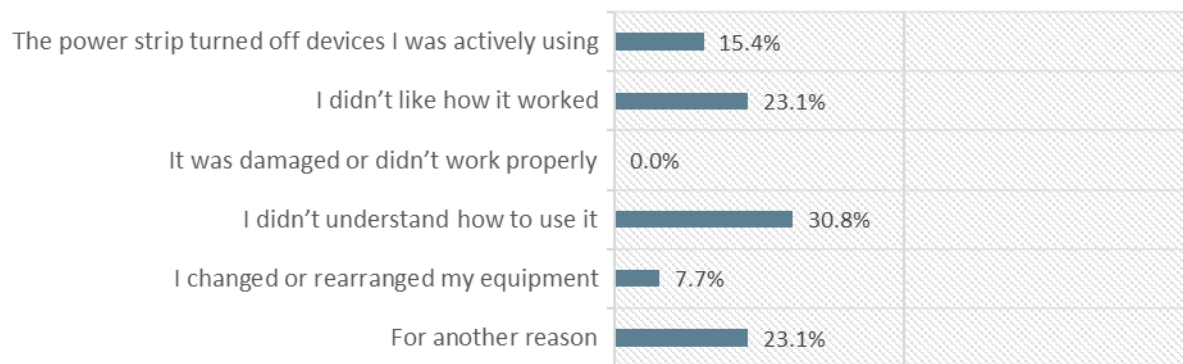


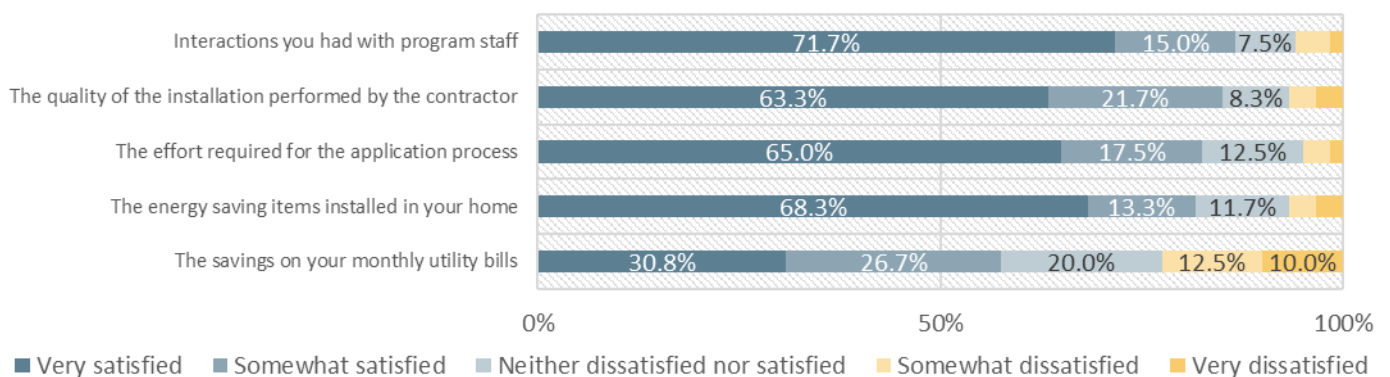
FIGURE 5-26 REASON FOR APS REMOVAL (N=13)



5.4.3.6 Participant Experience and Satisfaction

Most participants were satisfied with the interactions with staff, the items installed, the application process, and quality of the installation by the contractor. In contrast, satisfaction with bill savings is lower, with 57.5% satisfied and 22.5% dissatisfied, making savings the primary pressure point.

FIGURE 5-27 SATISFACTION ACROSS PROGRAM COMPONENTS (N=120)

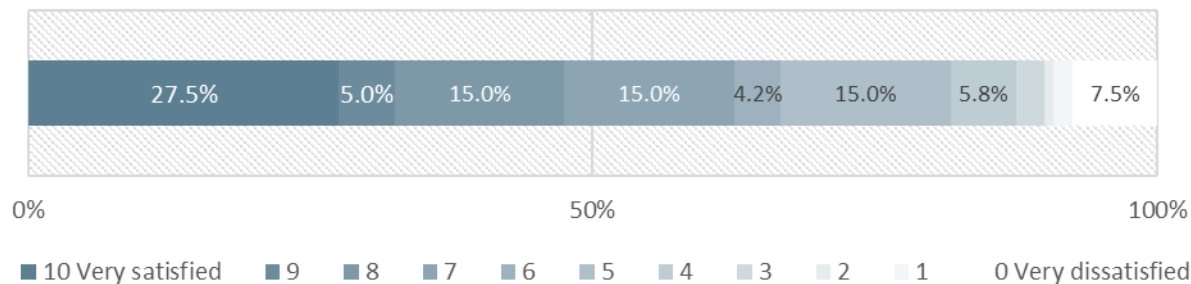


Reasons for dissatisfaction (n=31) centered on lack of noticeable bill reduction, unfinished or delayed follow-up work, and contractor inconsistency. Many respondents acknowledge appreciation for free improvements but express frustration that comfort gains and financial savings do not always materialize, particularly in older or inefficient homes. For example:

- "I don't see a difference in the utility bill and I still have a draft in a window!"
- "It took over a year to get the insulation actually installed from the time my home was first analyzed. Months of conflicting information, phone calls, was told to hire an outside contractor to certify my attic, then was finally told it wasn't necessary."
- "No one came back to seal window frames or doors."
- "Nothing was done! The contractor gave me 5 chandelier lightbulbs that are never in use (not the main lighting in that area), and a power strip. The main living area wasn't addressed. He went into the attic, said we needed insulation, and left. Process took all of 8 minutes. He explained nothing. And my bills are as high now as they were then. Nothing changed. In fact, the bills may have gotten higher."
- "Since the assessment has been completed no other contractor has reached out to me about replacing the weather strips on the doors or other weatherization stuff other than the assessor installing the surge protector. After reading all the perks of the program I'm disappointed in the lack of results."
- "The assessment was never completed."
- "I was told that I would have my front and back door insulated so that air would not come under the door. This was not done."

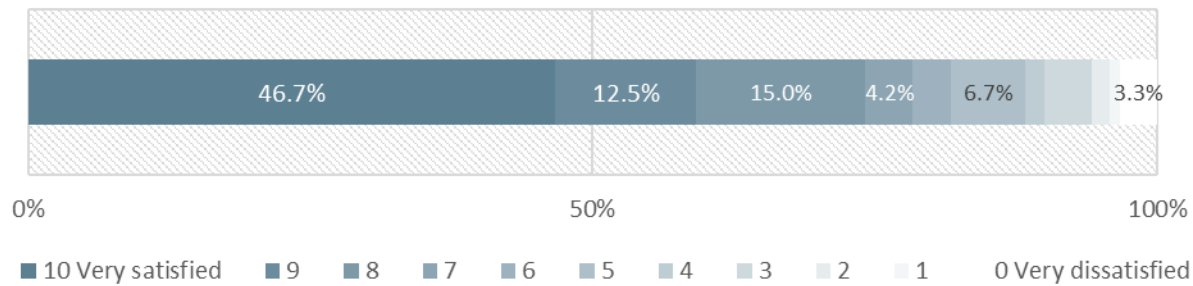
Overall utility sentiment is mixed, with 47.5% rating Entergy 8–10, while 15.8% rate it 0–3, suggesting broader brand perceptions may constrain program halo effects.

FIGURE 5-28 OVERALL SATISFACTION WITH ENTERGY NEW ORLEANS (N=120)



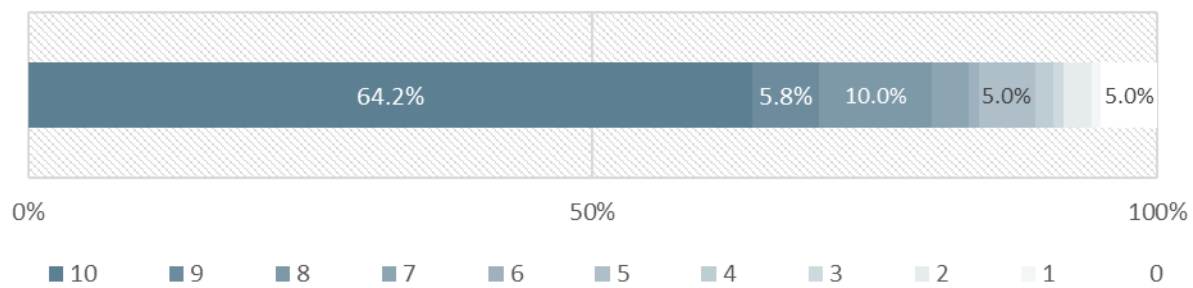
Program satisfaction is notably stronger, with 74.2% rating 8–10 and 46.7% giving a perfect 10, positioning the program as a bright spot within the broader Entergy experience.

FIGURE 5-29 SATISFACTION WITH THE IQW PROGRAM (N=120)



Advocacy is also very high, with 64.2% giving a “10” and 80.0% rating 8–10, reinforcing the program’s role as a strong word-of-mouth engine, especially for income-qualified households.

FIGURE 5-30 LIKELIHOOD TO RECOMMEND THE PROGRAM (N=120)



Recommendation of the IQW program is driven largely by perceived bill savings, strong staff interactions, and overall value, with many promoters citing meaningful financial relief and professional service.

Lower ratings are concentrated around follow-up gaps, inconsistent contractor execution, and limited measurable savings, suggesting that consistent delivery and clearer impact communication are key to strengthening advocacy.

TABLE 5-19 REASONS FOR RECOMMENDATION (N=120)

Why participants recommend (or hesitate to) recommend - Coded	Promoter	Passive	Detractor	Total	Total %
Rebates and Financial Incentive (Savings, Checks, Discount)	23	1	0	24	20.0%
Generally Good Experience	17	1	0	18	15.0%
Contractor Issues	4	5	6	15	12.5%
Great Staff Experience	9	1	3	13	10.8%
Low Savings / No Value / Doesn't Work	0	1	4	5	4.2%
Improving Comfort / Home Improvement	2	1	1	4	3.3%
Other or Unclear	26	6	5	37	30.8%

5.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY14 data were generally present in PY15. The following bullets outline notes from reviewing the IQW data:

- Trade ally information: In general, Trade Ally primary contact names, company names, contact phone numbers, and email addresses were provided in PY15 data, however, there were a handful of projects that were missing these fields:
 - Trade ally primary contact name: 529 projects in 295 distinct homes (295 out of 1,821 homes)
 - Trade ally main phone number: 987 projects (478 homes out of 1,821)
 - Trade ally email address: 999 projects (483 homes out of 1,821)
- Participant information: In general, participant contact names, contact phone numbers, and email addresses were provided in PY15 data, however, there were many projects that were missing these fields:
 - Participant main phone number: 125 projects in 31 distinct homes (31 out of 1,821)
 - Participant email address: 1,186 projects in 303 distinct homes (303 out of 1,821)
- Measure level parameters: The majority of measure information required to estimate savings was available in the program tracking data. However, a limited number of projects required additional follow-up due to missing or unclear information necessary to determine measure savings. These projects are summarized below.
 - One hundred and fifteen smart thermostat projects were missing baseline information for existing HVAC systems, including system type, baseline efficiency ratings, and cooling and heating capacities.
- During the tracking data review, 1,868 projects were identified for removal from the evaluation sample due to tracking corrections.

5.6 Findings and Recommendations

Findings:

- **The program is accessible and well-aligned with the needs of income-qualified households, with strong incremental reach and low entry barriers.** The shift to an 80% AMI threshold and the use of self-attestation reduce administrative burden and avoid intrusive documentation. All services are provided at no cost, and scheduling is easy for most participants (83.8%). The program reaches households that would not otherwise pursue assessments—nearly three-quarters were not planning one prior to learning about the program. This confirms strong incremental impact and alignment with City Council priorities to expand income-qualified offerings.
- **Survey responses indicate that some smart thermostats are replacing other smart thermostats.** While there may be justifiable reasons for this type of replacement, review of program protocols governing baseline equipment types for this measure should be reviewed to ensure that the desired savings impacts occur.
- **Program awareness is driven primarily through interpersonal networks, with friends and family cited most often.** Staff report that community-based outreach, including efforts by Thrive New Orleans, helps extend awareness into underserved neighborhoods that are less responsive to traditional marketing

channels. Survey responses indicate that awareness is driven primarily by friends and family (35%) and Entergy emails (25%), while other digital channels and contractor referrals play smaller roles.

- **The home assessment and major measures deliver strong value, but follow-through and consistency vary, creating uneven participant experiences.** Most participants take action after the assessment (71.7%), and uptake of major measures—air sealing, duct sealing, insulation—is higher than in market-rate programs due to greater need. Installation recall aligns well with program records, indicating accurate delivery. However, follow-up work is inconsistent for some households, with delays, incomplete installations, or unclear next steps. Direct install measures show high persistence overall, but some—especially showerheads and APS—are removed due to comfort or usability issues.
- **Satisfaction with the program is high, but perceived bill savings and contractor variability are the main areas of lower satisfaction.** Program satisfaction is high (74.2% rating 8–10), however, satisfaction with bill savings is lower (57.5%), and dissatisfaction centers on limited measurable savings, incomplete work, or inconsistent contractor performance. Many participants appreciate the improvements but express frustration when comfort or bill impacts do not meet expectations.

Recommendations:

The recommendations presented for Home Performance with ENERGY STAR are also applicable to Income Qualified Weatherization.

- **Review and clarify protocols for smart thermostat installations.** Program staff should establish clear guidance on when an existing Wi-Fi-enabled smart thermostat should be retained versus replaced with a program-provided smart thermostat to ensure expected program savings are achieved.

6 RETAIL LIGHTING AND APPLIANCE

6.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable for both Retail Lighting and Appliance (RLA), and Retail Lighting and Appliance Income Qualified (RLA-IQ).

TABLE 6-1 PY15 RLA ENERGY SAVINGS (kWh)

Program	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Retail Lighting and Appliance	653,871	93.8%	613,151	78.8%	482,907
Retail Lighting and Appliance Income Qualified	1,951,664	89.7%	1,750,058	100.0%	1,750,058
Total	2,605,535	90.7%	2,363,209	94.5%	2,232,964

Sums may differ due to rounding.

TABLE 6-2 PY15 RLA DEMAND REDUCTIONS (kW)

Program	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Retail Lighting and Appliance	126.77	91.4%	115.83	0.78	90.35
Retail Lighting and Appliance Income Qualified	225.66	90.1%	203.41	100.0%	203.41
Total	352.43	90.6%	319.24	92.0%	293.76

Sums may differ due to rounding.

TABLE 6-3 PY15 RLA LIFETIME SAVINGS SUMMARY

Program	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Retail Lighting and Appliance	9.3	5,720,451	4,494,563
Retail Lighting and Appliance Income Qualified	9.1	15,981,846	15,981,846
Total	9.2	21,702,297	20,476,409

Sums may differ due to rounding.

TABLE 6-4 PY15 RLA COUNT OF MEASURES AND INCENTIVE SPEND

Program	Participation (Count of Measures)	Incentive Spend (\$)
Retail Lighting and Appliance	2,114	\$135,256
Retail Lighting and Appliance Income Qualified	12,536	\$789,193
Total	14,650	\$924,449

Sums may differ due to rounding.

6.1.1 RLA

TABLE 6-5 PY15 RLA ENERGY SAVINGS (kWh)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Advanced Power Strip	8,804	89.7%	7,895	71.9%	5,677
Air Purifier	60,656	97.1%	58,925	90.7%	53,445
Air Purifier Filter	0	N/A	0	N/A	0
Clothes Dryers	2,488	84.0%	2,091	71.9%	1,503
Clothes Washer	2,616	88.5%	2,316	71.9%	1,665
Custom Repairs	0	N/A	0	N/A	0
Dehumidifier	2,396	81.0%	1,941	71.9%	1,396
EV Charger	0	N/A	39	71.9%	28
Faucet Aerator	1,064	95.7%	1,018	71.9%	732
Generic Marketplace DR	0	N/A	0	N/A	0
LED Lamp (Marketplace)	0	N/A	0	N/A	0
LED Lamp (Upstream)	0	N/A	0	N/A	0
Low-Flow Showerhead	10,260	99.7%	10,233	71.9%	7,357
Pool Pump	7,901	92.5%	7,310	71.9%	5,256
Refrigerator	3,384	105.7%	3,577	71.9%	2,572
Showerhead TRV	385	96.9%	373	71.9%	268
Smart Thermostat	532,879	92.3%	491,639	78.2%	384,462
Smart Thermostat Accessories	0	N/A	0	N/A	0
Water Cooler	508	99.0%	503	71.9%	361
Water Heater	9,303	150.0%	13,954	71.9%	10,033
Water Heater Pipe Insulation	1,012	94.2%	953	71.9%	685
Window AC	10,216	101.6%	10,383	71.9%	7,465
Total	653,871	93.8%	613,151	78.8%	482,907

Sums may differ due to rounding.

TABLE 6-6 PY15 RLA DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Advanced Power Strip	1.37	57.4%	0.79	71.9%	0.57
Air Purifier	6.89	97.1%	6.70	90.7%	6.07
Air Purifier Filter	0.00	N/A	0.00	N/A	0.00
Clothes Dryers	0.37	83.5%	0.31	71.9%	0.22
Clothes Washer	0.62	88.7%	0.55	71.9%	0.40
Custom Repairs	0.00	N/A	0.00	N/A	0.00
Dehumidifier	0.54	81.1%	0.44	71.9%	0.32
EV Charger	0.00	N/A	0.28	71.9%	0.20
Faucet Aerator	0.11	96.4%	0.11	71.9%	0.08
Generic Marketplace DR	0.00	N/A	0.00	N/A	0.00
LED Lamp (Marketplace)	0.00	N/A	0.00	N/A	0.00
LED Lamp (Upstream)	0.00	N/A	0.00	N/A	0.00
Low-Flow Showerhead	1.07	99.8%	1.06	71.9%	0.77
Pool Pump	1.51	92.5%	1.40	71.9%	1.00
Refrigerator	0.49	106.4%	0.52	71.9%	0.37
Showerhead TRV	0.04	88.2%	0.04	71.9%	0.03
Smart Thermostat	102.96	89.6%	92.27	78.2%	72.16
Smart Thermostat Accessories	0.00	N/A	0.00	N/A	0.00
Water Cooler	0.06	99.0%	0.06	71.9%	0.04
Water Heater	0.82	150.0%	1.22	71.9%	0.88
Water Heater Pipe Insulation	0.12	94.1%	0.11	71.9%	0.08
Window AC	9.81	101.7%	9.98	71.9%	7.17
Total	126.77	91.4%	115.83	78.0%	90.35

Sums may differ due to rounding.

TABLE 6-7 PY15 RLA LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Advanced Power Strip	10	78,952	56,766
Air Purifier	9	530,328	481,007
Air Purifier Accessories	N/A	0	0
Clothes Dryer	12	25,089	18,039
Clothes Washer	14	32,424	23,313
Custom Repairs	N/A	0	0
Dehumidifier	11	21,350	15,351
EV Charger	10	390	280
Faucet Aerator	10	10,181	7,320
Generic Marketplace	N/A	0	0
LED Lamp (Specialty)	N/A	0	0
LED Lamp (Standard)	N/A	0	0
Low-Flow Showerhead	10	102,329	73,574
Pool Pump	10	73,102	52,560
Refrigerator	17	60,816	43,727
Showerhead TRV	10	3,730	2,682
Smart Thermostat	9	4,473,918	3,498,604
Smart Thermostat Accessories	N/A	0	0
Water Cooler	10	5,026	3,614
Water Heater	13	181,405	130,430
Water Heater Pipe Insulation	13	12,391	8,909
Window AC	11	109,021	78,386
Total	9.3	5,720,451	4,494,563

Sums may differ due to rounding.

TABLE 6-8 PY15 RLA COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Advanced Power Strip	89	\$2,193
Air Purifier	237	\$19,970
Air Purifier Accessories	239	\$0
Clothes Dryer	9	\$1,325
Clothes Washer	17	\$425
Custom Repairs	2	\$1,200
Dehumidifier	16	\$400
EV Charger	1	\$0
Faucet Aerator	27	\$35
Generic Marketplace	275	\$13,750
LED Lamp (Specialty)	97	\$0
LED Lamp (Standard)	27	\$0
Low-Flow Showerhead	46	\$770
Pool Pump	3	\$900
Refrigerator	61	\$1,800
Showerhead TRV	11	\$55
Smart Thermostat	817	\$84,223
Smart Thermostat Accessories	48	\$0
Water Cooler	1	\$50
Water Heater	7	\$5,800
Water Heater Pipe Insulation	40	\$160
Window AC	44	\$2,200
Total	2,114	\$135,256

Sums may differ due to rounding.

6.1.2 RLA – Income Qualified

TABLE 6-9 PY15 RLA-IQ ENERGY SAVINGS (kWh)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Advanced Power Strip	214,248	89.7%	192,138	100.0%	192,138
Air Purifier	1,515,522	97.1%	1,472,279	100.0%	1,472,279
Clothes Washer	153	100.0%	153	100.0%	153
Dehumidifier	253	97.9%	248	100.0%	248
Plug & Play Kit	0	N/A	0	N/A	0
Refrigerator	76	97.2%	73	100.0%	73
RLA - IQ Promo	0	N/A	0	N/A	0
Showerhead TRV	164,934	19.2%	31,706	100.0%	31,706
Smart Thermostat	56,270	94.6%	53,253	100.0%	53,253
Window AC	209	99.3%	207	100.0%	207
Total	1,951,664	89.7%	1,750,058	100.0%	1,750,058

Sums may differ due to rounding.

TABLE 6-10 PY15 RLA-IQ DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Advanced Power Strip	24.75	89.7%	22.20	100.0%	22.20
Air Purifier	172.07	97.1%	167.16	100.0%	167.16
Clothes Washer	0.04	100.0%	0.04	100.0%	0.04
Dehumidifier	0.06	97.9%	0.06	100.0%	0.06
Plug & Play Kit	0.00	N/A	0.00	N/A	0.00
Refrigerator	0.01	98.0%	0.01	100.0%	0.01
RLA - IQ Promo	0.00	N/A	0.00	N/A	0.00
Showerhead TRV	17.48	18.9%	3.30	100.0%	3.30
Smart Thermostat	11.05	94.6%	10.46	100.0%	10.46
Window AC	0.20	99.8%	0.20	100.0%	0.20
Total	225.66	90.1%	203.41	100.0%	203.41

Sums may differ due to rounding.

TABLE 6-11 PY15 RLA-IQ LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Advanced Power Strip	10.0	1,921,381	1,921,381
Air Purifier	9.0	13,250,512	13,250,512
Clothes Washer	14.0	2,142	2,142
Dehumidifier	11.0	2,724	2,724
Plug & Play Kit	N/A	0	0
Refrigerator	17.0	1,247	1,247
RLA - IQ Promo	N/A	0	0
Showerhead TRV	10.0	317,056	317,056
Smart Thermostat	9.1	484,605	484,605
Window AC	10.5	2,179	2,179
Total	9.1	15,981,846	15,981,846

Sums may differ due to rounding.

TABLE 6-12 PY15 RLA-IQ COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Advanced Power Strip	3,957	\$44,192
Air Purifier	6,618	\$589,773
Clothes Washer	1	\$50
Dehumidifier	1	\$50
Plug & Play Kit	935	\$144,729
Refrigerator	2	\$100
RLA - IQ Promo	1	\$109
Showerhead TRV	935	\$0
Smart Thermostat	85	\$10,115
Window AC	1	\$75
Total	12,536	\$789,193

Sums may differ due to rounding.

6.2 Program Description

The Retail Lighting & Appliances Program (RLA) provides retail markdown incentives for efficiency lighting as well as end-user incentives for window air conditioners, high efficiency refrigerators, and other appliances.

The RLA program is managed by Franklin. The RLA offering provides Point-of-Purchase discounts for LED lamp, as well as mail-in rebates (downstream rebates) for air purifiers, dehumidifiers, refrigerator, freezer, window AC, pool pump, smart thermostat, water coolers, and heat pump water heater. These are available through an online marketplace and through participating retailers. A complete list of eligible items is listed below:

- LED lamps
- ENERGY STAR Air Purifiers
- ENERGY STAR Dehumidifiers
- ENERGY STAR Smart Thermostats
- ENERGY STAR Pool Pumps
- ENERGY STAR Water Coolers
- ENERGY STAR Window ACs
- ENERGY STAR Heat Pump Water Heaters
- Refrigerator Replacements
- Advanced Power Strip (Tier 1)
- Aerator (1.0 GPM)
- Aerator (1.5 GPM)
- Pipe Insulation
- Showerheads with TRV
- Smart Thermostat

6.2.1 Program Delivery Channels and Expected Savings

The evaluation approach for PY15 included the following activities: database review, desk reviews, participant surveys, and staff interviews.

A total of 7,028 distinct households (1,005 in RLA, and 6,023 in RLA-IQ) accounting for 14,649 participated in RLA measures (2,113 in RLA, and 12,536 in RLA_IQ). Below, Figure 6-1 shows end use contribution as part of the overall expected savings.

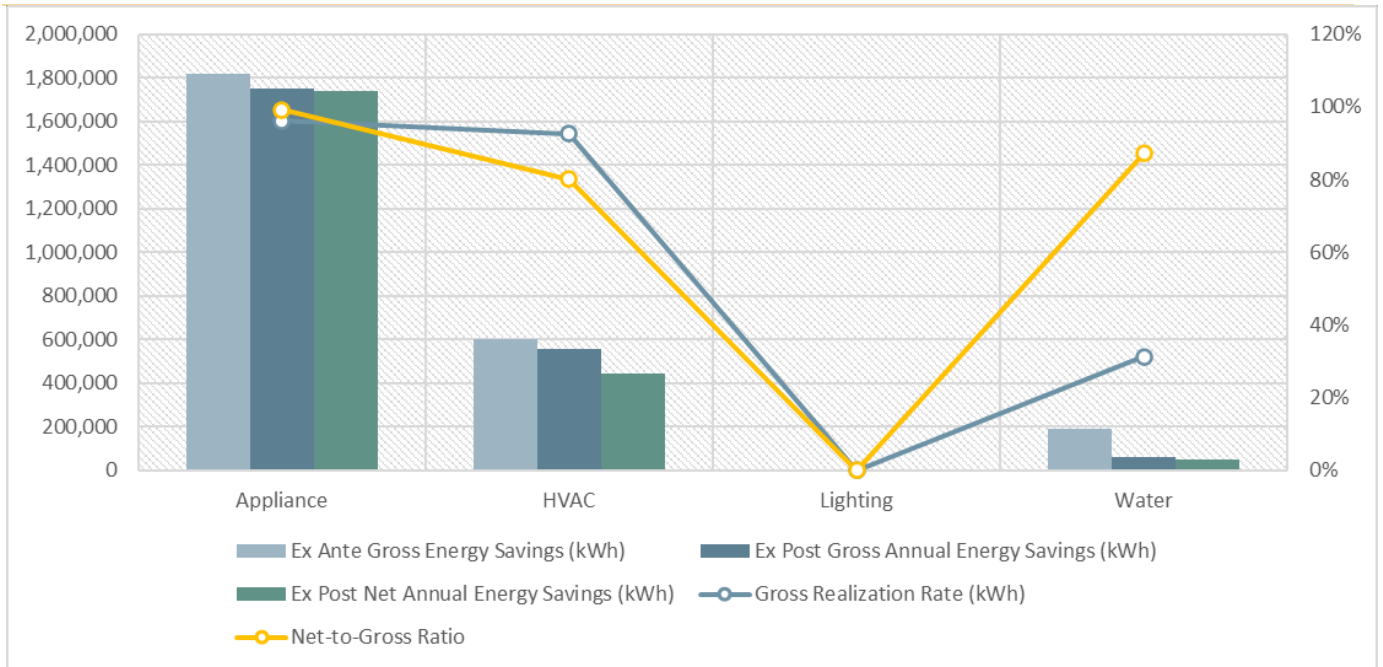


FIGURE 6-1 RLA SAVINGS CONTRIBUTION BY END USE

In PY15, the lighting measures (LED lamp) contributed 0.0% of expected energy (kWh) savings (compared to 5.8% in PY14), the HVAC measures (smart thermostat and window AC) contributed 23.0% (compared to 18.0% in PY14), the appliance measures (advanced power strip, water cooler, air purifier, dehumidifier, refrigerator, freezer, pool pumps) contributed 69.8% (compared to 74.8% in PY14), and the hot water measures (water heater, pipe wrap, aerator, showerhead, showerhead TRV) contributed 7.2% (compared to 1.4% of expected energy savings in PY14). Most savings were from air purifier and smart thermostat measures (83.1%).

6.2.2 Timing of Projects

The figure below shows *ex ante* energy savings (kWh) for RLA by end use, by month.

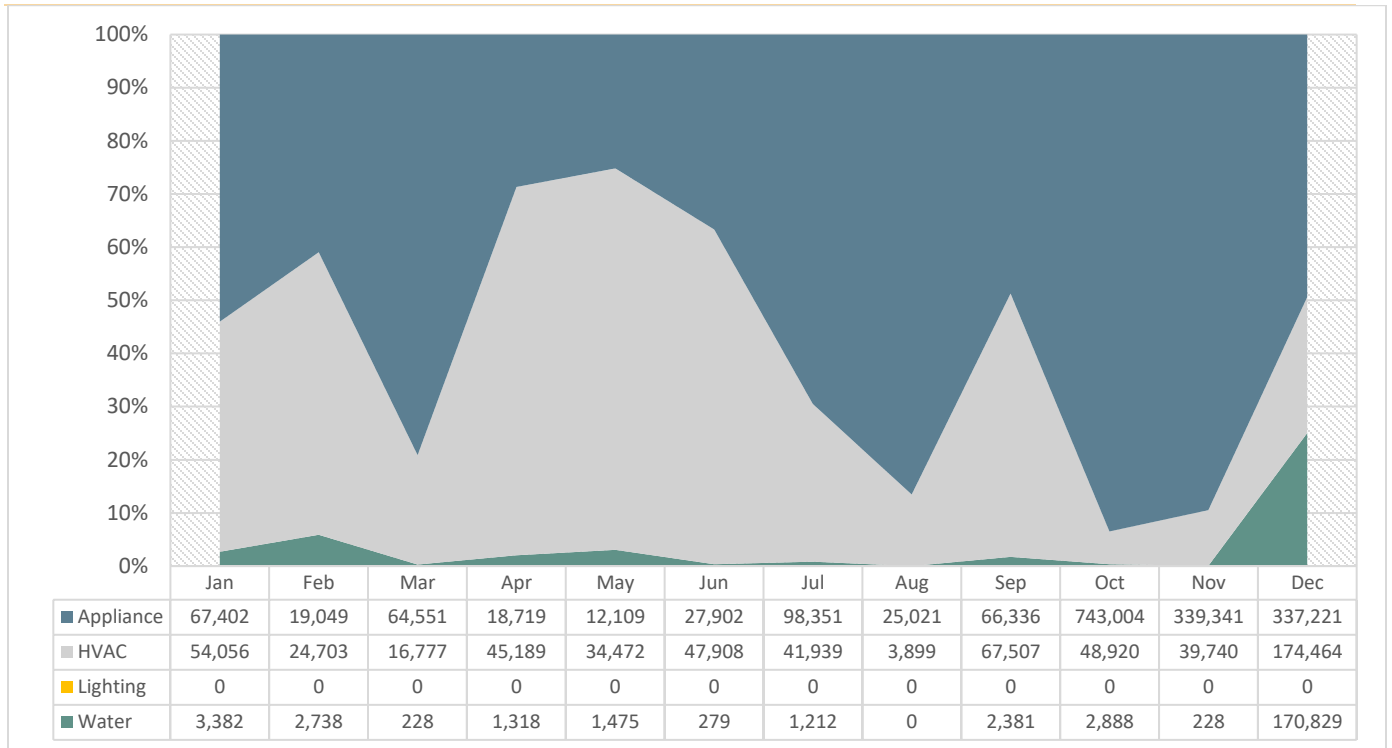


FIGURE 6-2 EX ANTE SAVINGS BY END USE BY MONTH

Project data indicate that energy savings in the program year were heavily concentrated in the latter part of the year and were primarily driven by appliance measures. From January through September, measure activity was relatively modest and spread across appliance and HVAC end uses. A substantial increase in savings occurred in the fourth quarter, beginning in October, when appliance measures surged and became the dominant contributor through November and December. HVAC savings were distributed more evenly throughout the year, with moderate activity during the spring and summer months and a notable peak in December, consistent with seasonal heating demand. Water savings remained low for most of the year but increased sharply in December, indicating a concentrated, end-of-year implementation.

6.2.3 Trade Allies

There are no trade allies in the program. Measures are distributed through an online marketplace (OLM), participating retailer mark-downs, and mail-in-rebates.

6.2.4 Goal Achievement

Total verified savings and percentage of goals are summarized in the table below.

TABLE 6-13 PY15 RLA SUMMARY OF GOAL ACHIEVEMENT

Program	Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Savings (kW) Target	% to kW Target
Retail Lighting and Appliance	392,098	156.2%	7.07	1636.5%
Retail Lighting and Appliance Income Qualified	1,893,099	92.4%	17.35	1172.4%
Total	2,285,197	103.4%	24.42	1306.8%

6.3 EM&V Methodology

RLA has received impact and process evaluations in PY15. The evaluations provided free-ridership estimates, discussions of program satisfaction and strategic recommendations for program improvement, and most/all measures offered by the program have deemed TRM savings. In the initial review of the PY15 program, the Evaluators concluded that RLA did not warrant more than a brief overview of program activity.

Impact methodologies for most RLA measures are the same as described for HPwES, described in Section 4.3.1. The following section discusses savings calculation methods for measures not covered in the HPwES chapter.

TABLE 6-14 RLA DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Impact	Process
Staff & TPI Interviews	4		X
Database Review	Census	X	X
Desk Reviews	Census	X	
Literature Reviews		X	
Appliance Rebate Survey	30	X	X

6.3.1 Deemed Savings Calculation

6.3.1.1 ENERGY STAR Air Purifiers

Savings for ENERGY STAR air purifier were calculated using the deemed savings methodology from the NO TRM V8.0, Section 1.1.5.

TABLE 6-15 ENERGY STAR AIR PURIFIERS DEEMED SAVINGS

Clean Air Delivery Rate (CADR)	Energy Savings (kWh)	Demand Reduction (kW)
30 ≤ Smoke CADR < 100	133	0.015
100 ≤ Smoke CADR < 150	229	0.026
150 ≤ Smoke CADR < 200	302	0.034
200 ≤ Smoke CADR	570	0.065

6.3.1.2 Showerhead Thermostatic Restrictor Values

Savings for showerhead thermostatic restrictor values were calculated using the savings methodology from the NO TRM V8.0, Section 1.2.6.5.

$$\text{Annual Energy Savings} = \frac{\rho \times C_p \times V \times (T_{\text{Setpoint}} - T_{\text{Supply}}) \times \left(\frac{1}{RE}\right)}{\text{Conversion Factor}}$$

$$kW_{\text{Savings}} = kWh_{\text{Savings}} \times \text{Ratio}_{\text{Annual kWh}}^{\text{Peak kW}}$$

Where:

ρ = Water density = 8.33 lb/gal

C_p = Specific heat of water = 1 BTU/lb· °F

V = Gallons of hot water saved per year

= 290 for 1.5 GPM

$T_{Setpoint}$ = Water heater setpoint temperature (122.695°F)

T_{Supply} = Average New Orleans area supply water temperature, 74.8°F

RE = Recovery Efficiency (or in the case of HPWH, EF); if unknown use 0.98 as a default for electric resistance water heaters, 2.2 for heat pump water heaters.

$Conversion\ Factor$ = 3,412 Btu/kWh for electric water heater or 100,000 Btu/Therm for gas water heating

$Ratio_{Annual\ kWh}^{Peak\ kW}$ = 0.0001040 kW/kWh ratio

6.3.1.1 Window AC Replacement

Savings for window air conditioners were calculated using the savings methodology from the NO TRM V8.0, Section 1.3.2.5.

$$kWh_{Savings} = CAP_c \times \frac{1\ kW}{1,000\ W} \times \left(\frac{1}{CEER_{base}} - \frac{1}{CEER_{Eff}} \right) \times EFLH_c \times RAF$$

$$kW_{Reductions} = CAP_c \times \frac{1}{1,000} W/kW \times \left(\frac{1}{CEER_{base}} - \frac{1}{CEER_{Eff}} \right) \times \%CF$$

Where:

CAP_c = Cooling capacity in BTU

$CEER_{base}$ = Combined energy-efficiency ratio of baseline equipment

$CEER_{Eff}$ = Combined energy-efficiency ratio of efficient equipment

$EFLH_c$ = Equivalent Full Load Hours – cooling (1,637)

RAF = Room AC adjustment factor = 0.49

CF = Peak coincidence factor = 0.77

6.3.1.2 Deemed Savings for Other RLA Measures

For remaining measures, the Evaluators used the following NO TRM V8.0 sections and tables to verify savings. The sections are outline in Table 6-16 below.

TABLE 6-16 NO TRM V8.0 SECTIONS FOR OTHER MEASURES

Measure	TRM Section	Calculated / Deemed	TRM Table(s)	Table Page(s)
Clothes Dryers	1.1.2	Deemed	Table 1-4	24
Clothes Washers	1.1.1	Deemed	Table 1-2	20
Dehumidifiers	1.1.8	Deemed	Table 1-21, 1-22	42
EV Charger	1.1.14	Deemed	Section 1.1.14.4	67
Pool Pumps	1.1.9	Deemed	Table 1-24, 1-25	44
Refrigerators	1.1.10	Deemed	Table 1-28	49
Water Coolers	1.1.4	Deemed	Table 1-9	29

Section 6.1 Summary presents the results of the evaluation for the RLA program by measure.

6.4 Evaluation Findings

6.4.1 Gross Impact Findings

6.4.1.1 Aerator (Bathroom and Kitchen)

Expected and verified savings for aerators are summarized below. 27 aerators were installed in 27 homes.

TABLE 6-17 PY15 RLA EXPECTED AND VERIFIED AERATORS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	1,064	1,018	95.7%	0.11	0.11	96.4%
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	1,064	1,018	95.7%	0.11	0.11	96.4%

6.4.1.2 Advanced Power Strip (Tier 1)

Expected and verified savings for APS are summarized below. In RLA there were 4,046 APS Tier 1 (89 APS in RLA, 3,957 in RLA-IQ) installed in 1,160 homes (89 homes in RLA, 1,071 homes in RLA-IQ).

TABLE 6-18 PY15 RLA EXPECTED AND VERIFIED ADVANCED POWER STRIPS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	8,804	7,895	89.7%	1.37	0.79	57.4%
RLA-IQ	214,248	192,138	89.7%	24.75	22.20	89.7%
Total	223,052	200,033	89.7%	26.12	22.99	88.02%

6.4.1.3 Air Purifier

Savings for air purifiers were calculated using the savings methodology from the NO TRM V8.0, Section C.1.5. Expected and verified savings for water coolers are summarized below. There were 7,046 purifiers purchased during PY15. One air purifier unit purchased in late 2024 was returned in early 2025. As a result, a correction line item reflecting this return was included in the current program year dataset. The adjustment is represented as negative savings to properly account for the reversal of previously claimed impacts.

TABLE 6-19 PY15 RLA EXPECTED AND VERIFIED AIR PURIFIER SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	60,656	58,925	97.1%	6.89	6.70	97.2%
RLA-IQ	1,515,522	1,472,279	97.1%	172.07	167.16	97.1%
Total	1,576,178	1,531,204	97.1%	178.96	173.86	97.2%

6.4.1.4 Clothes Dryers

Expected and verified savings for clothes dryers are summarized below. There were 9 units installed in 9 residences.

TABLE 6-22 PY15 RLA EXPECTED AND VERIFIED CLOTHES DRYER SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	2,488	2,091	84.0%	0.37	0.31	83.5%
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	2,488	2,091	84.0%	0.37	0.31	83.5%

6.4.1.5 Clothes Washer

Expected and verified savings for clothes washers are summarized below. There was 1 unit installed in 1 residence.

TABLE 6-22 PY15 RLA EXPECTED AND VERIFIED CLOTHES WASHER SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	0	0	N/A	0.00	0.00	N/A
RLA-IQ	153	153	100.0%	0.04	0.04	100.0%
Total	153	153	100.0%	0.04	0.04	100.0%

6.4.1.6 Dehumidifier

Expected and verified savings for dehumidifiers are summarized below. In RLA, there were 16 dehumidifiers (15 in RLA, 1 in RLA-IQ) that were installed in 16 homes.

TABLE 6-20 PY15 RLA EXPECTED AND VERIFIED DEHUMIDIFIER SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	2,396	1,941	81.0%	0.54	0.44	81.1%
RLA-IQ	253	248	97.9%	0.06	0.06	97.9%
Total	2,649	2,189	82.6%	0.60	0.50	83.4%

6.4.1.7 EV Charger

Expected and verified savings for EV chargers are summarized below. In RLA, there was 1 EV charger that was installed in 1 home.

TABLE 6-21 PY15 RLA EXPECTED AND VERIFIED EV CHARGER SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	0	39	N/A	0.00	0.28	N/A
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	0	39	N/A	0.00	0.28	N/A

6.4.1.8 LED Lamp (OLM and Upstream)

No expected or verified savings were attributed to LED lamps in PY15, as these lamps meet the baseline efficiency requirements defined in the TRM. There were 124 online marketplace lamps installed in 124 homes.

TABLE 6-22 PY15 RLA EXPECTED AND VERIFIED LED SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	0	0	N/A	0.00	0.00	N/A
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	0	0	N/A	0.00	0.00	N/A

6.4.1.9 Low-Flow Showerhead

Expected and verified savings for low-flow showerheads are summarized below. There were 46 showerheads installed in 40 residences.

TABLE 6-23 PY15 RLA EXPECTED AND VERIFIED SHOWERHEAD SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	10,260	10,233	99.7%	1.07	1.06	99.8%
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	10,260	10,233	99.7%	1.07	1.06	99.8%

6.4.1.1 Pool Pump

Expected and verified savings for pool pumps are summarized below. There were 3 pool pumps incentivized.

TABLE 6-24 PY15 RLA EXPECTED AND VERIFIED POOL PUMPS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	7,901	7,310	92.5%	1.51	1.40	92.5%
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	7,901	7,310	92.5%	1.51	1.40	92.5%

6.4.1.1 Refrigerator (Replacement)

ENERGY STAR Refrigerator savings were calculated using the deemed savings from the NO TRM V8.0 Section 1.1.10. After verifying model configurations and features, deemed savings were assigned to each unit using TRM. Expected and verified savings for refrigerators are summarized below. There were 63 replacements (61 from RLA, 2 from RLA-IQ).

TABLE 6-25 PY15 RLA EXPECTED AND VERIFIED REFRIGERATORS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	3,384	3,577	105.7%	0.49	0.52	106.4%
RLA-IQ	76	73	97.2%	0.01	0.01	98.0%
Total	3,460	3,650	105.5%	0.50	0.53	106.0%

6.4.1.1 Showerhead TRV

Expected and verified savings for showerhead thermostatic restrictor values are summarized below. There were 946 units (11 from RLA, 935 from RLA-IQ) installed in 946 residences.

TABLE 6-20 PY15 RLA EXPECTED AND VERIFIED SHOWERHEAD TRV SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	385	373	96.9%	0.04	0.04	88.2%
RLA-IQ	164,934	31,706	19.2%	17.48	3.30	18.9%
Total	165,319	32,079	19.4%	17.52	3.34	19.1%

6.4.1.1 Smart Thermostat

Savings for smart thermostats were calculated using the savings methodology from the NO TRM V8.0, Section 1.3.9. Expected and verified savings for 902 smart thermostats (817 from RLA and 85 from RLA-IQ) are summarized below.

A total of 73 correction line items were included in the dataset to offset previously claimed savings for smart thermostats that were either returned or claimed in error. Of these, four accounts included projects that reported outdated savings values for legacy smart thermostats that were not eligible under the program, along with associated correction line items. In addition, correction line items were included for thermostats that were returned.

ENO acknowledges errors in the tracking data and noted that some corrections were applied without recognizing that the associated orders had been returned and should not have been corrected as valid projects. Due to these issues, the affected projects were deemed ineligible for ex post savings, and zero savings were assigned.

TABLE 6-26 PY15 RLA EXPECTED AND VERIFIED SMART THERMOSTATS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	532,879	491,639	92.3%	102.96	92.27	89.62%
RLA-IQ	56,270	53,253	94.60%	11.05	10.46	94.60%
Total	589,149	544,892	92.5%	114.01	102.73	90.11%

6.4.1.1 Water Cooler

Expected and verified savings for water coolers are summarized below. There was 1 unit installed in 1 residence.

TABLE 6-21 PY15 RLA EXPECTED AND VERIFIED WATER COOLER SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	508	503	99.0%	0.06	0.06	99.0%
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	508	503	99.0%	0.06	0.06	99.0%

6.4.1.1 Water Heater

Expected and verified savings for water heaters are summarized below. There were 7 units installed in 7 residences.

TABLE 6-22 PY15 RLA EXPECTED AND VERIFIED WATER HEATER SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	9,303	13,954	150.0%	0.82	1.22	150.0%
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	9,303	13,954	150.0%	0.82	1.22	150.0%

6.4.1.2 Water Heater Pipe Wrap

Expected and verified savings for pipe wrap projects are summarized below. Pipe wrap was installed at 40 residences.

TABLE 6-27 PY15 RLA EXPECTED AND VERIFIED PIPE WRAP SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
RLA	1,012	953	94.2%	0.12	0.11	94.1%
RLA-IQ	0	0	N/A	0.00	0.00	N/A
Total	1,012	953	94.2%	0.12	0.11	94.1%

6.4.1.3 Window Air Conditioner

Savings for window air conditioners were calculated using the savings methodology from the NO TRM V8.0, Section 1.3.2. Expected and verified savings for window air conditioners are summarized below. There were 45 units (44 in RLA, 1 in RLA-IQ) installed in 35 residences (24 in RLA, 1 in RLA-IQ).

TABLE 6-28 PY15 RLA EXPECTED AND VERIFIED WINDOW AC SAVINGS

Program	<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
RLA	10,216	10,383	101.6%	9.81	9.98	101.7%
RLA-IQ	209	207	99.3%	0.20	0.20	99.8%
Total	10,425	10,590	101.6%	10.01	10.18	101.70%

6.4.2 Net Impact Findings

The table summarizes NTG results by measure and the source of the impact. The source is primarily the participant survey, and where there is low or no response rates, the Evaluators performed literature reviews. The literature review-based net-to-gross values include spillover savings if it occurred in the referenced studies.

TABLE 6-24 RLA NET IMPACTS

Measure	NTG	Source of Net-to-Gross
Advanced Power Strip	71.9%	PY15 Survey
Air Purifier	90.7%	PY15 Survey
Dehumidifier	71.9%	PY15 Survey
Heat Pump Water Heater	71.9%	PY15 Survey
Pipe Insulation	71.9%	PY15 Survey
Refrigerator	71.9%	PY15 Survey
Smart Thermostat	78.2%	PY15 Survey
Thermostatic Shower Valve	71.9%	PY15 Survey
Window AC	71.9%	PY15 Survey

6.4.3 Process Findings

The Evaluators conducted a process evaluation of the RLA program in PY15. Process activities included a database review, participant survey, and staff and implementer interviews.

Survey participants represent a range of rebated and marketplace measures, with installation volumes varying by equipment type as summarized:

Survey Participants by Measure	Number of Responses
Air purifier	79
Smart thermostat	42
Refrigerator	13
Advanced power strips	4
Thermostatic shower valve	3
Dehumidifier	2
Heat pump water heater	1

Window air conditioner	1
Water heater pipe insulation	1

6.4.3.1 Program Design and Implementation

The RLA program provides energy-efficient lighting and appliance rebates through multiple delivery channels. These include an online store, mail-in rebates, and limited-time special promotions. Starting in PY15, the program began offering income-qualified incentives, using a simplified self-attestation process similar to that used in other residential offerings to qualify customers for the incentives.

The program design includes rebates for the general population, with increased incentive levels for income-qualified participants. Unlike other programs, retail offerings are not delivered through in-home visits or contractor networks.

6.4.3.2 Marketing and Outreach

Outreach for the retail program is primarily digital and print-based. Key strategies include:

- Online store promotions
- Bill inserts and utility newsletter features (e.g., Entergy’s “Circuit”)
- Email campaigns
- Targeted special offers to income-qualified customers using census block-level data

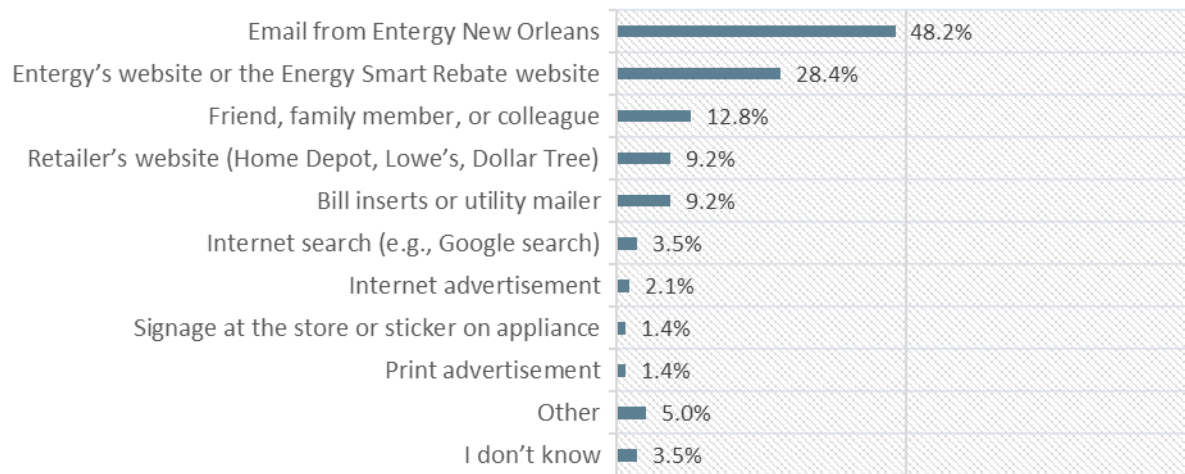
The program does not currently segment offers using utility rate assistance data, but instead relies on propensity modeling and geographic targeting to identify and promote offers to low-income households. All customers are required to self-attest to their income level to access enhanced incentives.

6.4.3.3 Participant Awareness and Motivation

Participants access the program via self-directed channels and are made aware through marketing communications and the utility website.

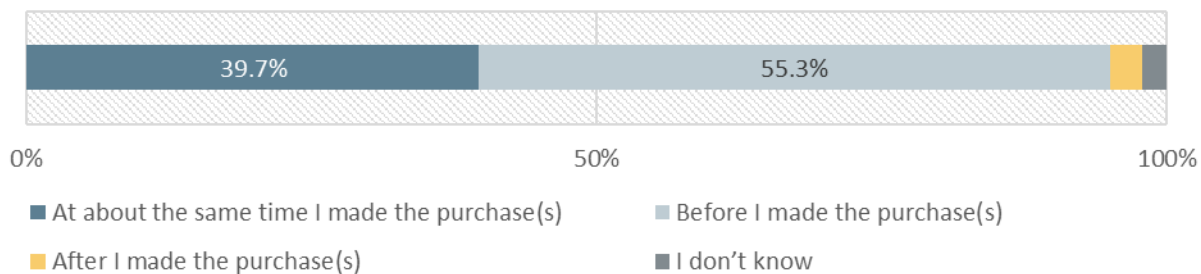
Awareness is led by direct digital communication, with nearly half learning via email from Entergy New Orleans (48.2%), followed by Entergy/Energy Smart websites (28.4%). Retail touchpoints play a secondary role (retailer websites 9.2%; bill inserts 9.2%), while organic discovery is modest (friend/family 12.8%; internet search 3.5%).

FIGURE 6-3 SOURCES OF PROGRAM AWARENESS (N=141)



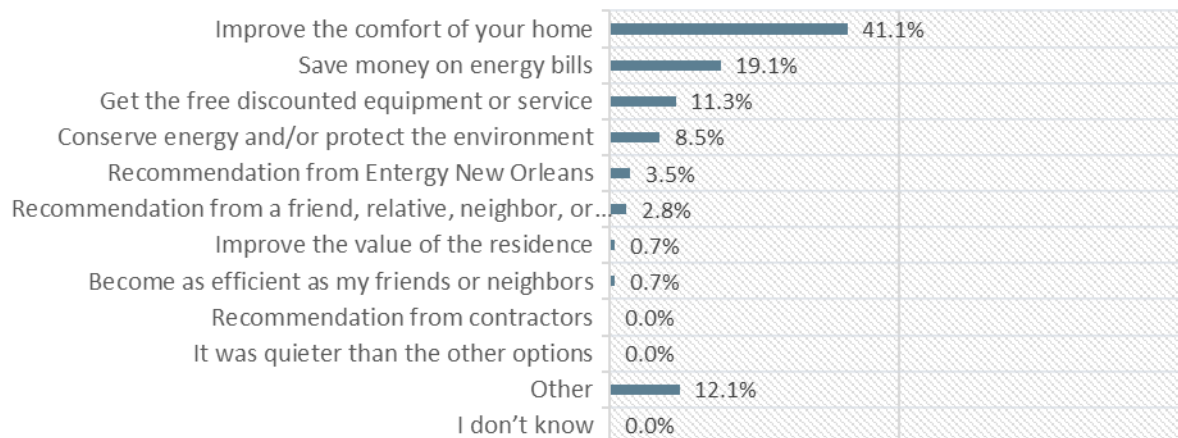
Most participants were aware of rebates before (55.3%) or at the time of purchase (39.7%), with very few learning after (2.8%), indicating rebates are generally discovered early enough to influence decisions.

FIGURE 6-4 TIMING OF REBATE AWARENESS (N=141)



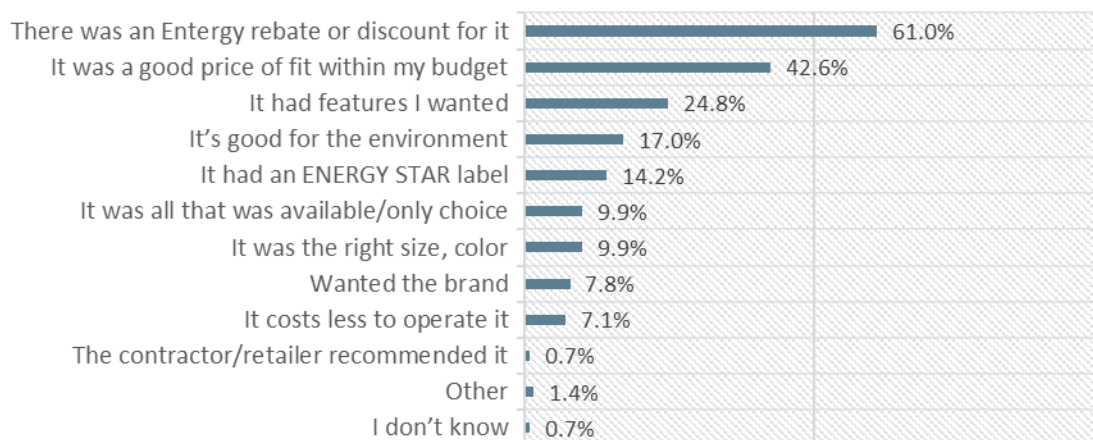
The top driver for purchasing the efficient products is home comfort (41.1%), followed by saving money on energy bills (19.1%) and free/discounted equipment (11.3%), showing this program skews more toward comfort-led upgrades than purely financial framing.

FIGURE 6-5 PRIMARY REASON FOR PURCHASE (N=141)



The rebate is the frequently cited determinant for purchasing the specific equipment type: 61.0% cite the Entergy rebate or discount, followed by price/budget fit (42.6%) and desired features (24.8%). ENERGY STAR labeling also plays a role (14.2%).

FIGURE 6-6 REASON FOR PURCHASING SPECIFIC EQUIPMENT (N=141)



6.4.3.4 Participation in Program Offerings

6.4.3.4.1 Participant Journey Overview

Participants engage with the program through one of the following pathways:

- Customers browse eligible products via the online store, promotional links, or printed materials.
- Customers select and purchase discounted products directly (online), or purchase eligible items in-store and submit mail-in rebate forms.
- For income-qualified offers, customers complete a self-attestation form to access enhanced rebates.
- Orders are fulfilled or rebates are processed after purchase verification.
- Special offer recipients may receive targeted communications prompting them to participate during promotional windows.

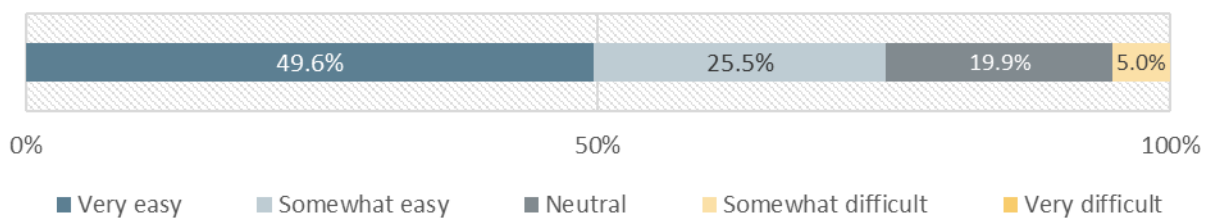
6.4.3.4.2 Measure Verification

Most participants verified the purchase of the rebated measures. For measures that required additional participant effort to install, respondents reported whether the devices were in use. Advanced power strips were generally installed once received, with lack of time cited as the only reason for incomplete installation. In contrast, plumbing-related measures, including pipe insulation and thermostatic shower valves, exhibited lower installation rates. Non-installation was primarily attributed to time constraints, with some measures instead given to others. These findings indicated that installation effort, rather than product understanding or acceptance, affected participant follow-through for non–plug-and-play measures.

6.4.3.4.3 Purchase Experience

Participants reported that the online marketplace was easy to use. Overall, 75.1% rated the marketplace as somewhat or very easy to use, including 49.6% who rated it “very easy,” while 5.0% reported difficulty.

FIGURE 6-7 EASE OF FINDING ITEMS ONLINE (N=141)



A few customers provided suggestions for improvement (n=7) that focused on clearer language, better navigation/search, and checkout reliability, rather than dissatisfaction with product availability.

- “Clear language”
- “Easier navigation to cart.”
- “More emails for detailed directions.”
- “More intuitive search options.”
- “The website would often malfunction when I got to the payment section and it took multiple tries to complete the purchase.”

Very few participants contacted Entergy for assistance (5.7%). Among those who did, requests were primarily related to technical issues (37.5%) or order status checks (25.0%). Satisfaction with the thoroughness and timeliness of the assistance received was generally high, with 87.5% of respondents reporting satisfaction.

FIGURE 6-8 REASON FOR CONTACTING STAFF (N=8)

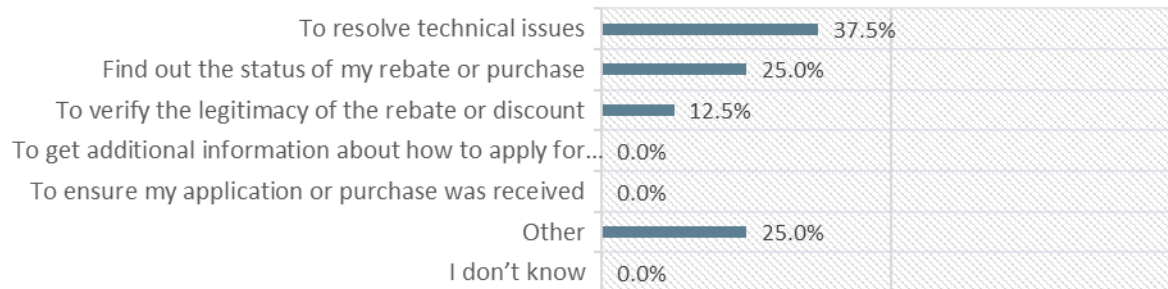
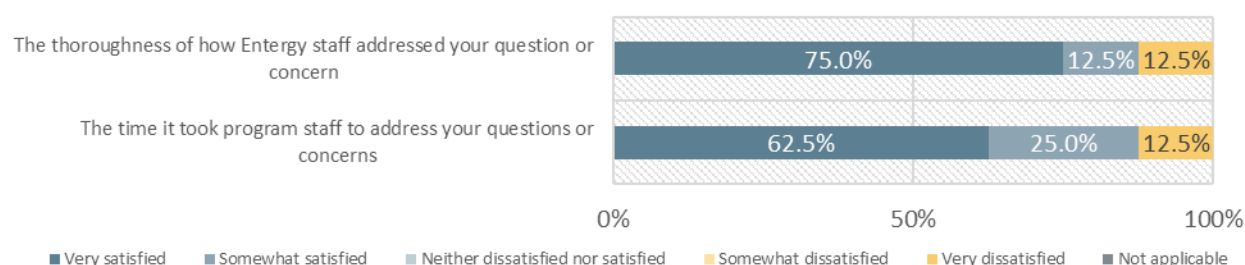
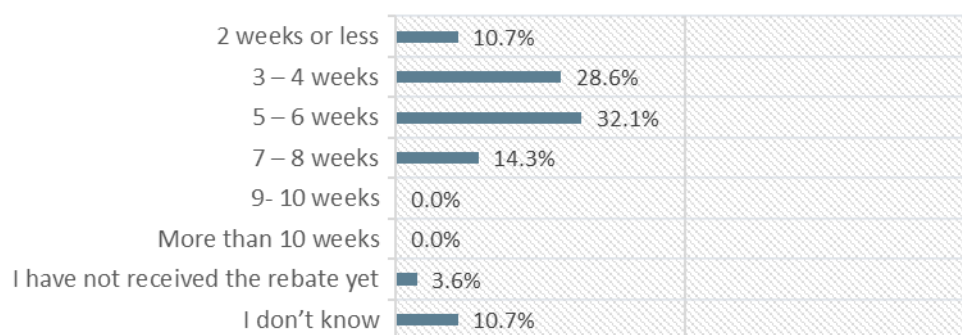


FIGURE 6-9 SATISFACTION WITH STAFF INTERACTIONS (N=8)



Most respondents reported receiving their rebate within six weeks, with the largest share indicating a wait of five to six weeks. Specifically, 32.1% reported receiving the rebate in five to six weeks and 28.6% in three to four weeks, while 10.7% received it within two weeks or less. Longer wait times were less common: 14.3% reported seven to eight weeks, and no respondents reported waiting nine weeks or longer. A small share, 3.6%, indicated they had not yet received the rebate, and 10.7% reported that they did not know the timing.

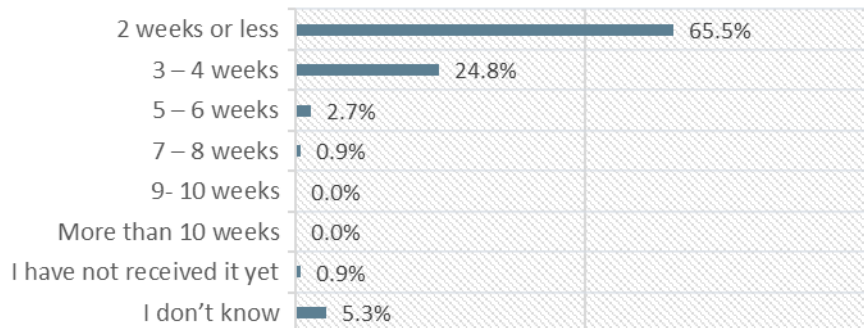
FIGURE 6-10 TIME TO RECEIVE REBATE (N=28)



Most respondents received the product quickly, with delivery typically occurring within two weeks. Nearly two-thirds of respondents (65.5%) reported receiving the product in two weeks or less, and an additional 24.8% received it within three to four weeks. Longer delivery times were uncommon: 2.7% reported five to six weeks and 0.9% reported seven to eight weeks, with no respondents reporting delivery times of nine weeks or more. Very few respondents (0.9%) indicated they had not yet received the product, while 5.3% reported that they did not know the delivery timeframe. Overall, the distribution indicates that product delivery generally occurred

within four weeks for most participants, with limited delays and a small amount of uncertainty around delivery status.

FIGURE 6-11 TIME TO RECEIVE MARKETPLACE PRODUCTS (N=113)

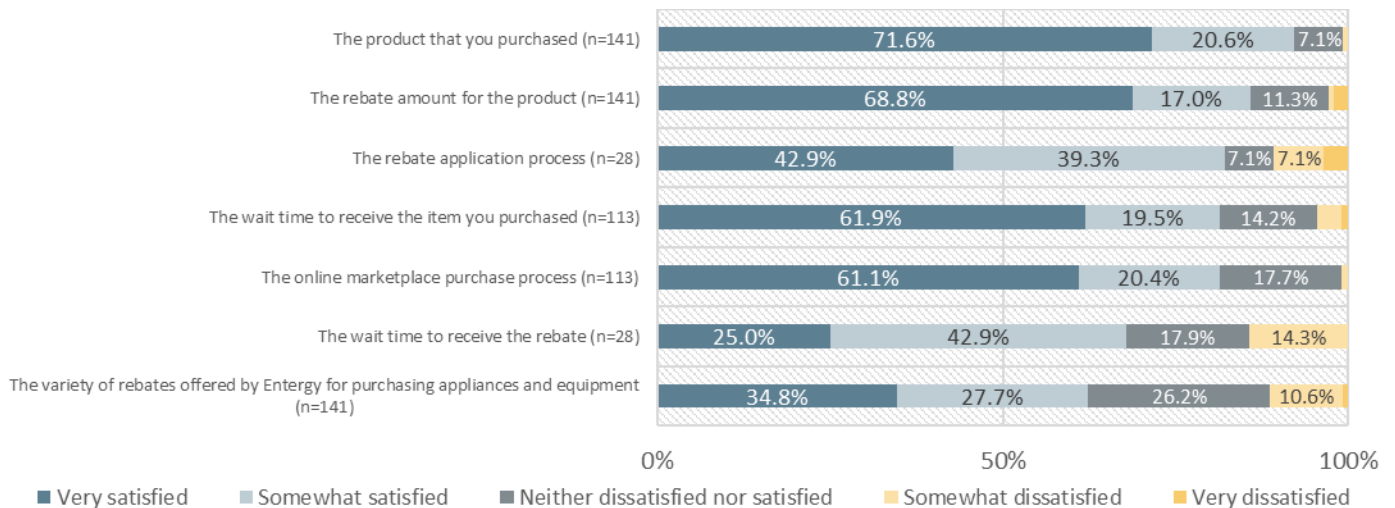


6.4.3.5 Participant Experience and Satisfaction

The program is designed to offer an online interface that reduces required administrative steps for participants, supporting customer participation.

Overall, few participants reported dissatisfaction with the rated program elements. Satisfaction was highest with the product purchased and the amount of the rebate receive for the product. Despite most program elements being well received, less than half were very satisfied with the application process. Satisfaction was also lower for the wait time to receive the rebate and the variety of rebates offered.

FIGURE 6-12 SATISFACTION WITH PROGRAM ELEMENTS (SAMPLE SIZE VARIES)

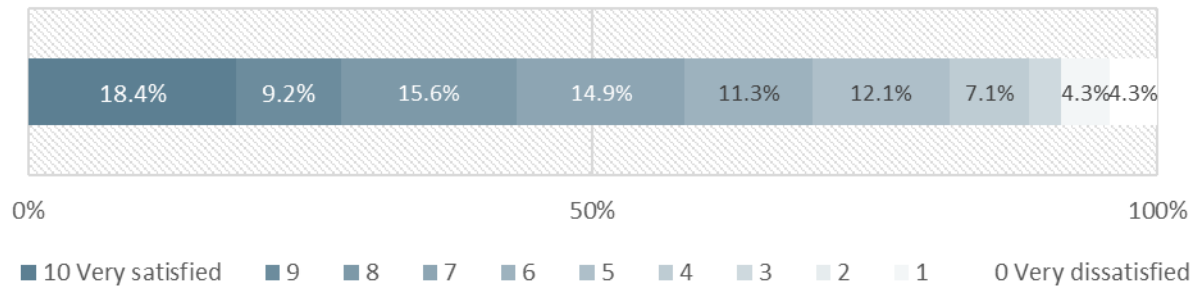


Program feedback primarily reflected concerns about limited rebate amounts, eligibility restrictions, transparency, the range of eligible product categories, and broader dissatisfaction with Entergy billing and outages, rather than the rebate mechanism itself.

Participation improved perception of Entergy for most users: 63.8% reported improved satisfaction, while only 2.8% reported decreased satisfaction.

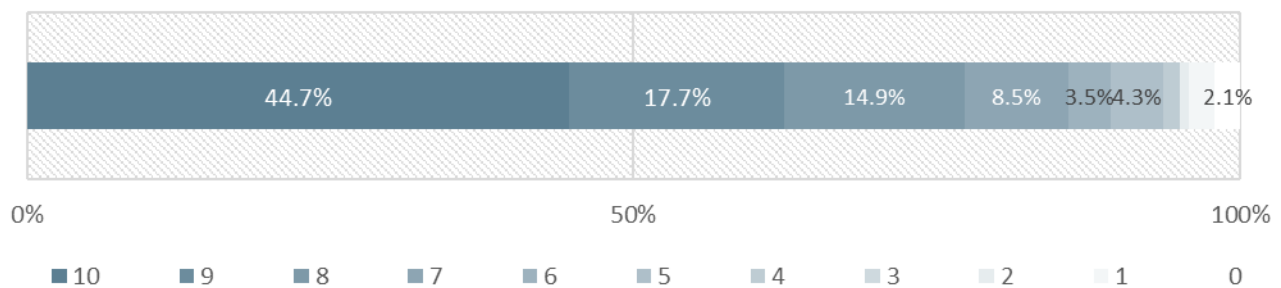
Satisfaction with Entergy as a utility provider was mixed: 43.3% rated Entergy an 8–10, while 13.7% rated 0–3, showing neutral-to-positive sentiment but lingering frustration.

FIGURE 6-13 SATISFACTION WITH ENTERGY AS PROVIDER (N=141)



A large share of respondents expressed a positive likelihood of recommending the program, with ratings clustered at the high end of the scale. Nearly two-thirds of respondents (62.4%) rated their likelihood to recommend the program as a nine or 10, including 44.7% who selected a 10 and 17.7% who selected a nine. Expanding the lens, 77.3% provided a rating of eight or higher, indicating broadly favorable perceptions of the program. Mid-range ratings were less common, with 8.5% selecting seven and 3.5% selecting six. Low likelihood ratings accounted for a relatively small portion of responses, with only a small share assigning ratings at the lower end of the scale.

FIGURE 6-14 LIKELIHOOD TO RECOMMEND THE PROGRAM (N=141)



Recommendation of the Entergy New Orleans program is driven primarily by clear bill savings, rebate value, and overall positive product experience, with promoters frequently citing meaningful financial benefit.

Lower ratings are largely tied to utility trust concerns and perceptions that incentives are too limited to substantially impact energy costs, highlighting the importance of reinforcing measurable savings and program value.

TABLE 6-29 PY15 REASONS FOR RECOMMENDATION (N=141)

Why participants recommend (or hesitate to) recommend - Coded	Promoter	Passive	Detractor	Total	Total %
Rebates and Financial Incentive (Savings, Checks, Discount)	27	5	0	32	22.7%
General Good Experience	16	5	0	21	14.9%
Improving Comfort / Home Improvement	12	0	0	12	8.5%
Distrust of Entergy	1	2	7	10	7.1%
Easy / Convenient / No Hassle	8	1	0	9	6.4%
Low Savings / No Value / Doesn't Work	0	3	4	7	5.0%
Low Incentive / Rebate Too Small	2	1	1	4	2.8%
Environmental Reasons / Good for Community / Grid Support	2	0	0	2	1.4%
Other or Unclear	20	16	8	44	31.2%

6.4.4 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY14 data were generally present in PY15. The following bullets outline notes from reviewing the RLA data:

- Appliance participant information: In general, participant contact names, contact phone numbers, and email addresses were provided in PY15 data, however, there were many projects that were missing these fields:
 - Participant phone number: 1,472 projects in 813 distinct homes (813 out of 7,032 homes)
 - Participant email address: 467 projects in 146 distinct homes (146 out of 7,032 homes)

6.5 Findings and Conclusions

Findings:

- **The program primarily reached customers through digital channels at points that align with purchase decision-making.** Awareness is driven largely by Entergy emails (48.2%) and the utility website (28.4%), while retail touchpoints play a more limited role. Nearly all customers (95.0%) learned about rebates before or during purchase, indicating that marketing outreach is well timed. The rebate is the strongest influence on product choice (61.0%), exceeding the importance of price fit (42.6%) and desired features (24.8%). Together, these results indicate that incentives are central to program influence and that digital outreach serves as the primary gateway to participation.
- **The online marketplace performs well overall, though some users experience navigation and checkout friction.** Three-quarters of participants (75.1%) found the online store easy to use, and nearly half rate it “very easy.” Only 5.0% reported difficulty. Suggestions from users focused on clearer language, improved navigation, and occasional checkout malfunctions. Very few customers contacted Entergy for help (5.7%), and those who do report high satisfaction with staff (87.5%), indicating that the platform is largely self-serve and intuitive.
- **Rebate fulfillment performance varies by delivery channel, with marketplace delivery providing a stronger customer experience than mail-in rebates.** Marketplace delivery was fast, with 90.3% of

customers receiving products within four weeks. Mail-in rebates took longer and introduce greater uncertainty: 60.7% are received within 3–6 weeks, while 25.0% take 7–8 weeks or leave customers unsure of timing. While satisfaction with rebate amounts was high, satisfaction with the application process and wait time was lower relative to other program elements, indicating that fulfillment speed and clarity remain key drivers of customer experience.

- **The program generated strong customer advocacy and improved Entergy brand sentiment, though enthusiasm was tempered by broader utility perceptions and incentive expectations.** Advocacy was high, with 77.3% of participants rating their likelihood to recommend the program at 8–10, including 44.7% who gave a “10.” Participation also improved satisfaction with Entergy for a majority of customers (63.8%). Among detractors, feedback most often reflected distrust of Entergy (7.1%) and perceptions that incentives were too small to meaningfully affect bills (5.0%). These concerns appeared to stem more from broader utility context and customer expectations than from program design or delivery.

Recommendations:

- **Continue to optimize digital targeting and messaging to reinforce incentive value and product relevance.** Refining email segmentation and website content to better align products with customer motivations (such as comfort or health benefits) could strengthen already effective outreach. Continued emphasis on digital channels would build on proven awareness pathways, while any exploration of retailer-based messaging should be limited to small-scale testing to assess whether it provides incremental value beyond digital engagement.
- **To enhance the user experience, consider incremental refinements to the online store.** This might include reviewing navigation pathways, simplifying product descriptions, or monitoring checkout reliability during high-traffic periods. Even small adjustments—such as clearer search filters or more intuitive cart behavior—could reduce friction for the minority who encounter issues without requiring major redevelopment.
- **Improve clarity and predictability of rebate fulfillment, particularly for mail-in rebates, to reduce customer uncertainty.** Setting clearer expectations around typical processing timelines and providing basic status communications, such as confirmation emails or timeline reminders, could improve customer satisfaction without materially changing rebate structures. Where feasible, exploring opportunities to streamline mail-in processing or expand instant-rebate options would further enhance the participant experience. To improve the perceived value of rebates, consider setting clearer expectations around processing timelines or offering periodic status updates.

7 MULTIFAMILY SOLUTIONS

7.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable for both Multifamily Solutions (MF Solutions), and Multifamily Solutions Income Qualified (MF Solutions-IQ).

TABLE 7-1 PY15 MULTIFAMILY SOLUTIONS ENERGY SAVINGS (kWh)

Program	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Multifamily Solutions	1,914,343	92.5%	1,769,877	85.7%	1,517,535
Multifamily Solutions Income Qualified	2,808,541	91.3%	2,565,353	100.0%	2,565,353
Total	4,722,884	91.8%	4,335,231	94.2%	4,082,888

Sums may differ due to rounding.

TABLE 7-2 PY15 MULTIFAMILY SOLUTIONS DEMAND REDUCTIONS (kW)

Program	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Multifamily Solutions	450.16	101.9%	458.74	90.2%	413.61
Multifamily Solutions Income Qualified	960.72	94.1%	903.81	100.0%	903.81
Total	1,410.88	96.6%	1,362.55	96.7%	1,317.43

Sums may differ due to rounding.

TABLE 7-3 PY15 MULTIFAMILY SOLUTIONS LIFETIME SAVINGS SUMMARY

Program	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Multifamily Solutions	14.7	26,006,984	23,448,816
Multifamily Solutions Income Qualified	15.5	39,948,752	39,948,752
Total	15.2	65,955,736	63,397,569

Sums may differ due to rounding.

TABLE 7-4 PY15 MULTIFAMILY SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Program	Participation (Count of Measures)	Incentive Spend (\$)
Multifamily Solutions	3,543	\$373,599
Multifamily Solutions Income Qualified	7,998	\$728,977
Total	11,541	\$1,102,576

Sums may differ due to rounding.

7.1.1 MF Solutions

TABLE 7-5 PY15 MULTIFAMILY SOLUTIONS ENERGY SAVINGS (kWh)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Advanced Power Strip	55,433	74.7%	41,413	90.2%	37,339
Air Infiltration	310,950	93.0%	289,289	90.2%	260,833
Duct Sealing	1,175,182	95.5%	1,121,789	90.2%	1,011,444
Faucet Aerator	17,242	95.1%	16,394	90.2%	14,781
LED 5W Candelabra (Specialty)	221	100.0%	221	90.2%	199
LED 6W Globe (Specialty)	945	99.9%	945	90.2%	852
LED 9W A-Type (Standard)	795	100.0%	794	90.2%	716
Low-Flow Showerhead	66,120	95.9%	63,409	90.2%	57,172
MF Direct Install	0	N/A	0	N/A	0
Smart Thermostat	268,608	81.5%	218,947	54.4%	119,162
Water Heater Pipe Insulation	18,848	88.5%	16,677	90.2%	15,037
Total	1,914,343	92.5%	1,769,877	85.7%	1,517,535

Sums may differ due to rounding.

TABLE 7-6 PY15 MULTIFAMILY SOLUTIONS DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Advanced Power Strip	5.71	32.3%	1.84	90.2%	1.66
Air Infiltration	101.41	93.0%	94.35	90.2%	85.07
Duct Sealing	331.85	106.1%	351.95	90.2%	317.33
Faucet Aerator	1.78	95.8%	1.70	90.2%	1.54
LED 5W Candelabra (Specialty)	0.04	99.0%	0.04	90.2%	0.04
LED 6W Globe (Specialty)	0.19	98.6%	0.18	90.2%	0.17
LED 9W A-Type (Standard)	0.16	99.1%	0.16	90.2%	0.14
Low-Flow Showerhead	6.87	95.9%	6.59	90.2%	5.95
MF Direct Install	0.00	N/A	0.00	N/A	0.00
Smart Thermostat	0.00	N/A	0.00	N/A	0.00
Water Heater Pipe Insulation	2.16	88.5%	1.91	90.2%	1.72
Total	450.16	101.9%	458.74	90.2%	413.61

Sums may differ due to rounding.

TABLE 7-7 PY15 MULTIFAMILY SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Advanced Power Strip	10.0	414,128	373,392
Air Infiltration	11.0	3,182,176	2,869,162
Duct Sealing	18.0	20,192,197	18,205,999
Faucet Aerator	10.0	163,939	147,813

LED 5W Candelabra (Specialty)	0.5	110	100
LED 6W Globe (Specialty)	0.5	472	426
LED 9W A-Type (Standard)	0.5	397	358
Low-Flow Showerhead	10.0	634,092	571,720
MF Direct Install	N/A	0	0
Smart Thermostat	5.5	1,202,672	1,084,372
Water Heater Pipe Insulation	13.0	216,800	195,475
Total	14.7	26,006,984	23,448,816

Sums may differ due to rounding.

TABLE 7-8 PY15 MULTIFAMILY SOLUTIONS PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Advanced Power Strip	181	\$9,955
Air Infiltration	526	\$91,635
Duct Sealing	527	\$202,308
Faucet Aerator	431	\$568
LED 5W Candelabra (Specialty)	13	\$32
LED 6W Globe (Specialty)	58	\$164
LED 9W A-Type (Standard)	102	\$181
Low-Flow Showerhead	290	\$1,407
MF Direct Install	395	\$25,675
Smart Thermostat	276	\$41,400
Water Heater Pipe Insulation	744	\$275
Total	3,543	\$373,599

Sums may differ due to rounding.

7.1.2 MF Solutions – Income Qualified

TABLE 7-9 PY15 MF SOLUTIONS - IQ ENERGY SAVINGS (kWh)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Advanced Power Strip	37,705	74.7%	28,168	100.0%	28,168
Air Infiltration	604,618	93.3%	564,302	100.0%	564,302
Ceiling Insulation	277,911	99.4%	276,270	100.0%	276,270
Duct Sealing	1,281,928	89.7%	1,150,132	100.0%	1,150,132
Faucet Aerator	67,770	95.2%	64,539	100.0%	64,539
LED 15W A-Type (Standard)	42	98.8%	42	100.0%	42
LED 15W PAR38 (Outdoor) (Specialty)	127	81.8%	104	100.0%	104
LED 5W Candelabra (Specialty)	765	98.6%	754	100.0%	754
LED 6W Globe (Specialty)	6,941	99.3%	6,890	100.0%	6,890
LED 9W A-Type (Standard)	4,744	99.1%	4,701	100.0%	4,701
Low-Flow Showerhead	218,196	95.9%	209,250	100.0%	209,250
MF Direct Install	0	N/A	0	N/A	0
Smart Thermostat	268,858	84.0%	225,749	100.0%	225,749

Water Heater Pipe Insulation	38,936	88.5%	34,452	100.0%	34,452
Total	2,808,541	91.3%	2,565,353	100.0%	2,565,353

Sums may differ due to rounding.

TABLE 7-10 PY15 MF SOLUTIONS - IQ DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Advanced Power Strip	3.89	32.5%	1.27	100.0%	1.27
Air Infiltration	197.18	93.3%	184.04	100.0%	184.04
Ceiling Insulation	361.03	99.4%	358.90	100.0%	358.90
Duct Sealing	361.99	89.7%	324.73	100.0%	324.73
Faucet Aerator	7.01	95.8%	6.71	100.0%	6.71
LED 15W A-Type (Standard)	0.01	99.0%	0.01	100.0%	0.01
LED 15W PAR38 (Outdoor) (Specialty)	0.00	N/A	0.00	100.0%	0.00
LED 5W Candelabra (Specialty)	0.15	98.6%	0.15	100.0%	0.15
LED 6W Globe (Specialty)	1.38	99.3%	1.37	100.0%	1.37
LED 9W A-Type (Standard)	0.94	99.6%	0.93	100.0%	0.93
Low-Flow Showerhead	22.68	95.9%	21.76	100.0%	21.76
MF Direct Install	0.00	N/A	0.00	N/A	0.00
Smart Thermostat	0.00	N/A	0.00	N/A	0.00
Water Heater Pipe Insulation	4.46	88.5%	3.95	100.0%	3.95
Total	960.72	94.1%	903.81	100.0%	903.81

Sums may differ due to rounding.

TABLE 7-11 PY15 MF SOLUTIONS - IQ LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Advanced Power Strip	10.0	281,683	281,683
Air Infiltration	11.0	6,207,321	6,207,321
Ceiling Insulation	30.0	8,288,091	8,288,091
Duct Sealing	18.0	20,702,384	20,702,384
Faucet Aerator	10.0	645,387	645,387
LED 15W A-Type (Standard)	0.5	21	21
LED 15W PAR38 (Outdoor) (Specialty)	0.5	52	52
LED 5W Candelabra (Specialty)	0.5	377	377
LED 6W Globe (Specialty)	0.5	3,445	3,445
LED 9W A-Type (Standard)	0.5	2,350	2,350
Low-Flow Showerhead	10.0	2,092,505	2,092,505
MF Direct Install	N/A	0	0
Smart Thermostat	5.7	1,277,257	1,277,257
Water Heater Pipe Insulation	13.0	447,879	447,879
Total	15.5	39,948,752	39,948,752

Sums may differ due to rounding.

TABLE 7-12 PY15 MF SOLUTIONS - IQ PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Advanced Power Strip	124	\$6,820
Air Infiltration	733	\$237,571
Ceiling Insulation	64	\$159,946
Duct Sealing	633	\$220,685
Faucet Aerator	1,780	\$2,715
LED 15W A-Type (Standard)	2	\$16
LED 15W PAR38 (Outdoor) (Specialty)	1	\$8
LED 5W Candelabra (Specialty)	45	\$110
LED 6W Globe (Specialty)	429	\$1,201
LED 9W A-Type (Standard)	612	\$1,078
Low-Flow Showerhead	957	\$4,749
MF Direct Install	806	\$52,260
Smart Thermostat	275	\$41,250
Water Heater Pipe Insulation	1,537	\$569
Total	7,998	\$728,977

Sums may differ due to rounding.

7.2 Program Description

The offering is designed to promote energy efficiency in the multifamily sector by offering home energy walkthrough assessments and deeper energy assessments to multifamily customers. Franklin implements the Multifamily Solutions offering. Incentives are provided to trade allies for installation of pre-approved measures. The program is a direct install and weatherization program similar to HPwES, but targets homes with five or more attached dwelling units. Properties with four or more meters can qualify.

This channel was developed to work towards overcoming the “split incentive” barrier to program participation; dwelling units have historically been underserved as owners are often unwilling to make significant investments in energy efficiency when the utility bill is paid by tenants. Participation in the multi-family program is free to all, regardless of income.

7.2.1 Program Delivery Channels and Expected Savings

The evaluation approach for PY15 included the following activities: project data review, desk reviews, staff interviews, multifamily property manager interviews and site visits. Records indicated a total of 8,274 projects that were completed in fifteen (15) large apartment complexes, within 2,770 distinct apartment units.

The following figures show the contribution to savings by measure in the program.

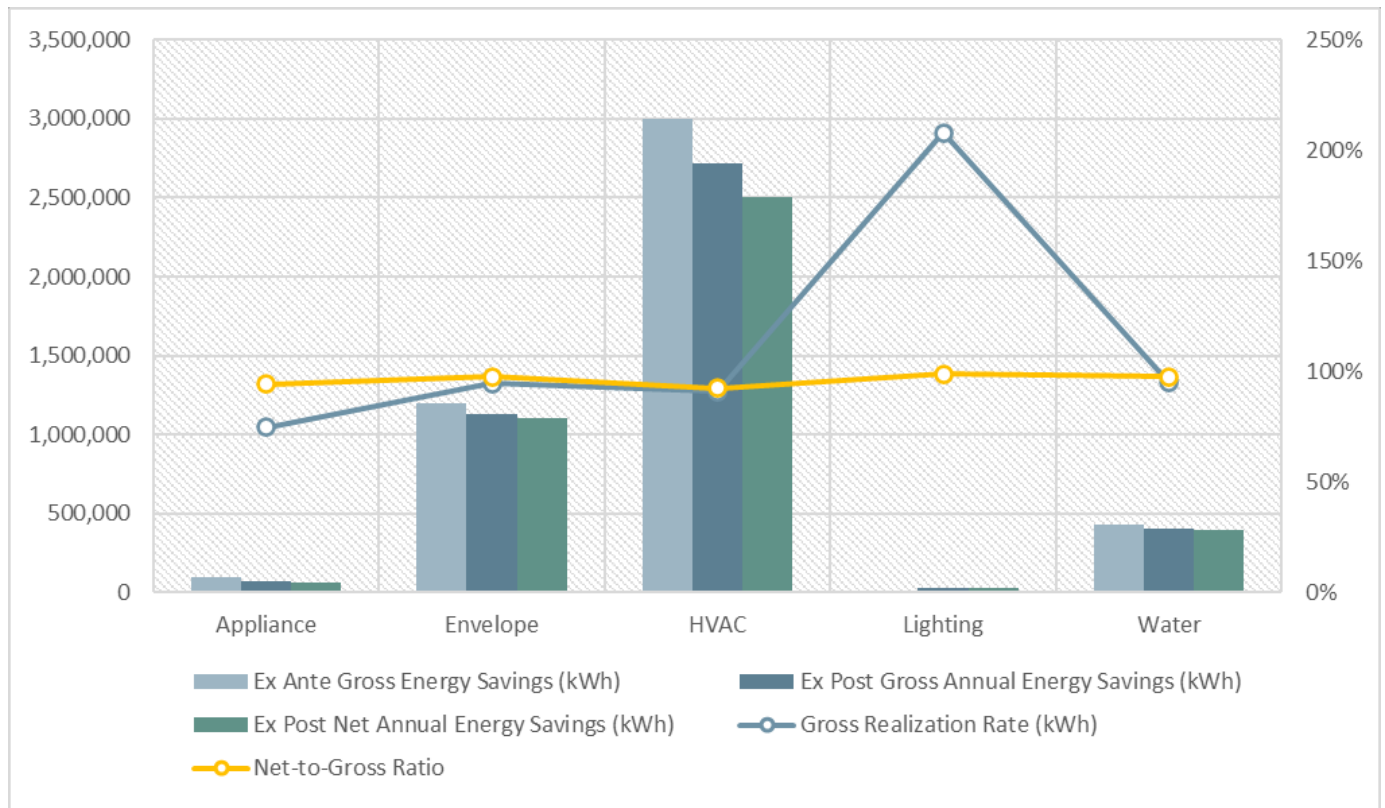


FIGURE 7-1 MULTIFAMILY SOLUTIONS ENERGY SAVINGS SUMMARY (kWh)

In PY15, the HVAC measures (smart thermostats and duct sealing) accounted for 63.4% of expected energy (kWh) savings, the envelope measure (air infiltration and ceiling insulation) contributed 25.3% of expected savings, the water measures (aerators, showerheads, water heater pipe wrap) contributed 9.0%, the lighting measures (LED lamps) contributed 0.3%, and the appliance measures (advanced power strips) contributed 2.0% of expected energy savings. Compared to PY14, PY15 saw a 65.8% increase in expected energy savings as the program claimed 4,722,884 kWh in PY15.

7.2.2 Timing of Projects

The figure below shows *ex ante* energy savings (kWh) for the program by end use, by month. The tracking data indicated that there was a lull in project completion for the months of February and March.

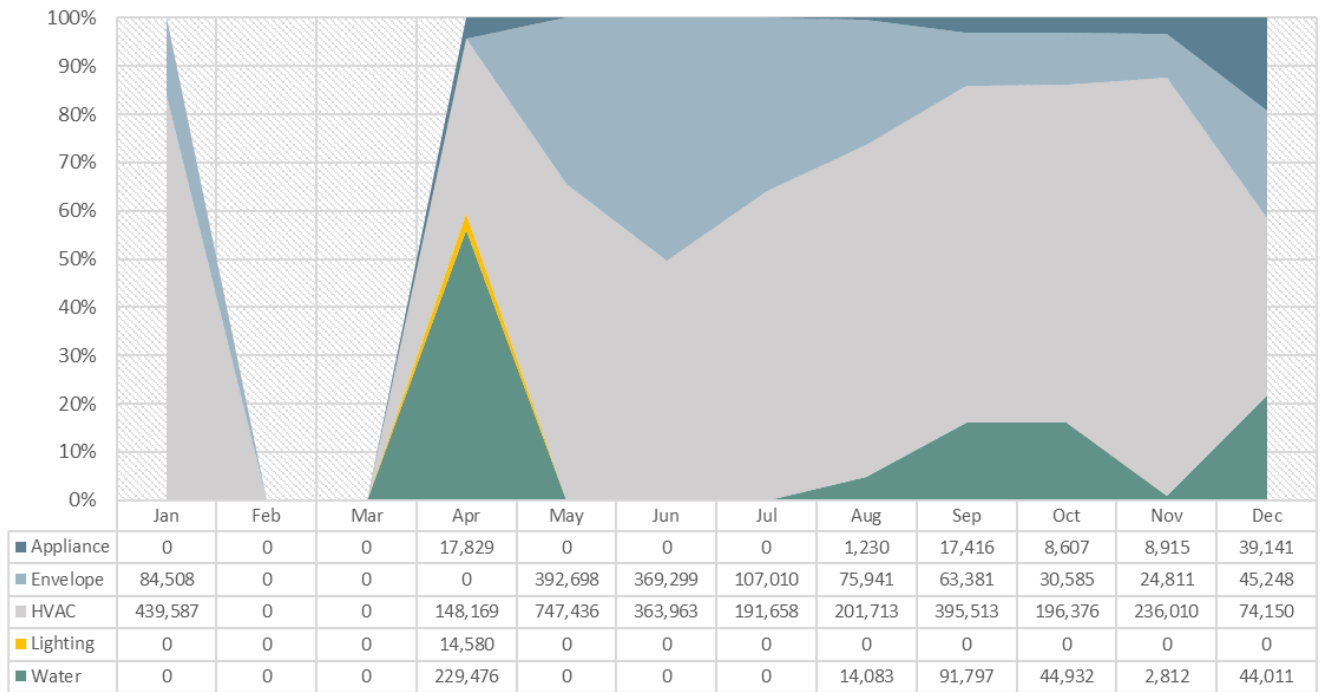


FIGURE 7-2 EX ANTE SAVINGS BY END USE BY MONTH

7.2.3 Trade Allies

The program had ten participating trade allies in PY15. Ten of the reported trade allies perform weatherization work, including the following measures: duct sealing, air infiltration, and ceiling insulation.

The TPI, Franklin, installs all other measures, including the following: advanced power strip, aerator, LED lamp, water heater pipe wrap, showerhead, and smart thermostat. Franklin also received an incentive for performing the assessment.

The table below shows the distribution of savings across all trade allies.

TABLE 7-13 MULTIFAMILY SOLUTIONS TRADE ALLY ACTIVITY

Trade Ally	Gross Energy Savings (kWh)	% of Savings
Franklin Energy	1,072,295	23%
TA 1	1,025,659	22%
TA 2	971,301	21%
TA 3	524,095	11%
TA 4	404,963	9%
TA 5	237,856	5%
TA 6	196,054	4%
TA 7	162,084	3%
TA 8	105,237	2%
TA 9	23,340	< 1%

Sums may differ due to rounding.

7.2.4 Goal Achievement

Total verified savings and percentage of goals for the program are summarized in the table below.

TABLE 7-14 PY15 MULTIFAMILY SUMMARY OF GOAL ACHIEVEMENT

Program	Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Savings (kW) Target	% to kW Target
Multifamily Solutions	1,988,849	89.1%	1,019.20	45.1%
Multifamily Solutions Income Qualified	3,112,124	81.4%	1,586.32	57.1%

7.3 EM&V Methodology

The evaluations provided free-ridership estimates, discussions of program satisfaction and strategic recommendations for program improvement, and most/all measures offered by the program have deemed TRM savings. There were staff interviews, a full review of project data, a census of desk reviews, property manager interviews and site visits to confirm installations.

TABLE 7-15-ENERGY SMART FOR MULTIFAMILY DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Impact	Process
Staff & TPI Interviews	4		X
Database Reviews	Census	X	X
Desk Reviews	Census	X	
Property Manger Interviews	1	X	X
Site Visits	Complexes	X	

7.3.1 Site Visits

The Evaluators performed 48 site visits on projects in the program. The table below outlines the measures captured in the site visits.

TABLE 7-16 SITE VISIT SUMMARY

Measures	PY15 Measure Count	Expected Measure Count During PY15 Site Visits	Verified Measures Count During PY15 Site Visits
Advanced Power Strips	181	7	3
Air Infiltration	526	46	46
Duct Sealing	527	45	45
Faucet Aerators	431	62	56
LEDs	173	57	55
Low-Flow Showerheads	290	34	33
Water Heater Pipe Insulation	744	24	19

The largest barrier to scaling was effective multifamily property manager contact information, for both site visits and interview responses. An incentive of \$50 was offered and multiple attempts were made. Tenant contact information was not available.

7.3.2 Deemed Savings Calculations

Impact methodologies for MF Solutions are the same as described for HPwES, described in Section 4.3.2.

7.4 Evaluation Findings

Evaluation results for the program can be found in Section 7.1 Summary.

7.4.1 Gross Impact Findings

7.4.1.1 Advanced Power Strips

Expected and verified savings for advanced power strips are summarized below. There were 305 (181 in MF, 124 in MF-IQ) advanced power strips installed at 283 residences (180 in MF, 103 in MF-IQ). The low realization rate may be attributed to the measure ISR that was applied in PY15.

TABLE 7-16 PY15 MULTIFAMILY EXPECTED AND VERIFIED ADVANCED POWER STRIPS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	55,433	41,413	74.7%	5.71	1.84	32.3%
MF Solutions – IQ	37,705	28,168	74.7%	3.89	1.27	32.5%
Total	93,138	69,581	74.7%	9.60	3.11	32.4%

7.4.1.2 Air Infiltration

Expected and verified savings for the air infiltration projects are summarized below. There were 1,259 air infiltration projects (526 in MF, 733 in MF-IQ).

TABLE 7-17 PY15 MULTIFAMILY EXPECTED AND VERIFIED AIR INFILTRATION SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	310,950	289,289	93.0%	101.41	94.35	93.0%
MF Solutions – IQ	604,618	564,302	93.3%	197.18	184.04	93.3%
Total	915,568	853,591	93.2%	298.59	278.39	93.2%

7.4.1.3 Ceiling Insulation

Expected and verified savings for the ceiling insulation projects are summarized below. There were 64 ceiling insulation projects completed in PY15 within the income qualified channel.

TABLE 7-18 PY15 MULTIFAMILY EXPECTED AND VERIFIED CEILING INSULATION SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	0	0	N/A	0.00	0.00	N/A
MF Solutions – IQ	277,911	276,270	99.4%	361.03	358.90	99.4%
Total	277,911	276,270	99.4%	361.03	358.90	99.4%

7.4.1.4 Duct Sealing

Expected and verified savings for the duct sealing projects are summarized below. There were 1,160 duct sealing projects (527 in MF, 633 in MF-IQ).

TABLE 7-19 PY15 MULTIFAMILY EXPECTED AND VERIFIED DUCT SEALING SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	1,175,182	1,121,789	95.5%	331.85	351.95	106.1%
MF Solutions – IQ	1,281,928	1,150,132	89.7%	361.99	324.73	89.7%
Total	2,457,110	2,271,921	92.5%	693.84	676.68	97.5%

7.4.1.5 Faucet Aerator (Bathroom & Kitchen)

Expected and verified savings for aerators are summarized below. There were 2,211 faucet aerators (431 in MF, 1,780 in MF-IQ) installed at 1,686 distinct residences (416 in MF, 1,270 in MF-IQ).

TABLE 7-20 PY15 MULTIFAMILY EXPECTED AND VERIFIED AERATORS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	17,242	16,394	95.1%	1.78	1.70	95.8%
MF Solutions – IQ	67,770	64,539	95.2%	7.01	6.71	95.8%
Total	85,012	80,933	95.2%	8.79	8.41	95.7%

7.4.1.6 LED Lamp

Expected and verified savings for LED lamps are summarized below. There were 1,262 LED lamps (173 in MF, 1089 in MF-IQ) installed at 418 (60 in MF, 358 in MF-IQ) residences.

TABLE 7-21 PY15 MULTIFAMILY EXPECTED AND VERIFIED LED SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	1,961	1,960	99.9%	0.39	0.38	98.4%
MF Solutions – IQ	12,619	12,491	99.0%	2.47	2.46	99.4%
Total	14,580	14,451	99.1%	2.86	2.84	99.3%

7.4.1.7 Low-Flow Showerhead

Expected and verified savings for showerheads are summarized below. There were 1,247 low-flow showerheads (290 in MF, 957 in MF-IQ) installed at 907 residences (269 in MF, 638 in MF-IQ).

TABLE 7-22 PY15 MULTIFAMILY EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	66,120	63,409	95.9%	6.87	6.59	95.9%
MF Solutions – IQ	218,196	209,250	95.9%	22.68	21.76	95.9%
Total	284,316	272,659	95.9%	29.55	28.35	95.9%

7.4.1.8 Smart Thermostat

Expected and verified savings for smart thermostats are summarized below. There were 551 smart thermostats (276 in MF, 275 in MF-IQ) installed at 550 residences (276 in MF, 274 in MF-IQ).

TABLE 7-23 PY15 MULTIFAMILY EXPECTED AND VERIFIED THERMOSTATS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	268,608	218,947	81.5%	0.00	0.00	N/A
MF Solutions – IQ	268,858	225,749	84.0%	0.00	0.00	N/A
Total	537,466	444,696	82.7%	0.00	0.00	N/A

7.4.1.9 Water Heater Pipe Wrap

Expected and verified savings for the pipe wrap projects are summarized below. Pipe wrap was installed in 746 residences (245 in MF, 501 in MF-IQ).

TABLE 7-24 PY15 MULTIFAMILY EXPECTED AND VERIFIED PIPE WRAP SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
MF Solutions	18,848	16,677	88.5%	2.16	1.91	88.5%
MF Solutions – IQ	38,936	34,452	88.5%	4.46	3.95	88.5%
Total	57,784	51,129	88.5%	6.62	5.86	88.5%

7.4.2 Net Impact Findings

The net savings for the multifamily program were based on results of interviews with property managers completed in PY12 and PY13. Based on these results, a net-to-gross ratio of 90.2% was applied to the program.

7.4.3 Process Findings

The Evaluators conducted a process evaluation of the Multifamily Solutions program in PY15. Process activities included a database review, property manager interviews, and staff and implementer interviews.

The Evaluators interviewed ENO staff and conducted a total of two in-depth, one-on-one interview with multifamily property managers who participated in at least one Entergy New Orleans Energy Smart program.

The interviews lasted approximately 45 minutes and took place on Monday August 25, 2025.

TABLE 7-17 MULTIFAMILY PROPERTY MANAGER OVERVIEW

Program	Respondent Title	Upgrades Installed	Units
Multifamily Solutions	Property Manager	Air sealing	590
Multifamily Solutions	Property Manager	Duct cleaning and sealing	707

7.4.3.1 Program Design and Implementation

The Multifamily Solutions program is designed to serve both market rate and income-qualified multifamily properties. As of PY15, multifamily delivers separate offerings to market rate and income qualified participants to align with changes made across other residential programs. Program design and measure offerings are

consistent across both tracks, with eligibility distinctions based on the income level of the property or units served.

The program is designed to motivate participation by offering no-cost or low-cost upgrades that improve property energy performance with minimal administrative burden. These benefits were cited by both of the interviewed property managers.

"First off, for making the apartments more energy efficient for the tenants. They're first and foremost. Our main goal is to make a better living community for them."
– Property Manager, Multifamily Solutions

"With rising costs of insurance and taxes and particularly insurance and those type of things, it makes it [so] we have to prioritize where our money's being spent."
– Property Manager, Multifamily Solutions

The program also intends to support property owners and managers by positively impacting tenant satisfaction, without requiring tenant action or investment. Participating properties receive assessments and direct install measures, with additional opportunities for major measure installations depending on need and site conditions. Implementers work directly with property managers and ownership groups to schedule and complete projects.

The participation process for multifamily properties involves several steps coordinated between the implementer and property management:

1. The implementer contacts the property owner or manager and initiates enrollment.
2. Eligibility is confirmed based on income-qualified or market-rate status.
3. The property is assessed, and project scope is developed with the manager.
4. Contractors conduct on-site assessments and install direct install measures.
5. Reports or follow-up documentation are provided to the property manager.
6. Deeper measures may be installed based on assessment findings and property needs.

Program staff shared that multifamily participation has increased significantly in recent years, following earlier challenges in driving savings within this sector. They described multifamily as an area where the program is now seeing strong momentum and sustained interest.

7.4.3.1 Marketing and Outreach

The Energy Smart program has multiple outreach channels including traditional advertising and direct solicitation, but based on feedback from property managers, faces challenges with message clarity, memory of previous participation/records, and coordination between third-party marketers and utility representatives. This results in mixed effectiveness in communicating program benefits and processes.

Information about this Energy Smart program is advertised through utility communications, via direct outreach phone calls by Entergy or third-party representatives making cold calls to properties, and via distributed flyers with contact information.

*"We didn't see the flyer...They just kind of came to us."
– Property Manager, Multifamily Solutions*

The primary focus is on apartment complexes and condominiums, especially those of larger size and higher energy savings potential. Attempts are made to re-engage properties that previously participated in earlier program rounds. One respondent expressed their appreciation that marketing materials emphasized community benefits:

"[I appreciate] the thought behind it of reaching out and trying to give back to the community." – Property Manager, Multifamily Solutions

Outreach activity increases at the start of a new program year when fresh funding becomes available. This surge in outreach can outpace the program's near-term capacity to serve properties, resulting in waitlists that may extend for many months, an issue noted by one of the interviewed property managers.

"It took us about a year to get on the books because they said they had to allocate a certain amount of money." – Property Manager, Multifamily Solutions

Interviewed property managers described multiple pathways through which they became aware of the Energy Smart program, including Entergy utility advertising, previous participation in earlier program iterations, and internal knowledge passed on by prior staff. In both cases, direct outreach by phone, either from Energy Smart staff or a third-party representative working on behalf of the program, served as the immediate trigger for enrollment.

Property managers identified improving resident living conditions as a primary motivation for participation. Additional motivations described in the interviews included the potential for utility cost savings for both properties and tenants, the ability to market apartments as energy-efficient, the absence of direct out-of-pocket costs for participation, and the perceived social value of providing energy efficiency upgrades to lower-income residents.

*"First off, for making the apartments more energy efficient for the tenants. They're first and foremost. Our main goal is to make a better living community for them."
– Property Manager, Multifamily Solutions*

Property managers reported facing barriers to participating including unclear program information and a lack of written documentation about the program, which created some confusion about available services and processes. Timing challenges arose from funding cycle delays and rush scheduling that pressures properties to accommodate contractors without adequate notice to tenants or staff coordination time.

"It felt like, hey, if you don't get this now... then we might not be able to do this for you at all." – Property Manager, Multifamily Solutions

Trust and operational concerns stemmed from inadequate contractor vetting, discussed below in greater detail, limited access to Entergy representatives for problem resolution, and the substantial staff resources required to supervise installations while minimizing tenant disruption.

Both interviewed property managers ultimately enrolled in the Energy Smart multifamily program; however, their enrollment experiences and associated communication challenges differed. One property manager described a largely straightforward enrollment process supported by a single, consistent program contact who explained program requirements, shared enrollment materials, and remained available throughout scheduling and implementation. This respondent did not report difficulty accessing program representatives during enrollment and indicated that initial communication was sufficient to proceed, though later challenges emerged related to scheduling logistics rather than enrollment itself.

In contrast, the second property manager described enrolling after being contacted by the TPA's subcontractor. This respondent reported challenges during enrollment related to unclear or incomplete information in initial program materials, uncertainty about which measures would be installed, and confusion stemming from the involvement of multiple entities, including program representatives and contractors. The property manager also reported limited access to an Entergy representative with authority over the multifamily program, which factored into their program experience. Specifically, the property manager indicated a desire for direct access to Entergy to clarify and document which measures were approved under the program, to confirm that contractor work would be completed as expected, and to establish a clear point of accountability in cases where completed work differed from expectations. The property manager also sought Entergy involvement to help adjudicate disputes related to contractor performance and to review reporting that differed from what property staff observed on site. Additionally, the property manager reported attempting to escalate concerns using contact information provided in program materials, but stated that they were only able to reach individuals who were not responsible for overseeing the multifamily program and could not resolve the issues raised.

7.4.3.2 Trade Ally Role and Involvement

Contractors played a central role in program delivery. Energy Smart maintained an approved contractor list, and contractors were typically selected and coordinated by Energy Smart or third-party administrators; property managers generally did not have the option to select their own contractor.

"Energy Smart chooses a contractor. We have no control... I think you have a list of approved contractors." – Property Manager, Multifamily Solutions

Contractors were responsible for installing energy efficiency measures, including LED bulbs, aerators, shower heads, smart thermostats, and HVAC services. They supplied materials and tools and performed work in occupied units, typically with oversight from property staff.

Interviewees reported variation in contractor performance. In one interview, concerns were raised about limited contractor accountability and the absence of robust external quality control during installation, which contributed to performance issues. In that case, communication gaps between the third-party administrator and the property manager further complicated efforts to resolve concerns. In the other interview, contractor issues emerged primarily after installation and required property staff to identify and address problems directly. Together, these accounts reflect differing experiences with oversight, accountability, and follow-up across properties rather than a uniform installation process.

7.4.3.2.1 *Positive Experiences with Contractors*

Both interviewed property managers described at least one instance in which contractor performance met or exceeded their expectations. In these instances, contractors were characterized as professional, organized, and respectful of residents and property operations. Interviewees noted that when these contractors were on site, work was completed efficiently and with minimal disruption to tenants or staff.

One property manager highlighted a contractor that was viewed as reputable and reliable, emphasizing that the contractor completed the work as described and demonstrated a high level of professionalism throughout implementation. Another property manager described an initial installation phase during which contractors completed unit-level measures quickly, reporting that work in individual apartments took approximately 15 minutes and required limited staff accompaniment. These experiences were cited as examples of contractor performance that aligned with property managers' expectations for efficiency and resident impact.

*"They are professional, they're reputable. They do what they say."
– Property Manager, Multifamily Solutions*

"The first round they were in and out like it was nothing. They might have been 15 minutes in each apartment." – Property Manager, Multifamily Solutions

When contractor performance aligned with expectations, property managers described the installation process as smooth and manageable from an operational standpoint.

7.4.3.2.2 *Contractor Performance Issues and Variability*

Both interviewees also described challenges related to contractor performance, with experiences varying across contractors and, in some cases, across phases of implementation within the same property. These challenges highlighted inconsistencies in preparedness, coordination, and quality of work.

One property manager reported that a contractor withdrew from a scheduled project shortly before the planned start date, citing concerns about compensation. This late cancellation occurred after prior coordination efforts and was described as disruptive to planning and staffing.

“Literally two days before they were supposed to start, they called and said, ‘we just found out we’re not going to be paid what we’ve been paid in the previous years...we would lose money if we did this.’ And so that was very upsetting because why did it wait for two days before the project was supposed to start?”
– Property Manager, Multifamily Solutions

Another set of challenges involved contractors arriving on site without appropriate equipment to safely or effectively complete the scope of work, including lacking proper access equipment for roof-based activities.

“One of the contractors showed up and... didn’t have the proper equipment to get up on the roofs.” – Property Manager, Multifamily Solutions

Concerns were raised regarding work practices that were viewed as inconsistent with expected standards, although the nature of these concerns differed across interviews. One property manager described observing contractors use inappropriate materials during HVAC maintenance activities, which led the property to halt work and discontinue services with that contractor. The other property manager reported post-installation issues following HVAC-related work, including leaks that required property staff to investigate and complete repairs after the contractor had left the site.

“They went out and they brought back the cleaner and it was a big jug of dishwasher soap. That’s what they’re doing... you’re not supposed to use on an AC coils...we take a picture of it, we send it to [program representative] ... we just tell them we don’t want the services, we don’t want them back.” – Property Manager, Multifamily Solutions

In short, both interviewed property managers described mixed experiences with contractors. Each reported at least one instance in which contractor performance aligned with expectations, as well as one or more instances in which contractor performance raised concerns. In both interviews, these concerns were described as significant enough to require additional staff involvement, such as increased oversight, corrective action following installation, or discontinuation of work with a contractor. Together, these accounts indicate variation in contractor execution across and within properties, rather than a consistently uniform installation experience.

7.4.3.3 Property Manager Perspectives on Quality Control

The interviewed property managers had various upgrades installed including LED light bulbs, water-saving shower heads, aerators, smart thermostats, HVAC system cleaning, and duct sealing.

Property managers described providing direct oversight during installations, including accompanying contractors in units and monitoring work on site. One property manager noted that, based on their understanding, program verification of completed work occurred after installation and was limited to sampling a subset of units rather than reviewing all work as it was performed. As the property manager explained,

*"The only way Energy Smart verifies the work is being done as they send somebody out after the fact to sample a few a handful of apartments."
– Property Manager, Multifamily Solutions*

This approach contributed to concerns about limited external quality control during installation and reinforced the need for property staff to monitor contractor activity in real time.

7.4.3.4 Participation in Program Offerings

The participation process for multifamily properties involves several steps coordinated between the implementer and property management:

7. The implementer contacts the property owner or manager and initiates enrollment.
8. Eligibility is confirmed based on income-qualified or market-rate status.
9. The property is assessed, and project scope is developed with the manager.
10. Contractors conduct on-site assessments and install direct install measures.
11. Reports or follow-up documentation are provided to the property manager.
12. Deeper measures may be installed based on assessment findings and property needs.

7.4.3.5 Participant Experience and Satisfaction

Both interviewed property managers expressed that the Energy Smart program provides value, particularly through its focus on improving tenant living conditions at no direct cost to the property. At the same time, each described implementation challenges that shaped their overall experience, though the nature of these challenges varied by respondent.

One property manager described the initial enrollment process as simple and well supported, noting that the representative provided clear information and remained available to answer questions.

"He was pretty great. He answered any questions. He was always like, I will be here for you at any point." – Property Manager, Multifamily Solutions

This respondent's challenges emerged later in implementation and were primarily related to scheduling pressures and the operational effort required to coordinate contractor access and tenant communication.

In contrast, the property manager who referenced their experience with the TPA's subcontractor specifically, described challenges earlier in the process, including unclear or incomplete program information, uncertainty about which measures would be installed, and difficulty obtaining written confirmation of program commitments. This respondent also reported limited access to an Entergy representative with authority over the

multifamily program, which complicated efforts to resolve concerns related to contractor performance and reporting.

Both property managers described the need for substantial staff coordination to manage contractor activity and tenant access. Each also reported experiencing contractor-related issues, though the type and severity of those issues differed. Despite these challenges, both interviewees indicated that they would recommend the program to others, emphasizing the program's potential benefits while noting the importance of improved communication, accountability, and oversight during implementation.

7.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY14 data were generally present in PY15. The following bullets outline notes from reviewing the data:

- Trade ally information: In general, Trade Ally primary contact names, company names, contact phone numbers, and email addresses were provided in PY15 data, however, there were a handful of projects that were missing these fields:
 - Trade ally primary contact name: 404 projects at 3 distinct properties (3 out of 17 properties)
 - Trade ally main phone number: 1,888 projects at 5 distinct properties (5 out of 17 properties)
 - Trade ally email address: 1,888 projects at 5 distinct properties (5 out of 17 properties)
- Tenant information: Limited effective tenant contact names, contact phone numbers, and email addresses.
- Measure level parameters: The majority of measure information required to estimate savings was available in the program tracking data. However, a limited number of projects required additional follow-up due to missing or unclear information necessary to determine measure savings. These projects are summarized below.
 - Five hundred fifty smart thermostat projects were missing baseline information for existing HVAC systems, including system type, baseline efficiency ratings, and cooling and heating capacities.

7.6 Findings and Recommendations

Findings:

- **The Multifamily Solutions program delivers clear value to property managers and tenants, particularly through no-cost upgrades that improve living conditions with minimal financial burden on properties.** Interviewed property managers described the Energy Smart Multifamily Solutions program as providing meaningful value, particularly through no-cost upgrades intended to improve tenant living conditions without requiring direct capital investment by properties. Both interviewees emphasized tenant benefits as a primary motivation for participation, including improved comfort and efficiency, and noted that the availability of no-cost measures was important given constraints on operating budgets. While implementation challenges affected their overall experience, both property managers indicated they would recommend the program to others, typically with caveats based on their experience.
- **Program design is generally well aligned with multifamily operational realities, but implementation places substantial coordination and oversight burden on property staff.** Interviews suggest that the

program's design reduces financial barriers to participation and aligns with multifamily properties' interest in improving unit-level efficiency. However, implementation was described as requiring substantial coordination and oversight by property staff. Property managers reported dedicating staff time to scheduling work, escorting contractors, communicating with tenants, and monitoring on-site activity. This burden increased when installation schedules were compressed or when contractor performance issues arose, requiring additional oversight and follow-up.

- **Marketing and outreach successfully motivate enrollment but are undermined by unclear messaging, fragmented communication, and mismatches between outreach intensity and program capacity.** Interviewees described becoming aware of the program through a combination of prior exposure (e.g., earlier participation or internal knowledge) and direct outreach. In both cases, direct phone contact served as the immediate trigger for enrollment. Messaging around tenant and community benefits resonated with property managers. However, experiences during enrollment varied. One property manager described a clear and straightforward enrollment process supported by a dedicated program representative, while the other described challenges related to unclear program information and fragmented communication.
- **Contractor performance emerged as a central factor shaping participant experience, with interviewees describing variability across contractors and across phases of implementation.** Property managers reported experiences ranging from professional, efficient installations to significant issues, including late cancellations, inadequate equipment, inappropriate work practices, and post-installation problems requiring follow-up by property staff. Interviewees noted limited property control over contractor selection, and in some cases described concerns about accountability mechanisms. Contractor-related issues increased staff oversight demands and, in certain instances, led properties to halt or discontinue services with specific contractors.
- **Interviews indicate that quality control processes and escalation pathways were not consistently visible to property managers.** One property manager described program verification as occurring after installation and relying on sampling rather than real-time oversight, which they perceived as insufficient to ensure quality during work. When issues arose, this respondent also reported difficulty identifying an Entergy representative with authority to resolve concerns or adjudicate disputes, particularly in the context of third-party administration. In response, property managers relied heavily on on-site staff oversight to monitor work and address issues as they occurred.

Recommendations:

- **Consider adjustments to implementation planning that better account for property staffing constraints, such as improved scheduling lead times, clearer installation windows, and explicit expectations for contractor self-management.** Reducing operational burden would improve participant experience and help properties accommodate program delivery with less disruption.
- **Strengthen outreach and enrollment communications by providing clear, written, and standardized materials that document program scope, approved measures, roles, and timelines.** Align outreach pacing more closely with delivery capacity to reduce extended waitlists and set realistic expectations, improving trust and transparency.

- **Consider strengthening contractor management through clearer performance standards, improved vetting, and stronger accountability mechanisms.** Enhancing contractor oversight would reduce variability in execution, lower staff burden on properties, and protect program reputation.
- **Improve transparency around quality assurance processes and establish clear, accessible escalation channels with defined utility accountability.** Providing property managers with a documented point of contact and clearer verification expectations would improve confidence in installation quality and reduce the need for intensive property-level oversight.

8 A/C SOLUTIONS

8.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable for both AC Solutions and AC Solutions Income Qualified.

TABLE 8-1 PY15 AC SOLUTIONS ENERGY SAVINGS (kWh)

Program	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
AC Solutions	2,650,050	107.1%	2,839,263	98.3%	2,790,844
AC Solutions Income Qualified	2,696,747	99.7%	2,689,449	100.0%	2,689,449
Total	5,346,797	103.4%	5,528,712	99.1%	5,480,293

Sums may differ due to rounding.

TABLE 8-2 PY15 AC SOLUTIONS DEMAND REDUCTIONS (kW)

Program	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
AC Solutions	1,164.31	107.2%	1,247.94	98.6%	1,230.67
AC Solutions Income Qualified	1,227.70	99.8%	1,225.49	100.0%	1,225.49
Total	2,392.01	103.4%	2,473.42	99.3%	2,456.15

Sums may differ due to rounding.

TABLE 8-3 PY15 AC SOLUTIONS LIFETIME SAVINGS SUMMARY

Program	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
AC Solutions	7.4	20,968,011	20,117,374
AC Solutions Income Qualified	6.0	16,245,454	16,245,454
Total	6.7	37,213,465	36,362,828

Sums may differ due to rounding.

TABLE 8-4 PY15 AC SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Program	Participation (Count of Measures)	Incentive Spend (\$)
AC Solutions	3,343	\$514,024.50
AC Solutions Income Qualified	3,360	\$529,344.25
Total	6,703	\$1,043,368.75

Sums may differ due to rounding.

8.1.1 A/C Solutions

TABLE 8-5 PY15 AC SOLUTIONS ENERGY SAVINGS (kWh)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Central AC Replacement	760	103.2%	784	94.3%	739
Central AC Tune-up	1,875,013	107.2%	2,009,580	100.0%	2,009,580
Central HP Replacement	3,996	79.3%	3,170	58.8%	1,863
Duct Sealing	770,282	107.2%	825,729	94.3%	778,663
Total	2,650,050	107.1%	2,839,263	98.3%	2,790,844

Sums may differ due to rounding.

TABLE 8-6 PY15 AC SOLUTIONS DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Central AC Replacement	0.40	173.4%	0.69	94.3%	0.65
Central AC Tune-up	881.69	107.2%	944.95	100.0%	944.95
Central HP Replacement	0.00	N/A	0.55	94.3%	0.52
Duct Sealing	282.23	106.9%	301.75	94.3%	284.55
Total	1,164.31	107.2%	1,247.94	98.6%	1,230.67

Sums may differ due to rounding.

TABLE 8-7 PY15 AC SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Central AC Replacement	19	14,896	14,047
Central AC Tune-up	3	6,044,563	6,044,563
Central HP Replacement	14.3	45,427	42,838
Duct Sealing	18	14,863,125	14,015,927
Total	7.4	20,968,011	20,117,374

Sums may differ due to rounding.

TABLE 8-8 PY15 AC SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Central AC Replacement	1	\$175
Central AC Tune-up	2,983	\$390,825
Central HP Replacement	2	\$500
Duct Sealing	357	\$122,525
Total	3,343	\$514,025

Sums may differ due to rounding.

8.1.2 A/C Solutions - Income Qualified

TABLE 8-9 PY15 AC SOLUTIONS - IQ ENERGY SAVINGS (kWh)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
Central AC Tune-Up	2,378,020	99.7%	2,370,835	100.0%	2,370,835
Central HP Tune-Up	10,254	32.3%	3,309	100.0%	3,309
Duct Sealing	308,473	102.2%	315,305	100.0%	315,305
Total	2,696,747	99.7%	2,689,449	100.0%	2,689,449

Sums may differ due to rounding.

TABLE 8-10 PY15 AC SOLUTIONS - IQ DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
Central AC Tune-Up	1,118.21	99.7%	1,114.82	100.0%	1,114.82
Central HP Tune-Up	2.26	32.3%	0.73	100.0%	0.73
Duct Sealing	107.22	102.5%	109.93	100.0%	109.93
Total	1,227.70	99.8%	1,225.49	100.0%	1,225.49

Sums may differ due to rounding.

TABLE 8-11 PY15 AC SOLUTIONS – IQ LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Central AC Tune-Up	4.5	10,560,042	10,560,042
Central HP Tune-Up	3.0	9,928	9,928
Duct Sealing	18.0	5,675,484	5,675,484
Total	6.0	16,245,454	16,245,454

Sums may differ due to rounding.

TABLE 8-12 PY15 AC SOLUTIONS - IQ COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Central AC Tune-Up	3,218	\$478,550
Central HP Tune-Up	4	\$800
Duct Sealing	138	\$49,994
Total	3,360	\$529,344

Sums may differ due to rounding.

8.2 Program Description

A/C Solutions provides financial incentives to encourage residential customers to improve the efficiency of their HVAC systems; Franklin implements this program. Incentives are provided for ductless heat pumps, HVAC tune-up, HVAC replacements, duct sealing and smart thermostats.

Tune-ups are provided by a qualified trade ally and involve assessing the performance of the unit before and after measures are implemented. Typical measures implemented as part of the tune-up procedure include air

flow correction; cleaning of the indoor blower, evaporator coils, condenser coils; and correction of refrigerant charge (if necessary).

Duct sealing is performed by applying mastic sealant or metal tape to the distribution system of air conditioning systems. Duct sealing performance is tested by taking the pre-measurement and post-measurement cubic feet per minute (CFM) leakage rate.

8.2.1 Program Delivery Channels and Expected Savings

Below, individual measure contribution to the overall program expected savings.

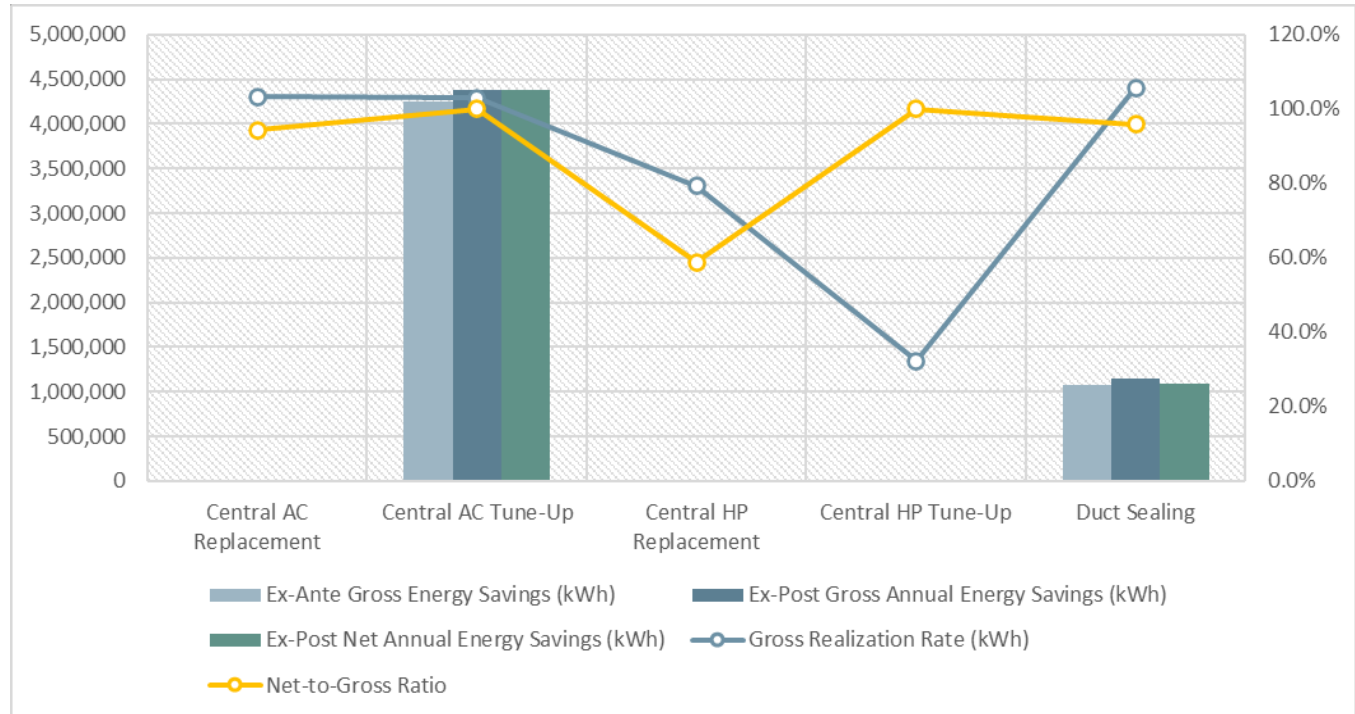


FIGURE 8-1 AC SOLUTIONS COMBINED SAVINGS CONTRIBUTION BY MEASURE

AC tune-ups (79.5%), duct sealing (20.2%) and central AC replacements, HP replacements, and HP tune-ups (both 0.1%) were the high impact measures in the AC Solutions program. In PY15 there were 6,150 total distinct homes (3,015 in AC Solutions, and 3,135 in AC Solutions – IQ) accounting for 5,346,797 kWh of expected energy savings, compared to 4,023,456 kWh of expected savings in PY14.

8.2.2 Timing of Projects

The figure below shows *ex ante* energy savings (kWh) for the program by measure, by month.

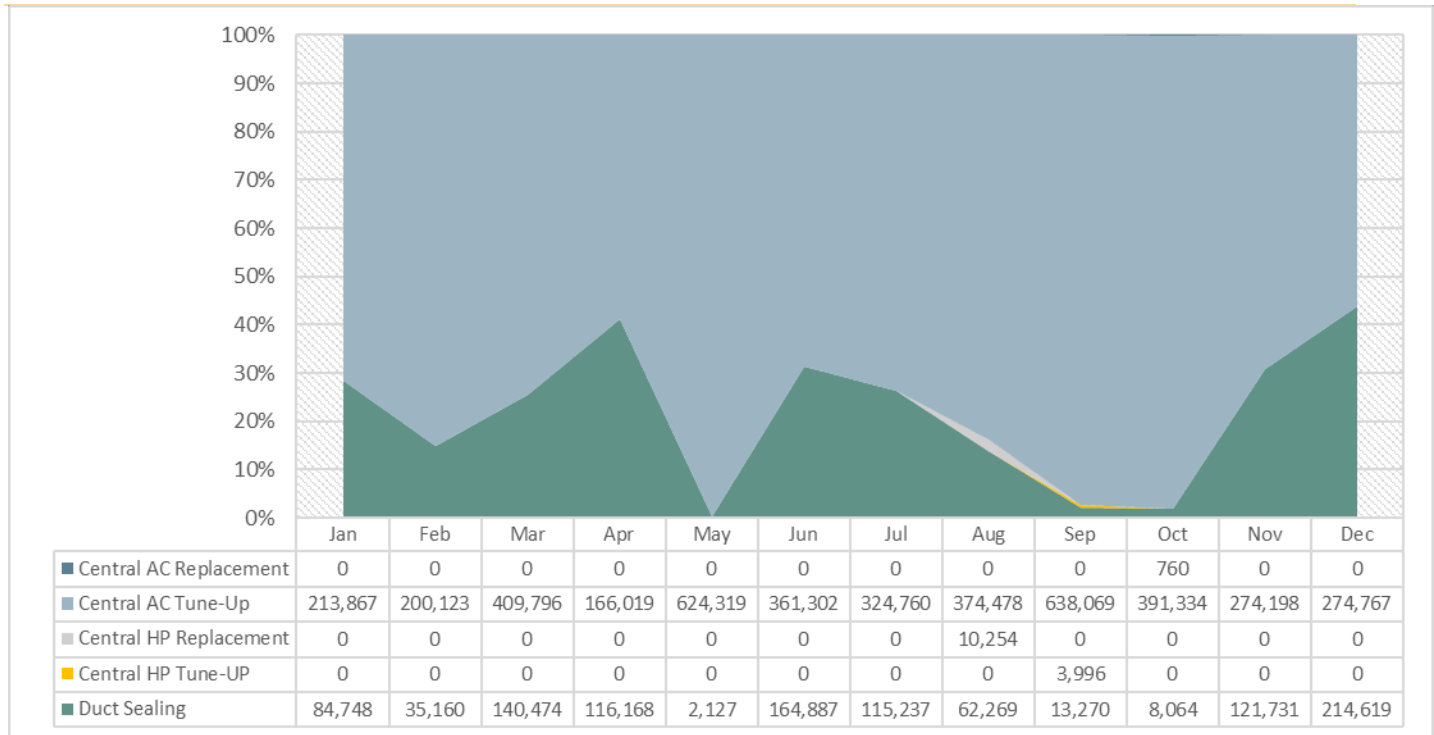


FIGURE 8-2 EX ANTE BY MEASURE BY MONTH

8.2.3 Trade Allies

The program included fifteen (15) participating trade allies identified in the project data. Seven trade allies installed duct sealing measures and/or performed AC tune-ups, including the top-performing trade ally. An additional nine trade allies performed AC tune-ups only. AC and heat pump (HP) replacements were self-installed, and no trade ally was utilized for these projects.

The table below shows the distribution of savings across all trade allies.

TABLE 8-13 AC SOLUTIONS TRADE ALLY ACTIVITY

Trade Ally	Ex Ante Gross Energy Savings (kWh)	% of Savings
TA 1	1,877,802	35%
TA 2	1,297,337	24%
TA 3	961,844	18%
TA 4	430,988	8%
TA 5	156,986	3%
TA 6	134,305	3%
TA 7	132,137	2%
TA 8	114,894	2%
TA 9	114,251	2%
TA 10	54,504	1%
TA 11	27,620	< 1%
TA 12	23,228	< 1%

TA 13	13,172	< 1%
Self Install	4,755	< 1%
TA 14	2,549	< 1%
TA 15	425	< 1%

Sums may differ due to rounding.

8.2.4 Goal Achievement

Total verified savings and percentage of goals for the program are summarized below.

TABLE 8-14 PY15 AC SOLUTIONS SUMMARY OF GOAL ACHIEVEMENT

Program	Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Savings (kW) Target	% to kW Target
AC Solutions	2,179,679	130.3%	967.90	128.9%
AC Solutions Income Qualified	2,985,538	90.1%	1,285.32	95.3%

8.3 EM&V Methodology

The evaluation approach for PY15 included the following activities: project data review, desk reviews, and site visits. Impact methodologies for the Program are the same as described for HPwES in Section 4.3.1, measures not covered are described below.

TABLE 8-15 A/C SOLUTIONS DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Impact	Process
Staff & TPI Interviews	4		X
Database Reviews	Census	X	X
Participant Surveys	55	X	X
Site Visits		X	
Desk Reviews	Census	X	

In PY15, savings for these measures are fully deemed based on the NO TRM V8.0.

8.3.1 Site Visits

The Evaluators performed 32 site visits on projects in the program. The table below outlines the measures captured in the site visits.

TABLE 8-16 SITE VISIT SUMMARY

Measure	PY15 Participant Count	Found in PY15 Site Visit
Central AC Tune-Up	2,983	34
Duct Sealing	501	9

The results of site visits were blended with the participant survey responses to estimate in-service rates. Results are presented in the table below.

TABLE 8-17 MEASURE-SPECIFIC GROSS IMPACTS FOR AC SOLUTIONS

Measure	In-Service Rate
Central AC Replacement	100%
Central AC Tune-Up	99%

Central HP Replacement	100%
Central HP Tune-Up	97%
Duct Sealing	98%

8.3.2 Deemed Savings Calculations

8.3.2.1 Central Air Conditioner Replacement

Central Air Conditioner Replacement savings were calculated using the savings methodology from the NO TRM V8.0, section 1.3.1. The following equations outline the methodology that the Evaluators adhered to.

$$kWh_{Savings} = Cap_C \times \frac{1}{1,000} \times \left(\frac{1}{SEER2_{base}} - \frac{1}{SEER2_{eff}} \right) \times EFLH_C$$

$$kW_{Savings} = CAP_C \times \frac{1}{1,000} \times \left(\frac{1}{EER2_{base}} - \frac{1}{EER2_{eff}} \right) \times CF\%$$

Where:

CAP_C = Cooling capacity (in BTU)

$SEER2_{base}$ = Seasonal efficiency of baseline equipment

$SEER2_{eff}$ = Seasonal efficiency of efficient equipment

$EER2_{base}$ = Full-load efficiency of baseline equipment

$EER2_{eff}$ = Full-load efficiency of efficient equipment

$EFLH_C$ = Equivalent Full-Load Cooling Hours = 1,637

$\%CF$ = Peak Coincidence factor = 0.77

TABLE 8-18 BASELINE EFFICIENCIES FOR CENTRAL AC REPLACEMENT SAVINGS

System Type	SEER2	EER2
Split System AC (AC < 45,000 Btu/h)	14.3	11.7
		9.8
Split System AC (AC ≥ 45,000 Btu/h)	13.8	11.7
		9.8
Single Packages Units (ACs, Heat Pumps, Gas, Electric and Dual-Fuel HPs)	13.4	10.45
Early Retirement	12.3	10.6

8.3.2.2 Central Heat Pump Replacement

Central Heat Pump Replacement savings were calculated using the savings methodology from the NO TRM V8.0, section 1.3.4. The following equations outline the methodology that the Evaluators adhered to.

Replace-on-Burnout

Cooling Savings:

$$kWh_{Savings} = CAP_C \times \frac{1}{1,000} \times \left(\frac{1}{SEER2_{base}} - \frac{1}{SEER2_{eff}} \right) \times EFLH_C$$

$$kW_{Savings} = CAP_C \times \frac{1}{1,000} \times \left(\frac{1}{EER2_{base}} - \frac{1}{EER2_{eff}} \right) \times \%CF$$

Where:

- CAP_C = Cooling capacity (in BTU)
- $SEER2_{base}$ = Seasonal efficiency of baseline equipment
- $SEER2_{eff}$ = Seasonal efficiency of efficient equipment
- $EER2_{base}$ = Full-load efficiency of baseline equipment
- $EER2_{eff}$ = Full-load efficiency of efficient equipment
- $EFLH_C$ = Equivalent Full-Load Cooling Hours = 1,637
- $\%CF$ = Peak Coincidence factor = 0.77

Heating Savings

$$kWh_{Savings} = CAP_C \times \frac{1}{1,000} \times \left(\frac{1}{HSPF2_{base}} - \frac{1}{HSPF2_{eff}} \right) \times EFLH_h$$

Where:

- CAP_C = Cooling capacity (in BTU)
- $HSPF2_{base}$ = Heating Season Performance Factor of baseline equipment
- $HSPF2_{eff}$ = Heating Season Performance Factor of efficient equipment
- $EFLH_H$ = Equivalent Full-Load Heating Hours
 - = 396 (Electric Resistance)
 - = 600 (Heat Pump)

TABLE 8-19 BASELINE AND EFFICIENCY LEVELS FOR CENTRAL HP REPLACEMENT SAVINGS

Characterization	System Type	SEER2	EER2	HSPF2
New Construction and Normal Replacement	Split	14.3	9.8	7.5
	Packaged	13.4	11.7	6.7
Early Retirement (< Jan 1, 2015)	Both	12.4	10.64	6.6
Early Retirement (≥ Jan 1, 2015)	Split	13.3	11.21	7.0
	Packaged			6.8

8.3.2.3 Other Measures

For remaining measures, the Evaluators used the following NO TRM V8.0. The sections are in Table 8-20.

TABLE 8-20 NO TRM V8.0 SECTIONS FOR OTHER MEASURES

Measure	TRM Section	Calculated	TRM Table(s)	Table Page(s)
Central AC & HP Tune-Up	1.3.7	Deemed	Table 1-93	125

8.4 Evaluation Findings

The findings of the evaluation are found in Section 8.4 Summary.

8.4.1 Gross Impact Findings

8.4.1.1 Central Air Conditioning Replacement

In PY15, the AC Solutions offering incentivized one central AC replacement. Expected and verified savings for Central AC replacement project is summarized below.

TABLE 8-21 PY15 AC SOLUTIONS EXPECTED AND VERIFIED CENTRAL AC REPLACEMENT SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
AC Solutions	760	784	103.2%	0.40	0.69	173.4%
AC Solutions - IQ	0	0	N/A	0	0	N/A
Total	760	784	103.2%	0.40	0.69	173.4%

8.4.1.2 Central Air Conditioning Tune-up

There were 6,201 central AC tune-up projects in PY15, including 2,983 projects in AC Solutions and 3,218 projects in AC Solutions-IQ. Expected and verified savings for these projects are summarized below.

The AC Solutions dataset included 124 correction line items to offset savings previously claimed in error for central AC tune-ups. These negative adjustments represent measures that were identified during post-inspection as having been completed on ineligible equipment and therefore required removal from the claimed savings.

For one project, an entry error occurred when the negative corrections were submitted, resulting in an incorrect tonnage value. As a result, the negative savings recorded for that measure differed from the originally claimed savings. The resulting savings for this measure are negative, and the associated reduction in claimed savings has been accepted and reflected in the final data.

TABLE 8-22 PY15 AC SOLUTIONS EXPECTED AND VERIFIED CENTRAL AC TUNE-UPS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
AC Solutions	1,875,013	2,009,580	107.2%	881.69	944.95	107.2%
AC Solutions - IQ	2,378,020	2,370,835	99.7%	1,118.21	1,114.82	99.7%
Total	4,253,033	4,380,415	103.0%	1,999.90	2,059.77	103.0%

8.4.1.3 Central Heat Pump Replacement

The program rebated two central heat pumps. Expected and verified savings are summarized below. The lower realization rate may be attributed to differing cooling capacity assumptions between the reported savings and the Evaluators' use of actual unit capacities.

TABLE 8-23 PY15 AC SOLUTIONS EXPECTED AND VERIFIED DUCTLESS HP SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
AC Solutions	3,996	3,170	79.3%	0.00	0.55	N/A
AC Solutions - IQ	0	0	N/A	0	0	N/A
Total	3,996	3,170	79.3%	0.00	0.55	N/A

8.4.1.4 Central Heat Pump Tune-Up

There were 4 central HP tune-up projects in PY15. Expected and verified savings are summarized below. The low realization rate may be attributable to one project's claimed savings not following the deemed savings methodology specified in the TRM.

TABLE 8-24 PY15 AC SOLUTIONS EXPECTED AND VERIFIED CENTRAL AC TUNE-UPS SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
AC Solutions	0	0	N/A	0.00	0.00	N/A
AC Solutions - IQ	10,254	3,309	32.3%	2.26	0.73	32.3%
Total	10,254	3,309	32.3%	2.26	0.73	32.3%

8.4.1.5 Duct Sealing

There were 501 duct sealing projects (363 in AC Solutions, 138 in AC Solutions – IQ). Expected and verified savings for duct sealing projects are summarized below. The higher realization rate may be due to improper SEER2 values being utilized in the ex ante estimations, as well as assuming 35% of total fan flow in CFM25 pre-retrofit value adjustments in ex ante estimations.

A total of 3 correction line items were included in the AC Solutions dataset to offset previously claimed savings for duct sealing measures that were claimed in error.

TABLE 8-25 PY15 AC SOLUTIONS EXPECTED AND VERIFIED DUCT SEALING SAVINGS

Program	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
AC Solutions	770,282	825,729	107.2%	282.23	301.75	106.9%
AC Solutions - IQ	308,473	315,305	102.2%	107.22	109.93	102.5%
Total	1,078,755	1,141,034	105.8%	389.45	411.68	105.7%

8.4.1.6 Avoided Replacement Cost

There are no ARC in the program.

8.4.2 Net Impact Findings

The program administrator provides trade ally recruitment, training, qualification, data acquisition tools and guidelines, and quality assurance and oversight. Under this program, qualified trade allies will perform services

such as refrigerant charge adjustment, airflow optimization, coil cleaning, and air filter replacement. Incentives for HVAC system upgrades are available in addition to these services. HVAC savings have been well-established in the NO TRM V8.0 via metering and billing analysis studies.

The table below presents each NTG value and source. Free ridership was assessed using a participant survey. Spillover was assessed using the methodology described in section 3.3.2.3.2. The spillover ratio was 0.0%.

TABLE 8-26 AC SOLUTIONS NET IMPACTS

Measure	Net-to-Gross Ratio	Source of NTG
A/C Tune Up	94.3%	PY15 Survey
Air Source Heat Pump	94.3%	PY15 Survey
Central A/C	94.3%	PY15 Survey
Duct Sealing	94.3%	PY15 Survey
Ductless Heat Pump	94.3%	PY15 Survey
Smart Thermostat	94.3%	PY15 Survey

Results for overall verified net savings are shown below in Table 8-27.

TABLE 8-27 PY15 AC SOLUTIONS PROGRAM NET SAVINGS

Program	Ex Post Gross Energy Savings (kWh)	Ex Post Net Energy Savings (kWh)	kWh NTG	Ex Post Gross Demand Reductions (kW)	Ex Post Net Demand Reductions (kW)	kW NTG
AC Solutions	2,839,263	2,790,844	98.29%	1,247.94	1,230.67	98.62%
AC Solutions - IQ	2,689,449	2,689,449	100.00%	1,225.49	1,225.49	100.00%
Total	5,528,712	5,480,293	99.12%	2,473.42	2,456.15	99.30%

8.4.3 Process Findings

The Evaluators conducted a process evaluation of the A/C Solutions program in PY15. Process activities included a database review, participant survey, and staff and implementer interviews.

In total, 122 customers completed the participant survey.

8.4.3.1 Program Design and Implementation

The A/C Solutions program provides both maintenance services and incentives for the installation of high-efficiency heating and cooling equipment in residential homes. It includes discounted A/C tune-ups for central systems as well as rebates for ENERGY STAR certified equipment installations, including central air conditioners, air source heat pumps, and ductless mini-splits.

The program is integrated with other residential offerings, particularly Home Performance with ENERGY STAR. Contractors conducting home energy assessments may refer participants to the A/C Solutions program for tune-ups or equipment replacement when appropriate. This coordinated delivery model supports a comprehensive approach to improving energy efficiency and home comfort.

The program offers rebates to encourage residential customers to schedule tune-ups for their central air conditioning systems. These services are intended to improve cooling efficiency, reduce energy use, and extend equipment life. Customers may receive an instant rebate of up to \$150 or \$200, depending on household income:

- \$150 rebate for standard (market-rate) customers
- \$200 rebate for income-qualified households, defined as those at or below 80% of area median income

Rebates are available for the installation of new, ENERGY STAR-certified equipment. The rebate amounts vary by system type and efficiency level, including:

Central Air Conditioners:

- SEER2 $\geq$ 15.2 with ECM – \$150
- SEER2 $\geq$ 16 with ECM – \$175
- SEER2 $\geq$ 17 with ECM – \$200

Air Source Heat Pumps:

- SEER2 $\geq$ 15.2 & HSPF2 $\geq$ 7.1 – \$200
- SEER2 $\geq$ 16 & HSPF2 $\geq$ 7.7 – \$225
- SEER2 $\geq$ 17 & HSPF2 $\geq$ 7.8 – \$250

Mini-Split Heat Pumps:

- SEER2 $\geq$ 17 & HSPF2 $\geq$ 7.7 – \$150 (replacing heat pump)
- SEER2 $\geq$ 17 & HSPF2 $\geq$ 7.7 – \$175 (replacing electric resistance)

To be eligible, equipment must meet SEER2, EER2, and HSPF2 ratings starting January 1, 2024. Rebates apply per installed system.

8.4.3.2 Marketing and Outreach

The A/C Solutions webpage functions as a targeted marketing tool within the Energy Smart website, designed to inform and engage residential customers about cooling system tune-ups and equipment rebates. Clickable through the main site's residential offerings, the page clearly outlines the benefits of A/C tune-ups, such as improved efficiency, reduced energy bills, and better indoor comfort, while emphasizing the potential for instant rebates of up to \$150 or \$200 based on income eligibility.

In addition, the page markets rebates for ENERGY STAR certified equipment installations, including central air conditioners, air source heat pumps, and ductless mini-splits. By including specific rebate tiers and efficiency requirements, the webpage positions itself as both an educational and action-oriented resource, prompting customers to explore cost-saving options. With accessible messaging, embedded links to schedule services, and simplified rebate information, the page is designed to convert interest into participation, ultimately driving engagement with program offerings and increasing uptake of energy-efficient upgrades.

The program is also marketed through other program channels, especially home energy assessments.

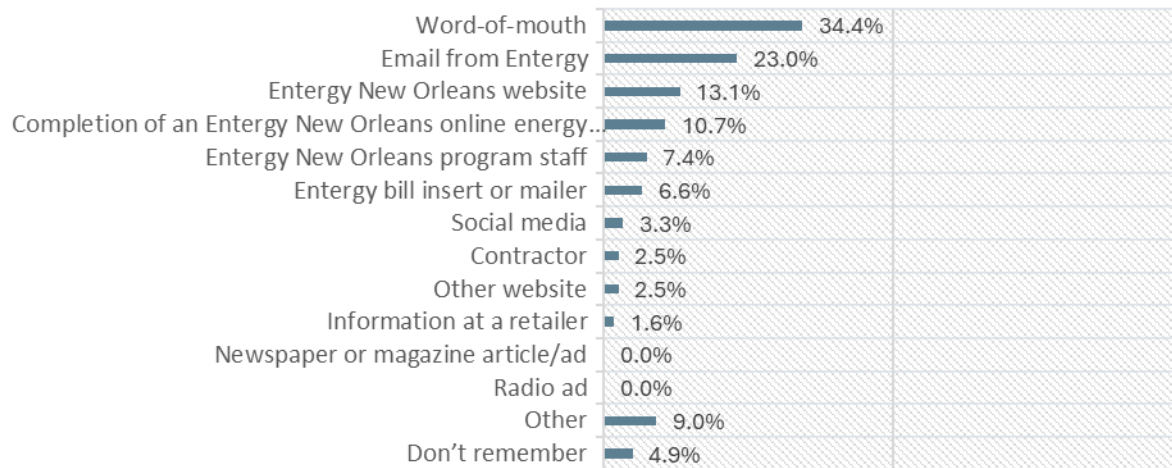
8.4.3.3 Trade Ally Role and Involvement

Contractors in the program network perform A/C tune-ups under the program. Trade allies may receive referrals from Home Performance contractors who identify cooling-related opportunities during assessments.

8.4.3.4 Participant Awareness and Motivation

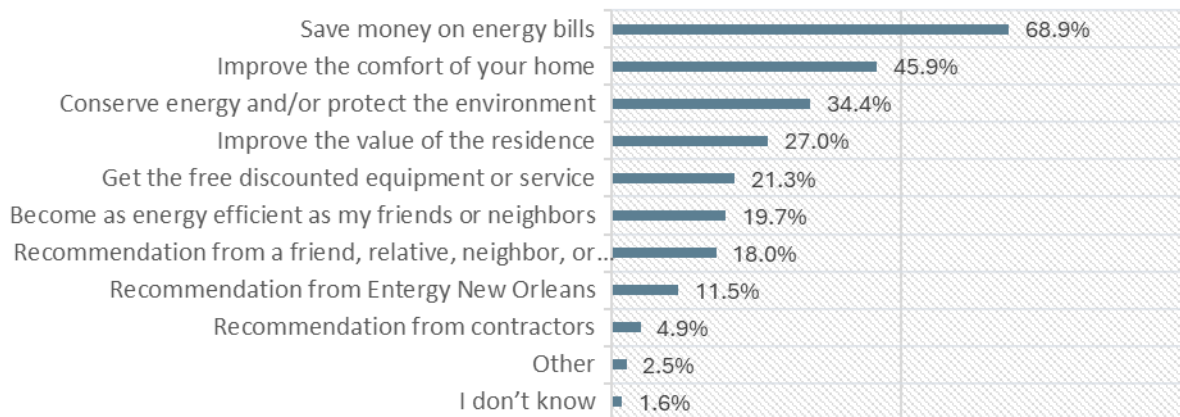
Awareness was led by word-of-mouth (34.4%), followed by emails from Entergy (23.0%); owned channels like the website contribute meaningfully (Entergy website 13.1%), while bill inserts are less influential (6.6%).

FIGURE 8-3 SOURCES OF PROGRAM AWARENESS (N=122)



Economic and comfort considerations were the primary motivations to complete a program project: 68.9% participated to save money on energy bills, and 45.9% to improve home comfort. Secondary motivations include conservation (34.4%) and home value (27.0%), while program “pull” factors are also present (21.3% free/discounted equipment or service).

FIGURE 8-4 REASONS FOR PARTICIPATION (N=122)



Open-ended responses reinforce that the program is perceived first as bill relief and affordability support (many explicitly say, “save money,” “reduce Entergy bill,” or “free service”), with additional mentions of efficiency upgrades and comfort improvements (e.g., keeping the home cooler/warmer).

TABLE 8-28 PRIMARY REASON FOR PARTICIPATION (N=122)

Main Reason for Participation	
Cost savings / Lower utility bills	67.1%

To make improvements to my appliances	25.7%
For more energy efficient appliances / To make my home more energy efficient	15.7%
To conserve energy / Better for environment	10.0%
For the free service	8.6%
Recommendation from Entergy	2.9%
To get a free assessment	1.4%
For the rebate	1.4%

8.4.3.5 Participation in Program Offerings

8.4.3.5.1 Participant Journey Overview

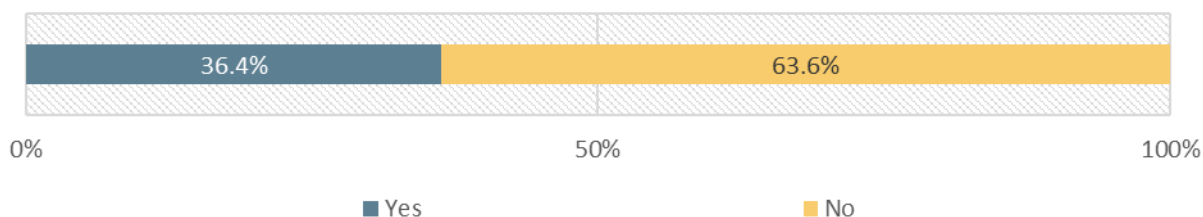
Program implementers provided an overview of the process that program participants and contractors go through to complete projects. This overview helps contextualize the delivery of program services and measures and provides insight into the customer-facing experience. The steps are as follows:

1. Customers are referred to the A/C Solutions program by a contractor (e.g., during a home energy assessment) or enroll directly if aware of the offering.
2. The implementer or the contractor confirms eligibility and schedules a tune-up.
3. The contractor performs an A/C system tune-up, documenting work performed.
4. Customers may receive a summary of findings or efficiency improvements.
5. Data is entered into the program system for tracking and evaluation purposes.

8.4.3.5.2 HVAC System Purchase Decisions

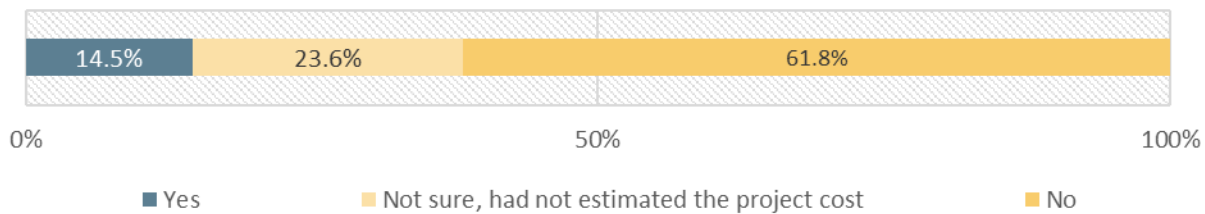
The program appears to drive incremental action: 63.6% were not planning to complete the project(s) prior to learning about the program.

FIGURE 8-5 PRIOR PLANS TO COMPLETE PROJECT (N=55)



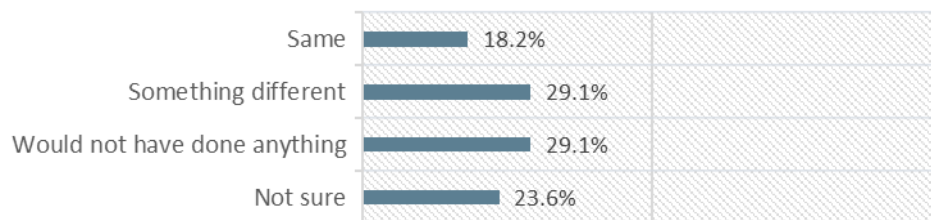
Affordability is a major barrier absent incentives: 61.8% say their budget would not have covered the full cost, and another 23.6% hadn't estimated costs, leaving only 14.5% who say they could have afforded it.

FIGURE 8-6 FINANCIAL ABILITY TO COMPLETE PROJECT (N=55)



Without the program, many would have reduced scope or not acted: only 18.2% would do the same improvements, while 29.1% would do something different and 29.1% would do nothing (plus 23.6% were not sure).

FIGURE 8-7 IMPROVEMENTS WITHOUT PROGRAM (N=55)

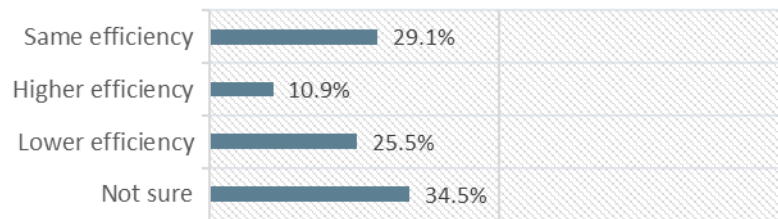


Without the program, open-ended responses (n=16) suggest taking alternative actions, often meaning cheaper, partial, or delayed improvements (e.g., “upgrade HVAC,” “some insulation/air sealing but not as much,” “find cheap prices,” “DIY/learn from videos”), reinforcing that incentives shape scope and quality. For example:

- “Find cheap prices”
- “I would have checked to make sure I have enough antifreeze and coolant in the house. I change the filters already”
- “I would have got my ac tuned up”
- “Insulation, keeping my house insulated and stop the air from leaking out to help my bill”
- “Some insulating, some air sealing, maybe not as much.”
- “The suggestions that were offered by Entergy to lower cost. I would and still do around the home is unplug when not in use. Dark shades and the other helpful hints. I would also still get a/c tune ups when needed.”
- “Upgrade the hvac”

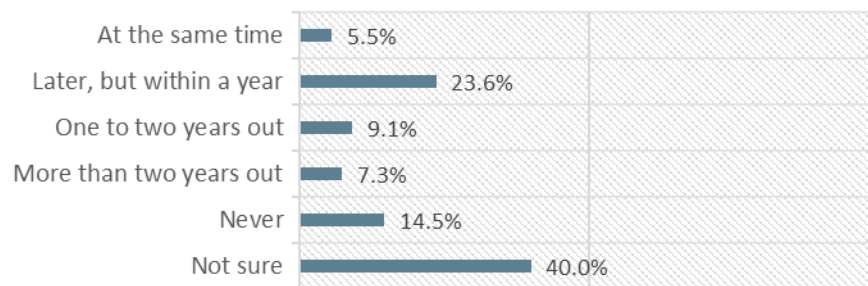
Participants are mixed on the efficiency of their purchases without the program: 29.1% say they would have completed projects with the same efficiency, 25.5% say lower, 10.9% say higher, and a sizable 34.5% say they’re not sure, indicating uncertainty about what efficiency gains would have been achieved without program services.

FIGURE 8-8 EFFICIENCY OF PROJECT WITHOUT PROGRAM (N=55)



The program likely accelerates action, but uncertainty is high, 40.0% were not sure when they'd complete the project. Only 5.5% would have done it at the same time, 23.6% within a year, and 14.5% never.

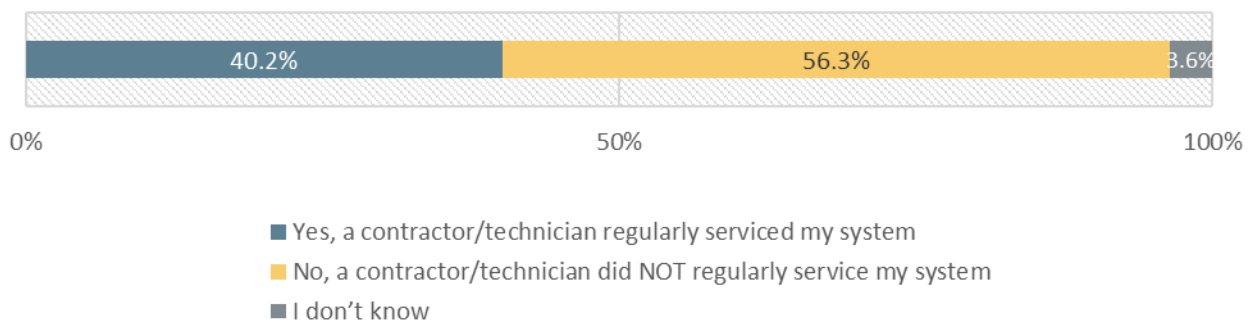
FIGURE 8-9 EXPECTED TIME OF PROJECT WITHOUT PROGRAM (N=55)



8.4.3.5.3 HVAC Tune-Up and Maintenance Behaviors

A majority did not routinely service their system prior to the program (56.3% No vs. 40.2% Yes). This helps confirm that the program may be reaching households that would otherwise defer maintenance.

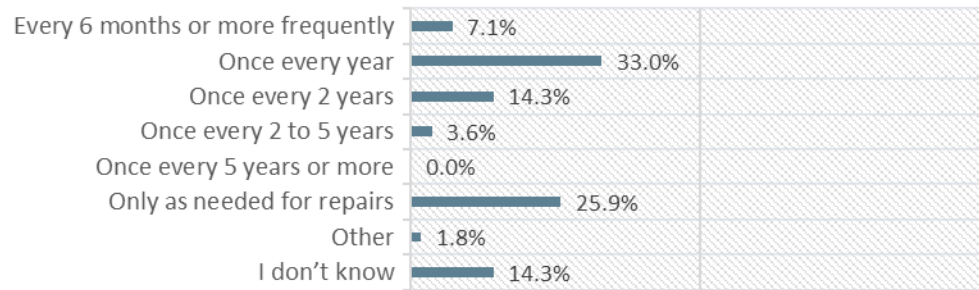
FIGURE 8-10 HVAC MAINTENANCE PRIOR TO PROGRAM (N=112)



Among those who did regular tune-ups (n=45), maintenance plans are split: 44.4% Yes vs. 48.9% No, suggesting many households are operating without structured maintenance coverage even when they do service.

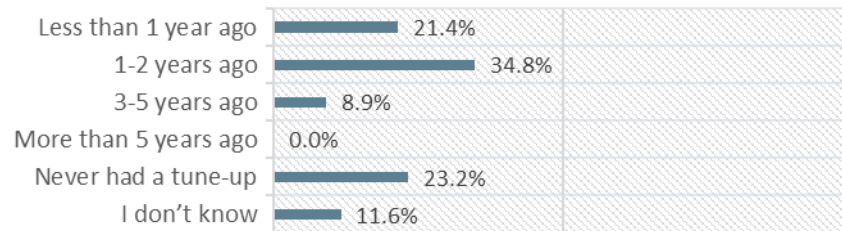
Tune-up frequency skews toward periodic or reactive behavior: 33.0% receive tune-ups once per year and 25.9% only receive tune-ups as needed for repairs, while fewer get frequent tune-ups (7.1% every 6 months). Notably, 14.3% don't know.

FIGURE 8-11 FREQUENCY OF HVAC TUNE-UPS (N=122)



Many were not recently maintained: 23.2% have never had a tune-up, and 43.7% said their last tune-up was 1–5 years ago (34.8% 1–2 years; 8.9% 3–5 years), reinforcing unmet maintenance needs prior to participation.

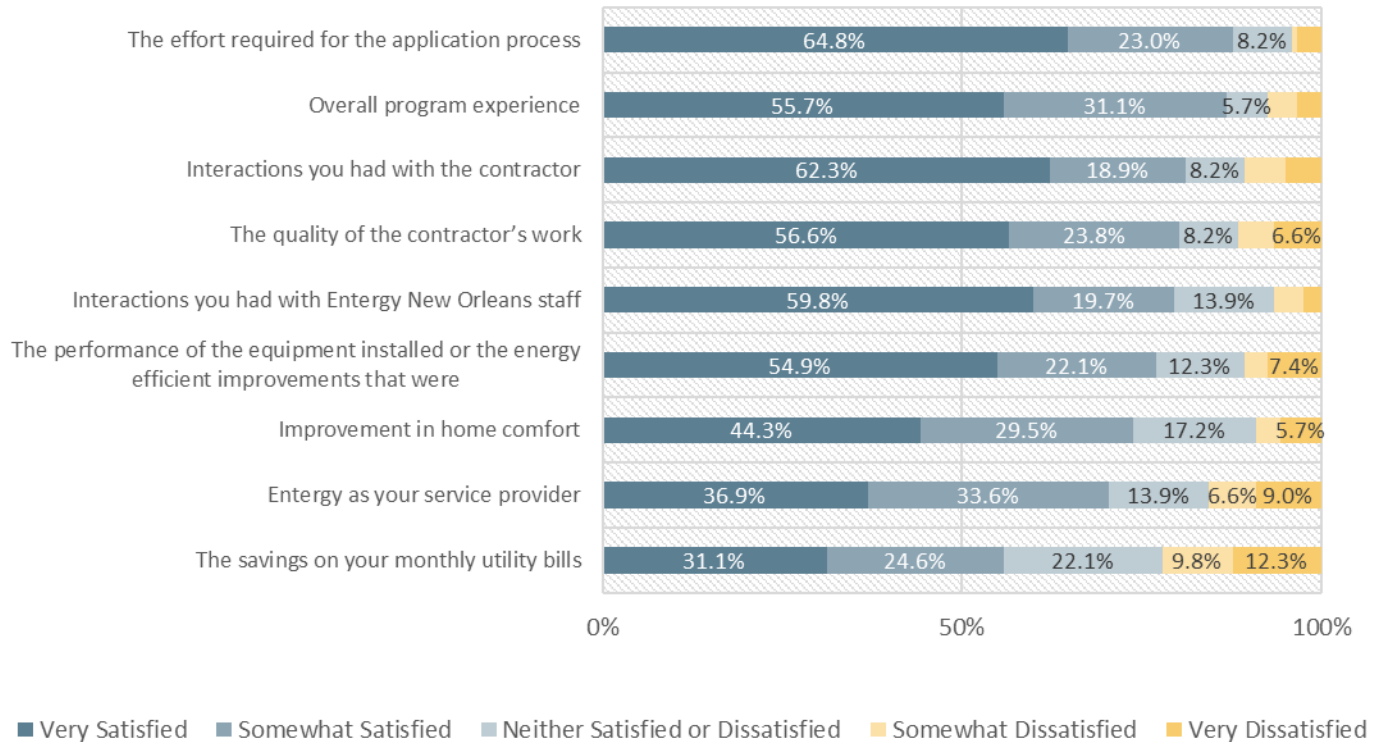
FIGURE 8-12 TIMING OF LAST TUNE-UP (N=122)



8.4.3.6 Participant Experience and Satisfaction

Satisfaction was high across several aspects of the program. On average, three-quarters (77.0%) are satisfied with program components. Despite this, there were some aspects with lower satisfaction ratings. Satisfaction with savings on monthly utility bills, improved home comfort, and Entergy as a whole receive the lowest satisfaction.

FIGURE 8-13 SATISFACTION WITH PROGRAM COMPONENTS (N=122)

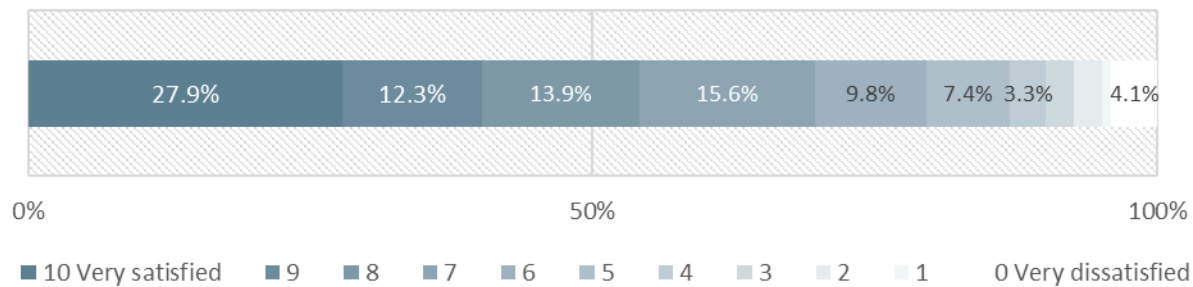


Reasons for dissatisfaction (n=43) concentrate around contractor performance and trust (e.g., upselling, poor communication, incomplete work, damage), and not seeing promised savings or comfort improvements, often alongside broader frustration with Entergy bill structure and fees. For example:

- “After the tune-up was performed, there was a leak that wasn't there before.”
- “Because my bills are still going up. There are too many estimations and fees.”
- “Bills are still very high...79 dollars a month and 300 or more for the bills. another contractor told me it wasn't working 5 months after I've been paying very high for it.”
- “I can't feel the difference between the air conditioner coming on. I'm not satisfied with the door sealing that was done, I thought it would help lower my bill but it is still high and its just me that lives here. upwards of 200 and I'm by myself.”
- “We had just purchased a new ac unit (was still under warranty) when the contractor came out she pressure tested the unit. She said that we were losing air. We put a hole in the wall to get to the duct pipe and we had to patch the hole back up once she completed it. Unexpectedly we paid her approximately \$300.00. She stated that the service was not under the program. If we had known beforehand, we would not proceed with the service. Very disappointing.”

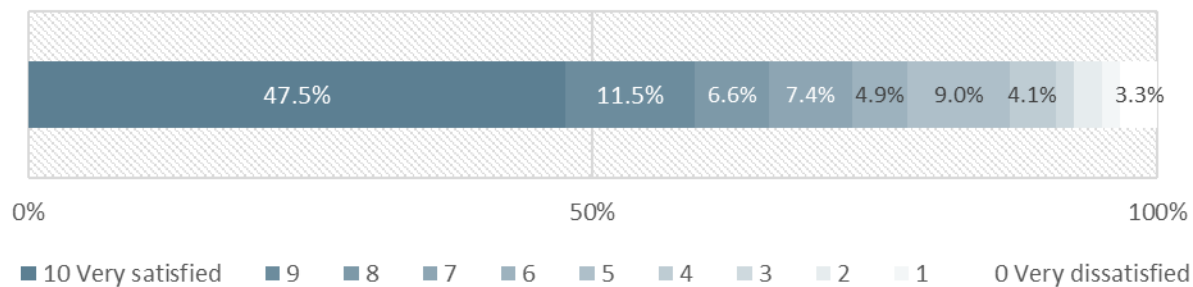
Just over half (54.1%) rate satisfaction with Entergy as an 8, 9, or 10. Despite this, 2 in 10 rate Entergy at 5 or lower, showing that there is room to improve satisfaction with the service provider.

FIGURE 8-14 SATISFACTION WITH ENTERGY AS A SERVICE PROVIDER (N=122)



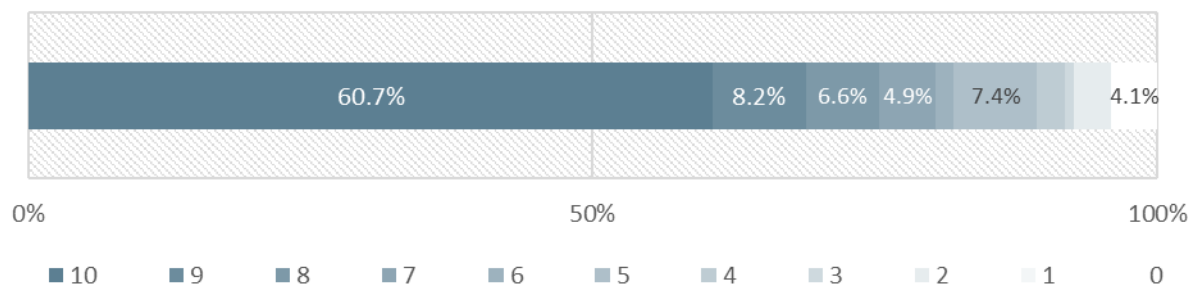
The AC Solutions program exhibits high levels of satisfaction. Nearly half (47.5%) rate it a 10 – very satisfied. Furthermore, 65.6% provide a rating of at least 8, indicating the program itself outperforms general provider sentiment.

FIGURE 8-15 SATISFACTION WITH PROGRAM (N=122)



Advocacy was also high, with 60.7% being extremely likely to recommend the program (75.5% provide a rating of at least 8). This suggests strong word-of-mouth potential—and is consistent with how most have heard of the program.

FIGURE 8-16 LIKELIHOOD TO RECOMMEND PROGRAM (N=122)



Recommendation of the AC Solutions program was driven primarily by bill savings, improved home comfort, and positive contractor experiences, with many promoters citing meaningful financial and efficiency gains.

Lower ratings were concentrated around contractor issues and unmet savings expectations, indicating that consistent service delivery and clearer savings outcomes are critical to sustaining advocacy.

TABLE 8-29 REASON FOR RECOMMENDATION (N=122)

Why participants recommend (or hesitate to) recommend – Coded	Promoter	Passive	Detractor	Total	Total %
Had a Good Experience	31	8	7	46	26.1%
Rebates and Financial Incentive (Savings, Checks, Discount)	18	1	6	25	14.2%
Improving Comfort / Home Improvement	9	2	1	12	6.8%
Positive Contractor Experience	10	0	0	10	5.7%
Contractor Issues / Trust	4	0	3	7	4.0%
No Specific Reason	3	1	3	7	4.0%
Doesn't Recommend Things in General	4	2	1	7	4.0%
Ease / Convenient	5	0	1	6	3.4%
Contractor Issues	0	0	1	1	0.6%
Low Savings / No Value / Doesn't Work	0	0	1	1	0.6%

8.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY15 data were generally missing in PY14 as well. The following bullets outline notes from reviewing the A/C Solutions data:

- Trade ally information: In general, Trade Ally primary contact names, company names, contact phone numbers, and email addresses were provided in PY15 data, however, there were a handful of projects that were missing these fields:
 - Trade ally primary contact name: 332 projects in 149 distinct homes (149 out of 1,611)
 - Trade ally main phone number: 3,161 projects in 312 distinct homes (312 out of 1,611)
 - Trade ally email address: 3,161 projects in 312 distinct homes (312 out of 1,611)
- Participant information: In general, participant contact names, contact phone numbers, and email addresses were provided in PY15 data, however, there were a few projects that were missing these fields:
 - Participant main phone number: 465 projects in 29 distinct homes (29 out of 1,611)
 - Participant email address: 2,554 projects in 272 distinct homes (272 out of 1,611)

- Measure level parameters: The majority of measure information required to estimate savings was available in the program tracking data. However, a limited number of projects required additional follow-up due to missing or unclear information necessary to determine measure savings. These projects are summarized below.
 - AC Replacement: The tracking data did not include all required parameters to estimate savings, including the replacement scenario, AHRI certification number, cooling capacity (BTUh), SEER2, and EER2 for one project.
 - Central AC Tune-Up: Key measures for 2,192 projects were missing, specifically cooling capacity and refrigerant charge.
 - HP Replacement: The tracking data did not include all required parameters to estimate savings, including the replacement scenario, AHRI certification number, cooling capacity (BTUh), heating capacity (BTUh), SEER2, and EER2 for two projects.
 - Central HP Tune-Ups: Key measures for four projects were missing, specifically cooling capacity and refrigerant charge.

8.6 Findings and Conclusions

Findings:

- **The program is driving the implementation of energy saving measures, particularly among households that would otherwise delay or avoid HVAC maintenance or upgrades.** A majority of participants were not planning to complete their project before learning about the program (63.6%), and most could not have afforded the full cost without incentives (61.8%). Only 18.2% would have completed the same improvements without the program, and 29.1% would have done nothing. Maintenance behaviors prior to participation also show unmet need: 56.3% did not routinely service their system, and 23.2% had never had a tune-up. These patterns indicate that the program is reaching households who would otherwise defer maintenance or pursue lower-quality alternatives.
- **Satisfaction with the program is high overall, but contractor performance issues create pockets of dissatisfaction and can undermine trust.** While 65.6% rated the program at least an 8 and 47.5% give it a 10, dissatisfaction centered heavily on contractor experiences. Open-ended feedback cited upselling, poor communication, incomplete work, damage, and unexpected charges. Some participants reported leaks or system failures shortly after service, and others struggled with unclear explanations of what was covered under the program. These issues contrast with the positive experiences reported by many promoters, suggesting variability across contractors.
- **Participants value the program for bill savings and comfort improvements, but many do not see measurable changes, which weakens satisfaction with outcomes.** Saving money was the top motivator (68.9%), yet satisfaction with bill savings was among the lowest-rated components. Open-ended comments frequently mentioned high bills, lack of noticeable comfort improvements, or confusion about why savings did not materialize. Some dissatisfaction appeared tied to broader frustration with Entergy billing practices, but others relate directly to expectations about what a tune-up can achieve.
- **The program benefits from strong word-of-mouth potential, but maintaining this momentum depends on consistent service delivery and clear communication.** Advocacy is high: 75.5% rated the likelihood to recommend the program at least an 8, and 60.7% give a 10. Word-of-mouth was also the top awareness source (34.4%). Promoters frequently cited good experiences, rebates, and comfort improvements.

Detractors, however, pointed to contractor issues and unmet savings expectations—two areas that directly influence whether participants feel confident recommending the program.

Recommendations:

- **To support more consistent experiences, consider reinforcing expectations around communication, transparency, and workmanship.** This might include encouraging contractors to clearly explain what is and is not included in the tune-up, or offering optional guidance on how to discuss findings with customers. Gathering more structured feedback on contractor interactions could also help identify where additional support or clarification would be most beneficial.
- **To strengthen perceived value, set clearer expectations about the likely impact of a tune-up.** Providing general ranges for typical savings, or explaining factors that influence results, such as weather, equipment age, or duct conditions, could help align expectations with realistic outcomes. Highlighting non-energy benefits, like improved reliability or reduced risk of breakdowns, may also help participants recognize value even when bill impacts are modest.
- **To sustain strong advocacy, reinforce communication touchpoints that help participants understand what to expect before, during, and after service.** This could include simple pre-visit reminders, clearer explanations of tune-up findings, or follow-up messages that help customers interpret results. These small enhancements could help ensure that positive experiences remain the dominant narrative shared through word-of-mouth.

9 SCHOOL KITS AND EDUCATION

9.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by kit.

TABLE 9-1 PY15 SK&E ENERGY SAVINGS (kWh)

Measure	<i>Ex Ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Savings (kWh)	NTG	<i>Ex Post</i> Net Savings (kWh)
School Kit - Kitchen Aerator	90,863	87.1%	79,156	100.0%	79,156
School Kit - Showerhead	321,754	106.7%	343,215	100.0%	343,215
School Kit - Advanced Power Strip	182,628	91.2%	166,569	100.0%	166,569
School Kit - Weatherstripping	39,522	129.2%	51,059	100.0%	51,059
Total	634,766	100.0%	639,999	100.0%	639,999

Sums may differ due to rounding.

TABLE 9-2 PY15 SK&E DEMAND REDUCTIONS (kW)

Measure	<i>Ex Ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand (kW)	NTG	<i>Ex Post</i> Net Demand (kW)
School Kit - Kitchen Aerator	984.96	0.8%	8.23	100.0%	8.23
School Kit - Showerhead	32.83	108.7%	35.69	100.0%	35.69
School Kit - Advanced Power Strip	20.52	93.0%	19.08	100.0%	19.08
School Kit - Weatherstripping	41.04	13.7%	5.60	100.0%	5.60
Total	1,079.35	105.8%	68.61	100.0%	68.61

Sums may differ due to rounding.

TABLE 9-3 PY15 SK&E LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
School Kit - Faucet Aerator	10.0	791,557	791,557
School Kit - Showerhead	10.0	3,432,150	3,432,150
School Kit - Advanced Power Strip	10.0	1,665,690	1,665,690
School Kit - Weatherstripping	11.0	561,654	561,654
Total	10.1	6,451,051	6,451,051

Sums may differ due to rounding.

TABLE 9-4 PY15 SK&E PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
School Kit - Faucet Aerator	8,208	\$27,639
School Kit - Showerhead	4,104	\$27,639

School Kit - Advanced Power Strip	4,104	\$27,639
School Kit - Weatherstripping	4,104	\$27,639
Total	20,520	\$110,558

Sums may differ due to rounding.

9.1.1 Program Description

The School Kits and Education (SK&E) program provides classroom education on energy use and saving energy, as well as energy efficiency kits to students. SK&E staff also perform outreach activities to promote energy efficiency.

Beginning in PY13, the program began utilizing a new implementer: National Children's Theater. National Children's Theater works with seven utilities across the country to implement an educational program in schools that employs the theater to teach students about energy efficiency, energy usage, and sustainability. The plays last approximately 25-minutes and is presented to the entire student body.

Following the theatrical production, 2nd and 5th grade students receive energy saving kits to bring home. Kits include weatherstripping, a low flow showerhead, a kitchen faucet aerator, a bathroom faucet aerator, and LEDs. Kits also have a QR code that helps families access a resource guide and enables them to indicate which equipment they do and do not install. Classroom teachers also receive a digital toolkit they can use to teach students about energy efficiency and sustainability; tool kit resources include graphic novels, games, and quizzes.

The Evaluator interviewed the School Wise Kits, Education, and Community Outreach Manager. Unlike the other residential programs, the school kit program operates on the standard school calendar year, rather than annual calendar year.

9.1.1.1 Program Delivery Channels and Expected Savings

The program received a limited impact and process evaluations. The evaluations provided free-ridership estimates, discussions of program satisfaction and strategic recommendations for program improvement. During PY15 4,104 kits were distributed at 28 different schools. PY15 kits included the following:

- Two faucet aerators
- A low flow showerhead
- An Advanced power strip
- Weather stripping

The 1.5 GPM low-flow showerhead accounted for 50.7% of expected energy (kWh) savings, the faucet aerators accounted for 14.3%, the advanced power strip accounted for 28.8%, and the weather stripping accounted for 6.2% of total expected energy savings.

Overall, the program claimed 634,766 kWh and 1,079.35 expected saving.

9.1.1.2 Trade Allies

There are no trade allies in the program.

9.1.1.3 Goal Achievement

Total verified savings and percentage of goals for the program are summarized in the table below.

TABLE 9-5 PY15 SK&E SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Savings (kW) Target	% to kW Target
797,088	80.3%	N/A	N/A

9.2 EM&V Methodology

Electricity savings and peak demand reductions were estimated using inputs from the NO TRM V8.0. Measure-specific savings are provided below.

9.2.1 Site Visits

There are no site visits in the SK&E. School kits were distributed along with a survey form to be filled out by students and parents, then returned. The forms included questions regarding which measures had been installed in the home as well as home characteristics. This information was used to determine ISR estimates for each measure, and the prevalence of electric water heating in homes as a whole. These ISRs were applied.

TABLE 9-6 ISR SUMMARY FOR SK&E

Kit Item	In-Service Rate	Source of ISR
School Kit - 1.5 Kitchen Aerator	65.0%	PY15 Student Survey and literature review
School Kit - 1.5 Showerhead	66.2%	
School Kit - Advanced Power Strip	83.0%	
School Kit - 17ft Weatherstripping	75.9%	

9.2.2 Deemed Savings Calculations

Savings calculations for each measure were carried out using the appropriate sections from the TRM, then nominal savings were modified using ISRs derived from student survey results. Nominal and final savings are shown below.

TABLE 9-7 ENERGY STAR OMNIDIRECTIONAL LEDs – DEEMED SAVINGS PER LAMP

Measure	kWh	kW	ISR	Final kWh	Final kW
Faucet Aerator (q=2)	48.9	0.006	83.0%	40.6	0.005
Showerhead	126.3	0.013	66.2%	83.6	0.009
Advanced Power Strip	29.7	0.003	65.0%	19.3	0.002
Weatherstripping	16.4	0.002	75.9%	12.4	0.001
Total	221.3	0.024		155.9	0.017

9.3 Evaluation Findings

Evaluation findings are reported in Section 9.1 Summary.

9.3.1 Gross Impact Findings

Ex post gross savings are 639,999 kWh and 68.61 kW. Savings are summarized in Table 9-8 below.

TABLE 9-8 PY15 SK&E EXPECTED AND VERIFIED SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
634,766	639,999	100.82%	1,079.35	68.61	6.36%

9.3.2 Net Impact Findings

For SK&E, NTG is deemed at 1.0, which is industry standard for a school kits program.

TABLE 9-9 PY15 SK&E PROGRAM NET SAVINGS

Verified Gross kWh Savings	Verified Net kWh Savings	kWh NTG	Verified Gross kW Reductions	Verified Net kW Reductions	kW NTG
639,999	639,999	100.0%	68.61	68.61	100.0%

Individual measures of net savings are summarized in Section 9.1 Summary.

9.3.3 Process Findings

The Evaluators conducted a limited process evaluation of the SKE program in PY15. Process activities included a database review and staff and implementer interviews.

9.3.3.1 Program Design and Implementation

The SKE program delivers educational performances and energy efficiency kits to students in grades 2, 5, and 8 across public, charter, and eligible private schools in New Orleans. The program includes a live, theatrical event for the full school and provides students in targeted grades with take-home kits that include energy-saving devices and printed bilingual materials.

The program aims to influence long-term energy-saving behavior by engaging students, their families, and teachers through accessible, curriculum-aligned content. It has evolved over time to reduce the burden on teachers, shifting away from in-class curriculum delivery toward strong logistical support and participation incentives. Key design adaptations include:

- Providing all educational and survey materials in printed, bilingual formats
- Aligning delivery timing to occur after Mardi Gras but before state testing
- Delivering kits two weeks before school events to support integration into lesson planning
- Offering teachers a \$50 incentive per classroom for survey completion

9.3.3.2 Marketing and Outreach

The program uses a relationship-based outreach model to enroll schools and maintain continuity year over year. Strategies include:

- Prioritizing public and charter schools based on ZIP codes in Entergy New Orleans territory
- Using call center outreach and both automated and personalized emails
- Maintaining contact with designated teacher “champions” throughout the year
- Offering accessible and interactive educational materials and communications that teachers and students consistently rate as valuable—supporting classroom engagement, reinforcing energy education through hands-on kits and take-home assignments, and providing incentives that recognize teacher effort and encourage participation

- Including private schools secondarily, only after verifying that enrolled students reside within ENO territory

9.3.3.3 Participant Awareness and Motivation

Awareness and motivation are primarily driven through school channels and teacher engagement. The program's appeal is built around:

- Theatrical in-school performances that excite and engage students
- Free take-home kits with practical energy-saving tools
- Printed materials that double as assignments for home completion
- Cash incentives for teachers tied to survey return rates

Teacher satisfaction and buy-in are critical to participation. Timing, administrative burden, and material accessibility have been key focus areas to ensure teacher support.

9.3.3.4 Participation in Program Offerings

9.3.3.4.1 Participant Journey Overview

The participation process for SKE includes coordinated efforts across schools, teachers, students, and families:

1. Schools are recruited via outreach and enrolled for a specific tour date.
2. Kits are shipped to the school two weeks before the scheduled performance.
3. Teachers distribute kits to 2nd, 5th, or 8th grade students and assign the home energy survey.
4. Students and families review materials, install measures, and complete the survey.
5. Teachers collect and return surveys for processing, triggering incentives.
6. Performance data and installation rates are tracked using Salesforce and survey data.

9.3.3.4.2 Direct Install Measures

Each kit includes several direct install measures, adjusted to comply with EISA exemption requirements:

- 1 showerhead
- 2 faucet aerators
- 1 Tier 1 advanced power strip

LEDs and weatherstripping were previously included but removed due to regulatory or cost-effectiveness concerns. APS is currently the highest-performing measure based on past use.

9.3.3.5 Participant Experience and Satisfaction

National Children Theater staff implement a survey of teachers whose students received kits through the School Kits Program, and a survey of students. Tracking data demonstrate that 4,104 school kits were distributed across 28 schools. Among these 28 schools, 6,082 students attended productions.

In general, respondent teachers were satisfied with the School Kits program, ranking its educational value at an average of 6.4 out of 7. All but one respondent said they would like to participate again, and that they would recommend the program to their colleagues. They reported that students enjoyed the interactive presentation.

Teachers also sent students home with kits and surveys. In general, students reported satisfaction across measures. On a scale of 1 to 5, participants reported an average satisfaction score of 4.3. Interestingly, weatherstripping was more favored than other measures (4.1), despite it being the least popular measure in PY14. Students were not asked to rate their satisfaction with the advanced power strips. All other measures were rated equally (3.7).

9.4 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data. The initial set of data did not include claimed kW values. No program documentation showed expected savings calculation methods or input assumptions.

9.5 Findings and Recommendations

Findings:

- **Review expected kW estimates.** Verified savings is only 6.36% of claims.
- **The program is well-structured to minimize teacher burden, and recent design adaptations appear to support smoother participation.** The program has intentionally shifted away from teacher-led curriculum delivery toward a model that emphasizes logistical support, bilingual printed materials, and a clear participation window (after Mardi Gras, before state testing). Kits are delivered two weeks before performances, and teachers receive a \$50 incentive for survey completion. These adaptations reflect a thoughtful response to past challenges and appear aligned with teacher needs.
- **Relationship-based outreach is central to program success, but coordination across schools, call centers, and teacher contacts requires ongoing attention.** Enrollment relies heavily on maintaining relationships with public and charter schools, supported by call center outreach, automated emails, and ongoing communication with designated teacher contacts. This model appears effective, but the program must balance broad outreach with the need to verify student eligibility (particularly in private schools) and maintain continuity year over year.
- **The take-home kits remain a core engagement tool, though measure offerings have shifted due to regulatory and cost-effectiveness constraints.** Kits now include a showerhead, two aerators, and a Tier 1 APS, with LEDs and weatherstripping removed due to regulatory and/or cost-effectiveness considerations. APS remains the highest-performing measure based on past use. The program continues to rely on printed bilingual materials to support at-home engagement and survey completion.

Recommendations:

- **To continue strengthening teacher engagement, periodically confirm that current timing, kit contents, and incentive structures remain well-aligned with classroom realities.** The current teacher survey is brief and does not go into detailed feedback on the program process. Additional interviews or focus groups with teacher “champions” could help identify small adjustments—such as clarifying instructions or refining kit distribution timing—without increasing administrative burden.
- **To support consistent participation, consider reinforcing communication touchpoints with schools and teacher contacts throughout the year.** Options might include brief reminders ahead of enrollment periods or simple updates about upcoming tour schedules. These small efforts can help maintain continuity without adding complexity to the outreach model.

- **To maintain strong at-home engagement, periodically review kit contents to ensure they remain both compliant and meaningful for families.** Gathering informal feedback from teachers or families—such as which items are most used or easiest to install—could help guide future adjustments. Even small refinements to instructions or kit packaging may support higher installation rates and reinforce the educational goals of the program.

10 RESIDENTIAL HVAC MIDSTREAM

10.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable.

TABLE 10-1 PY15 HVAC MIDSTREAM ENERGY SAVINGS (kWh)

Measure	<i>Ex Ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Savings (kWh)	NTG	<i>Ex Post</i> Net Savings (kWh)
Central AC Replacement	91,334	99.8%	91,148	100.0%	91,148
Central HP Replacement	107,360	87.9%	94,406	100.0%	94,406
Total	198,694	93.4%	185,554	100.0%	185,554

Sums may differ due to rounding.

TABLE 10-2 PY15 HVAC MIDSTREAM DEMAND REDUCTIONS (kW)

Measure	<i>Ex Ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand (kW)	NTG	<i>Ex Post</i> Net Demand (kW)
Central AC Replacement	127.53	99.7%	127.12	100.0%	127.12
Central HP Replacement	12.85	100.0%	12.85	100.0%	12.85
Total	140.38	99.7%	139.97	100.0%	139.97

Sums may differ due to rounding.

TABLE 10-3 PY15 HVAC MIDSTREAM LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
Central AC Replacement	19.0	1,731,807	1,731,807
Central HP Replacement	12.2	1,151,018	1,151,018
Total	15.5	2,882,825	2,882,825

Sums may differ due to rounding.

TABLE 10-4 PY15 HVAC MIDSTREAM COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Central AC Replacement	205	\$36,700
Central HP Replacement	52	\$23,400
Total	257	\$60,100

Sums may differ due to rounding.

10.1.1 Program Description

The Residential HVAC Midstream offering represents a shift toward upstream market engagement within the residential portfolio. By partnering directly with HVAC distributors rather than relying solely on contractor- or customer-facing incentives, the program is designed to influence stocking practices and expand the availability of high-efficiency equipment in the local market. This approach leverages distributor relationships, flexible

incentive structures, and targeted outreach to address persistent market barriers and encourage broader adoption of efficient HVAC technologies across Entergy New Orleans' residential customer base.

Below, individual measure contribution to the overall program expected savings are summarized.

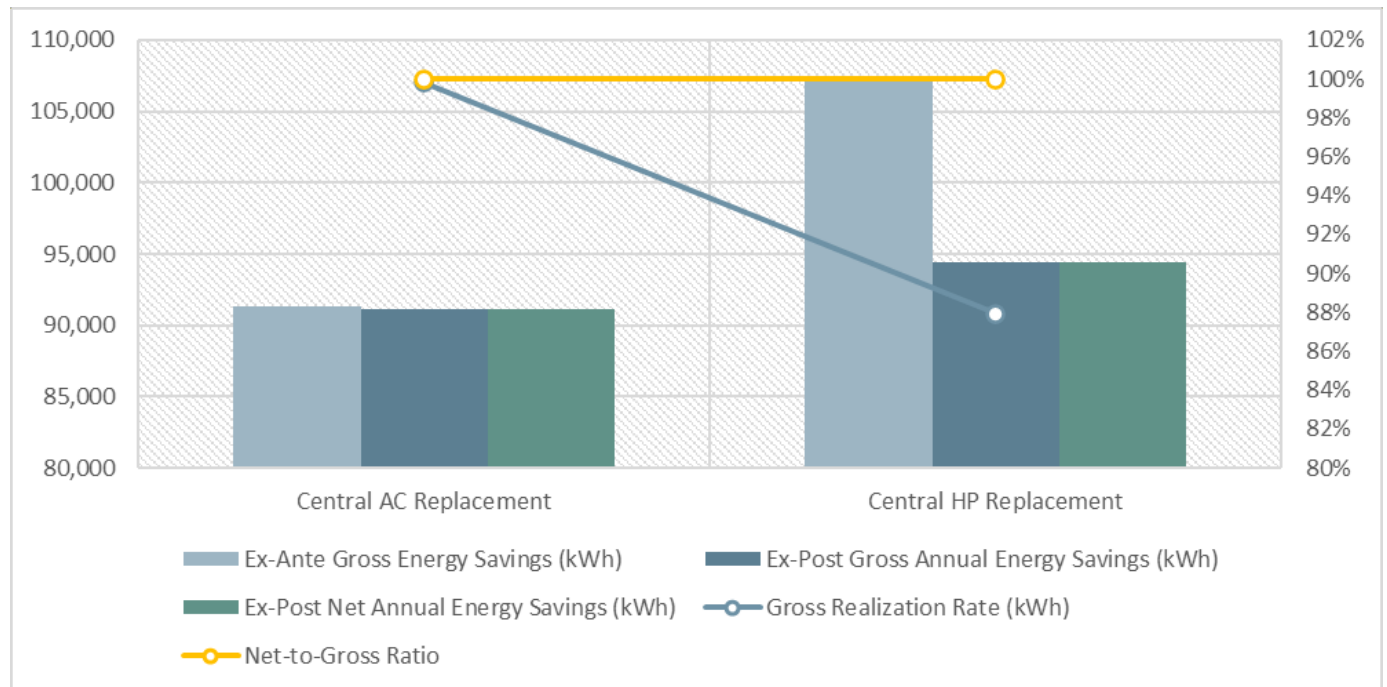


FIGURE 10-1: HVAC MIDSTREAM SAVINGS SUMMARY

10.1.1.1 Goal Achievement

Total verified savings and percentage of goals for the program are summarized in the table below.

TABLE 10-5 PY15 HVAC MIDSTREAM SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Savings (kW) Target	% to kW Target
2,047,121	9.1%	0.00	N/A

10.2 EM&V Methodology

Impact savings were calculated using methods and inputs in the NO TRM V8.0. Impact methodologies for the central air conditioner and heat pump replacement are described in the section below.

10.2.1 Site Visits

There were no site visits conducted for the HVAC Midstream program in PY15.

10.2.2 Deemed Savings Calculations

Impact methodologies for Residential HVAC are the same as described for AC Solutions, described in Section 7.3.2.

10.3 Evaluation Findings

10.3.1 Gross Impact Findings

10.3.1.1 Central AC Replacement

Expected and verified savings for the PY15 HVAC Midstream central AC replacements are summarized below. Two hundred five (205) air conditioners were replaced.

TABLE 10-6 PY15 HVAC MIDSTREAM PROGRAM EXPECTED AND VERIFIED CENTRAL AC REPLACEMENT SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
91,334	91,148	99.8%	127.53	127.12	99.7%

10.3.1.2 Central HP Replacement

Expected and verified savings for the PY15 HVAC Midstream central HP replacements are summarized below. Fifty-two (52) heat pumps were replaced.

TABLE 10-7 HVAC MIDSTREAM PROGRAM EXPECTED AND VERIFIED CENTRAL HP REPLACEMENT SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
107,360	94,406	87.9%	12.85	12.85	100.0%

10.3.2 Net Impact Findings

The Evaluators applied net-to-gross ratios estimated using PY14 findings. The net-to-gross ratios were:

- Central AC Replacement – 100.0%
- Central HP Replacement – 100.0%

Results for overall verified net savings are shown by measure in Section 10.1 Summary.

10.3.3 Process findings

The Evaluators conducted a limited process evaluation of the HVAC Midstream program in PY15. Process activities included a database review and staff and implementer interviews.

10.3.3.1 Program Design and Implementation

The Residential HVAC Midstream program incentivizes the sale and installation of high-efficiency residential HVAC equipment through participating distributors. Energy Solutions implements the program as a subcontractor to Aptim, leveraging national distributor relationships and the flexible use of program incentives to overcome market barriers to adoption of high efficiency HVAC systems.

The program targets both ducted and ductless central air conditioners and air-source heat pumps, including mini-splits, across residential unit sizes. Distributors receive per-unit incentives for qualifying equipment sold to contractors for installation in Entergy New Orleans residential accounts. Unlike traditional downstream rebates, the midstream model provides flexibility: distributors may use the incentive to address first-cost barriers, mitigate stocking risks, or offer sales bonuses, depending on what best enables high-efficiency sales.

The incentive table includes three efficiency tiers by equipment type, and the incentive value varies accordingly. Program participation began in PY15 and is still ramping up; the first distributor enrollments were underway as of May 2025, with the portal launch imminent.

Distributors act as the primary market actor and influence contractor sales behavior by:

- Stocking high-efficiency equipment
- Training contractors on available technologies
- Using incentives to promote upselling

Distributors may involve their own sales staff or external incentive processors to manage claim submissions. Program staff report that distributors receive individualized training, ongoing support, and performance feedback from a dedicated Trade Ally Manager. Feedback loops between the distributors and the program include:

- Courtesy follow-ups post-enrollment
- Performance reporting on sales volume, incentives earned, and peer comparisons
- Targeted re-training if claims are missing data or error-prone

10.3.3.2 Marketing and Outreach

Marketing is focused on distributor recruitment and engagement, primarily through:

- National account manager outreach to large distributor chains
- Local outreach to smaller or independent distributors
- One-on-one distributor meetings and presentations
- Program materials including an incentive table and claim portal guide

The midstream HVAC program engages distributors as the primary channel for promoting high-efficiency equipment. Rather than targeting end-use customers directly, the program focuses upstream in the supply chain by working with distributors to influence stocking practices and encourage recommendations of qualifying equipment to contractors. The implementer conducts targeted, relationship-driven outreach to build and maintain distributor engagement. Incentives are offered directly to distributors, with flexibility in how they are applied to support the sale of high-efficiency equipment. There is no requirement to pass incentives through to customers, allowing distributors to use the funds in a manner they determine will most effectively drive uptake. As the program matures, additional materials, such as in-branch signage, counter mats, or other sales aids, may be developed to support upselling efforts and reinforce program goals.

10.3.3.3 Participant Awareness and Motivation

In this model, the “participants” are distributors, not end customers. Distributor motivations include:

- Profit opportunity from higher-margin high-efficiency equipment
- Risk mitigation against stocking fees or unsold inventory
- Competitive positioning in the local market
- Performance-based benchmarking against peers

Contractor and customer motivations are shaped indirectly by how distributors apply the incentive. For example, some may pass through a portion of the incentive to reduce customer cost, while others may invest in internal sales staff incentives.

10.3.3.4 *Participation in Program Offerings*

10.3.3.4.1 *Participant Journey Overview*

Distributors participate in the program through a structured onboarding and claim process managed by Energy Solutions:

1. Distributors are recruited through national or local outreach.
2. A one-on-one onboarding meeting is held, including training on program rules and claim submission.
3. The distributor begins stocking or promoting eligible high-efficiency units.
4. When a sale occurs, the distributor submits a claim via the online portal.
5. The claim includes customer location data, equipment details (e.g., AHRI ID), and sales data.
6. Claims are reviewed, verified, and submitted to Aptim twice monthly for incentive payment.

Each sale must be matched to a valid Entergy New Orleans residential account, and eligible equipment must meet program specifications.

While the program is not behavioral in the traditional sense, behavioral elements play a role in distributor and contractor decision-making. The program is designed to encourage voluntary stocking and promotion of high-efficiency units. The program theory is that, over time, distributors shift how they use incentives, from mitigating stocking risk to directly lowering first costs or rewarding sales staff. Competitive peer comparisons in performance reports further motivate participation.

10.3.3.4.2 *Program Activity Summary*

The program supports major HVAC equipment installations, including high-efficiency central air conditioners and heat pumps. Installation is completed by contractors who purchase the equipment from participating distributors.

10.3.3.5 *Participant Experience and Satisfaction*

The system used for claims and tracking is reportedly well-received in other jurisdictions. Early distributor feedback has focused on the value of staff support and flexibility in how incentives may be used.

10.4 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data. The following bullets outline notes from reviewing the Residential HVAC Midstream data:

- Participant information: In general, participant contact names, contact phone numbers, and email addresses were provided in PY15 data, however, there were many projects that were missing these fields:
 - Participant main phone number: 230 projects in 218 distinct homes (218 homes out of 245)

- Participant email address: 75 projects in 70 distinct homes (70 homes out of 245)
- Measure level parameters: The majority of measure information required to estimate savings was available in the program tracking data. However, a limited number of projects required additional follow-up due to missing or unclear information necessary to determine measure savings. These projects are summarized below.
 - AC Replacement: The tracking data did not include all required parameters to estimate savings, including the replacement scenario, AHRI certification number, cooling capacity (BTUh), SEER2, and EER2 for 205 projects.
 - HP Replacement: The tracking data did not include all required parameters to estimate savings, including the replacement scenario, AHRI certification number, cooling capacity (BTUh), heating capacity (BTUh), SEER2, and EER2 for 52 projects.

10.5 Findings and Recommendations

Findings:

- **Program design is well-structured and distributor-centric, but early-stage implementation limits insight into how the model will function at scale.** The program leverages distributor relationships, flexible incentive use, and structured onboarding to encourage stocking and promotion of high-efficiency HVAC equipment. Distributors receive individualized training, courtesy follow-ups, and performance reporting, and early feedback highlights the value of staff support and the claims system. However, because PY15 represents the program's launch phase, with distributor enrollment just beginning and the portal not yet fully active, there is limited evidence on how these design elements will perform once sales volume increases.
- **Engagement relies on relationship-driven distributor outreach, with limited visibility into how distributors internally deploy incentives to influence their own sales processes.** Recruitment is conducted through national account managers, local outreach, and one-on-one meetings supported by program materials. Distributors determine how to use incentives—whether to mitigate stocking risk, motivate internal sales teams, or support contractor pricing. This flexibility is a core program strength, but it also means the program has limited insight into how distributors' internal strategies shape high-efficiency sales. As participation grows, understanding these internal decision pathways will be important for assessing program influence on the market.

Recommendations:

- **Establish structured feedback loops that capture how distributors choose to apply incentives and which strategies most effectively drive high-efficiency sales.** Periodic distributor check-ins, optional reporting on incentive use, or brief interviews during the first year, could help the program understand how distributors are operationalizing the incentive flexibility. These insights would help identify whether or not distributor behavior is consistent with the program theory and potentially support refinement of training, outreach, and performance reporting as the program matures.
- **To support consistent promotion of high-efficiency equipment, consider expanding sales-enablement tools that distributors can use within their branches and internal sales processes.** Interviewees indicated that current distributor-facing materials are limited to incentive tables and claim submission guidance, with additional sales-enablement materials identified as a potential future enhancement.

Expanding in-branch sales tools—such as counter mats, quick-reference efficiency guides, or in-branch signage—may help reinforce high-efficiency messaging and support distributor sales staff. These tools would complement the relationship-driven outreach model and provide additional structure as more distributors enroll and the program scales.

11 NEIGHBORHOOD-BASED DELIVERY PILOT

11.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable.

TABLE 11-1 PY15 NBD PILOT ENERGY SAVINGS (kWh)

Measure	<i>Ex Ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Savings (kWh)	NTG	<i>Ex Post</i> Net Savings (kWh)
Advanced Power Strip	171,832	83.0%	142,546	100.0%	142,546
Air Infiltration	378,489	79.1%	299,489	100.0%	299,489
Assessment	0	N/A	0	N/A	0
Ceiling Insulation	405,049	102.4%	414,847	100.0%	414,847
Duct Sealing	720,260	139.3%	1,003,257	100.0%	1,003,257
Faucet Aerator	14,526	98.5%	14,309	100.0%	14,309
LED Lamp (Specialty)	3,820	94.0%	3,591	100.0%	3,591
LED Lamp (Standard)	721	92.6%	667	100.0%	667
LI Audit	0	N/A	0	N/A	0
Low-Flow Showerhead	76,380	92.2%	70,430	100.0%	70,430
Smart Thermostat	63,556	121.1%	76,958	100.0%	76,958
Water Heater Pipe Insulation	10,906	89.0%	9,705	100.0%	9,705
Total	1,845,537	110.3%	2,035,799	100.0%	2,035,799

Sums may differ due to rounding.

TABLE 11-2 PY15 NBD PILOT DEMAND REDUCTIONS (kW)

Measure	<i>Ex Ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand (kW)	NTG	<i>Ex Post</i> Net Demand (kW)
Advanced Power Strip	17.68	35.8%	6.34	100.0%	6.34
Air Infiltration	155.38	62.9%	97.67	100.0%	97.67
Assessment	0.00	N/A	0.00	N/A	0.00
Ceiling Insulation	699.99	99.3%	694.76	100.0%	694.76
Duct Sealing	226.46	125.1%	283.26	100.0%	283.26
Faucet Aerator	1.50	99.2%	1.49	100.0%	1.49
LED Lamp (Specialty)	0.41	94.3%	0.39	100.0%	0.39
LED Lamp (Standard)	0.13	90.2%	0.12	100.0%	0.12
LI Audit	0.00	N/A	0.00	N/A	0.00
Low-Flow Showerhead	7.94	92.3%	7.32	100.0%	7.32
Smart Thermostat	0.00	N/A	0.00	N/A	0.00
Water Heater Pipe Insulation	1.23	89.3%	1.10	100.0%	1.10

Total	1,110.73	98.4%	1,092.45	100.0%	1,092.45

Sums may differ due to rounding.

TABLE 11-3 PY15 NBD PILOT LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
Advanced Power Strip	10.0	1,425,455	1,425,455
Air Infiltration	11.0	3,294,379	3,294,379
Assessment	N/A	0	0
Ceiling Insulation	30.0	12,445,398	12,445,398
Duct Sealing	18.0	18,058,634	18,058,634
Faucet Aerator	10.0	143,093	143,093
LED Lamp (Specialty)	0.5	1,796	1,796
LED Lamp (Standard)	0.5	334	334
LI Audit	N/A	0	0
Low-Flow Showerhead	10.0	704,298	704,298
Smart Thermostat	4.4	342,006	342,006
Water Heater Pipe Insulation	13.2	127,925	127,925
Total	18.0	36,543,316	36,543,316

Sums may differ due to rounding.

TABLE 11-4 PY15 NBD PILOT COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
Advanced Power Strip	561	\$30,840
Air Infiltration	393	\$233,754
Assessment	0	\$0
Ceiling Insulation	238	\$383,351
Duct Sealing	367	\$230,073
Faucet Aerator	382	\$587
LED Lamp (Specialty)	125	\$453
LED Lamp (Standard)	78	\$147
LI Audit	486	\$80,190
Low-Flow Showerhead	335	\$1,675
Smart Thermostat	80	\$12,025
Water Heater Pipe Insulation	288	\$107
Total	3,333	\$973,200

Sums may differ due to rounding.

11.1.1 Program Description

The Neighborhood-Based Delivery Pilot was developed to expand equitable access to energy efficiency services by focusing on communities that have historically been underserved by traditional outreach channels. Modeled on the structure of the Income Qualified Weatherization program, the pilot brings no-cost assessments and upgrades directly into selected neighborhoods through a community-centered delivery model. By emphasizing

local partnerships, in-person engagement, and tailored outreach strategies, the pilot aims to reduce participation barriers and strengthen the reach of residential energy efficiency offerings among households least likely to engage through conventional program pathways.

The program is modest in size, and thus evaluation activities are limited. The general approach aligns with those detailed for HPwES in Section 0.

Below, individual measure contribution to the overall program expected savings are summarized.

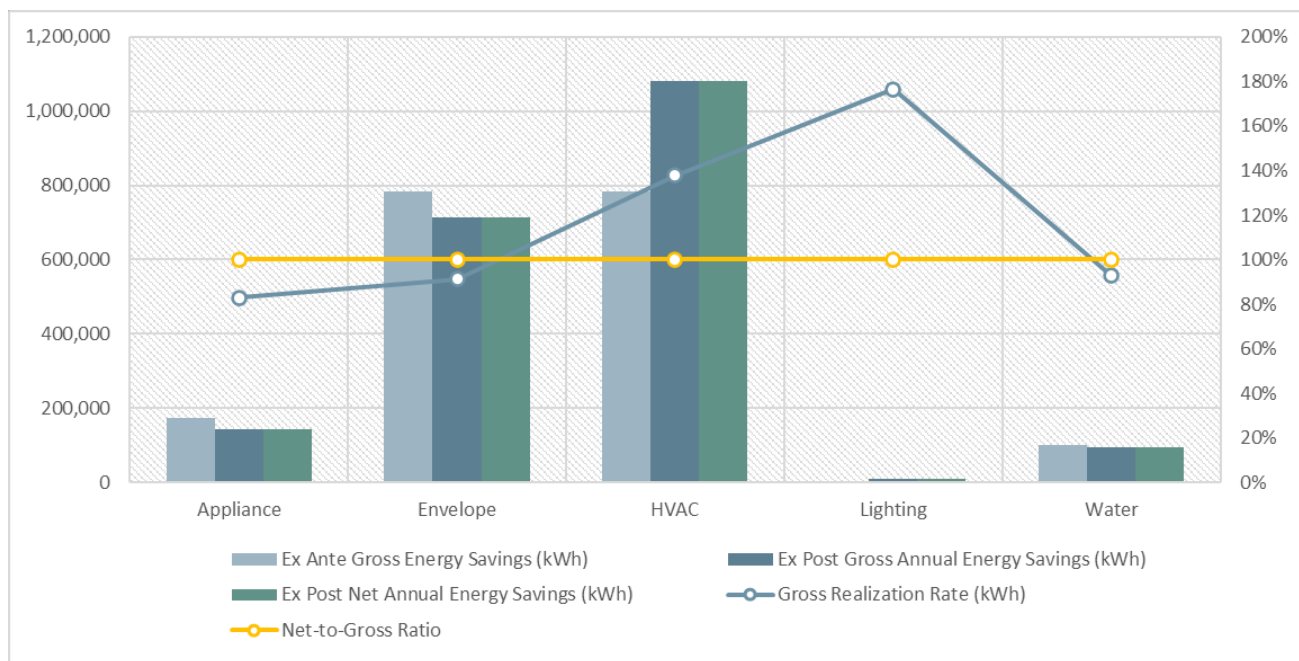


FIGURE 11-1: NBD PILOT SAVINGS SUMMARY

11.1.1.1 Goal Achievement

Total verified savings and percentage of goals for the program are summarized in the table below.

TABLE 11-5 PY15 NBD PILOT SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Savings (kW) Target	% to kW Target
4,339,616	46.9%	3,329.06	32.8%

11.2 EM&V Methodology

Impact savings were calculated using methods and inputs in the NO TRM V8.0.

11.2.1 Site Visits

Because the Neighborhood-Based Delivery Pilot is modest in size and designed as a community-centered, neighborhood-level initiative, evaluation activities were limited and no site visits were conducted during this program year.

11.2.2 Deemed Savings Calculations

Impact methodologies for NBD Pilot measures are the same as described for HPwES, described in Section 4.3.2.

11.3 Evaluation Findings

11.3.1 Gross Impact Findings

11.3.1.1 Advanced Power Strip (Tier 2)

Expected and verified savings for Tier 2 advanced power strips are summarized below. There were 561 units installed at 331 homes.

TABLE 11-6 PY15 NBD PILOT PROGRAM EXPECTED AND VERIFIED ADVANCED POWER STRIPS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
171,832	142,546	83.0%	17.68	6.34	35.8%

11.3.1.2 Aerator

Expected and verified savings for PY15 NBD Pilot aerators are summarized below. There were 382 aerators installed in 277 residences.

TABLE 11-7 PY15 NBD PILOT EXPECTED AND VERIFIED AERATORS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
9,782	9,636	98.5%	1.01	1.00	99.0%

11.3.1.3 Air Infiltration

Expected and verified savings for the air infiltration projects are summarized below. There were 393 air infiltration projects at the same number of residences.

TABLE 11-8 NBD PILOT PROGRAM EXPECTED AND VERIFIED AIR INFILTRATION SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
378,489	299,489	79.1%	155.38	97.67	62.9%

11.3.1.4 Ceiling Insulation

Expected and verified savings for the ceiling insulation projects are summarized below. Ceiling insulation was installed at 238 residences.

TABLE 11-9 PY15 NBD PILOT PROGRAM EXPECTED AND VERIFIED CEILING INSULATION SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
405,049	414,847	102.4%	699.99	694.76	99.3%

11.3.1.5 Duct Sealing

Expected and verified savings for duct sealing projects are summarized below. Duct sealing was installed at 367 residences.

TABLE 11-10 PY15 NBD EXPECTED AND VERIFIED DUCT SEALING SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
720,260	1,003,257	139.3%	226.46	283.26	125.1%

11.3.1.6 LED Lamp

Expected and verified savings for LED lamps are summarized below. There were 203 LED lamps installed in 35 residences.

TABLE 11-11 PY15 NBD PILOT EXPECTED AND VERIFIED LEDS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
4,540	4,258	93.8%	0.54	0.50	93.3%

11.3.1.7 Low-Flow Showerhead

Expected and verified savings for low-flow showerheads are summarized below. There were 335 low-flow showerheads installed in 197 residences.

TABLE 11-12 PY15 NBD PILOT EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
76,380	70,430	92.2%	7.94	7.32	92.3%

11.3.1.8 Smart Thermostat

Expected and verified savings for smart thermostats are summarized below. There were 80 smart thermostats installed at 71 residences.

TABLE 11-13 PY15 NBD PILOT EXPECTED AND VERIFIED SMART THERMOSTATS SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
63,556	76,958	121.1%	0.00	0.00	N/A

11.3.1.9 Water Heater Pipe Wrap

Expected and verified savings for water heater pipe wrap projects are summarized below. Pipe wrap was installed in 149 residences. The slightly lower realization rate may be attributed to the measure ISR that was applied in PY15.

TABLE 11-14 PY15 NBD PILOT EXPECTED AND VERIFIED PIPE WRAP SAVINGS

<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate kWh	<i>Ex Ante</i> Gross Demand Reductions (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	Realization Rate kW
10,906	9,705	89.0%	1.23	1.10	89.0%

11.3.2 Net Impact Findings

The Evaluators applied net-to-gross ratios of 100% to each measure in the NBD Pilot PY15 program.

Results for overall verified net savings are shown by measure in Section 11.1 Summary.

11.3.3 Process findings

The Evaluators conducted a process evaluation of the Neighborhood-Based Delivery Pilot in PY15. Process activities included a database review, participant survey, and staff and implementer interviews.

Due to the program’s similarities with HPwES and the low response to survey outreach, participant survey findings are combined with HPwES and presented in Section 4.4.3.

11.3.3.1 Program Design and Implementation

The Neighborhood-Based Pilot is a targeted initiative modeled after the Income Qualified Weatherization program. It offers the same services—including home energy assessments, direct install measures, and deeper energy-saving upgrades—at no cost to participants. However, the pilot is geographically focused, prioritizing neighborhoods selected based on multiple equity-focused criteria, including:

- High levels of income disadvantage
- High urban heat island effects
- Low access to broadband and digital engagement tools
- Underrepresentation in prior program participation

The pilot’s goal is to improve equity in program delivery by reaching underserved customers who may not respond to digital or mass-market outreach. Neighborhoods were selected in consultation with stakeholders such as the Sierra Club and the Alliance for Affordable Energy, and were mapped according to income levels, heat island risk, and City Council districts to ensure community-wide representation.

Program staff noted that the pilot’s first implementation offered valuable lessons. They emphasized the importance of partnering with local groups such as neighborhood associations and the Housing Authority of New Orleans to better understand community schedules and needs. Initial outreach efforts were challenged by conflicts with local events, prompting a shift toward earlier and more community-informed planning for future events. Staff also highlighted the use of yard signs and word-of-mouth marketing to sustain participation beyond the initial outreach day.

11.3.3.2 *Marketing and Outreach*

Outreach for the Neighborhood-Based Pilot is distinct in its community-first approach. It includes:

- Direct mail invitations to homes within selected neighborhoods
- Tabling at a new series of neighborhood events featuring food, bill assistance, health screenings, and job resources
- Event-based sign-ups with support from Thrive New Orleans
- Follow-up canvassing and phone outreach after events
- Yard signs and word-of-mouth promotions (e.g., “Your neighbor received energy savings today—sign up tomorrow”)

The first event was scheduled for May 8, 2025, with a target neighborhood of approximately 700 homes and an initial engagement goal of ~200 participants.

11.3.3.3 *Trade Ally Role and Involvement*

Trade allies implement services in the pilot neighborhoods just as they do for the IQW program. They receive customer assignments through the same Quality Contractor Network, follow standard protocols, and are compensated via program incentives.

11.3.3.4 *Participant Awareness and Motivation*

The pilot aims to overcome awareness barriers by meeting participants where they are – through neighborhood-based events, community partners, and in-person canvassing. By reducing reliance on digital platforms and offering wraparound services, the program intends to attract customers who may not typically engage with energy efficiency programs.

11.3.3.5 *Participation in Program Offerings*

11.3.3.5.1 *Participant Journey Overview*

Participants in this pilot may enter the program in several ways:

- By attending community events and enrolling onsite
- By responding to direct mail or canvassing outreach
- By calling the program or using a web link provided via QR codes

Once enrolled, participants follow the same process as in the IQW program:

1. Customers enroll by attending a community event, responding to direct mail, speaking with a canvasser, or using QR codes or phone numbers provided through outreach materials.
2. TRC verifies customer eligibility and assigns them to a contractor in the QCN.
3. The contractor contacts the customer to schedule the home assessment.
4. During the visit, contractors install direct install measures and collect assessment data.
5. The contractor reviews the personalized energy report with the customer in person and provides a copy via email or mail.

6. Based on the assessment findings, contractors may apply for additional incentives to complete major measure installations on the customer's behalf.

11.3.3.5.2 *Home Energy Assessments*

All services mirror the IQW offering, with BPI-certified contractors conducting assessments using the clipboard tool.

11.3.3.5.3 *Major Measure Installations*

Based on needs identified during assessments, participants may receive deeper upgrades such as air sealing and ceiling insulation. The implementer expects high uptake in these older homes.

11.3.3.5.4 *Direct Install Measures*

DI measures are installed during the assessment visit. These include standard DI offerings and thermostatic shower valves for homes with electric water heating.

11.3.3.6 *Participant Experience and Satisfaction*

The implementer described efforts to create a welcoming and accessible experience, including event-based enrollment, local outreach via Thrive, and flexible options for follow-up and sign-up. The first event had not yet taken place at the time of the interview, but post-event canvassing and signage were planned to boost ongoing participation.

The Evaluator completed surveys with a small number of customers enrolled in this program. Due to the small sample size that prevented developing program-specific findings, responses from participants in this program are included in feedback provided in the Home Performance with ENERGY STAR Program chapter.

11.4 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data. The following bullets outline notes from reviewing the NBD Pilot data:

- Participant information: In general, participant contact names, contact phone numbers, and email addresses were provided in PY15 data, however, there were many projects that were missing these fields:
 - Participant main phone number: 39 projects in 10 distinct homes (10 homes out of 589)
 - Participant email address: 726 projects in 148 distinct homes (148 homes out of 589)
- Measure level parameters: The majority of measure information required to estimate savings was available in the program tracking data. However, a limited number of projects required additional follow-up due to missing or unclear information necessary to determine measure savings. These projects are summarized below.
 - Seventy-five smart thermostat projects were missing baseline information for existing HVAC systems, including system type, baseline efficiency ratings, and cooling and heating capacities.

11.5 Findings and Recommendations

Findings:

The pilot's equity focused design is well aligned with its goals, but early implementation challenges highlight the need for deeper community coordination. The program intentionally targets neighborhoods with high income disadvantage, heat island exposure, low digital access, and historically low participation. Staff emphasized that the model successfully shifts outreach toward in person, community-based engagement rather than digital channels. However, the first implementation cycle revealed logistical challenges such as event timing conflicts and the need for stronger partnerships with neighborhood groups and housing authorities.

Outreach strategies are community centered and diverse, but participation insights remain limited due to the pilot's early stage and low survey response. The program uses direct mail, neighborhood events, canvassing, yard signs, and partnerships with Thrive New Orleans to reach residents who may not engage through traditional marketing. These approaches are designed to reduce awareness barriers and create a welcoming entry point. Yet because the first event had not occurred at the time of interviews and survey response was low, there is limited information on participant experience, satisfaction, or the effectiveness of specific outreach tactics. Current findings reflect program design and early planning rather than participant outcomes.

Recommendations:

To strengthen community alignment, it may help to formalize early planning with neighborhood partners to avoid scheduling conflicts and improve event turnout. Engaging local associations, housing authorities, and community leaders earlier in the planning cycle could help identify optimal event timing, preferred communication channels, and neighborhood specific needs. This coordination may improve attendance and ensure outreach feels locally grounded.

- **The Evaluator should seek to complete a sufficient number of surveys to support representative findings on the program experience.** Due to the small number of responses obtained this year, results could not be broken out for this customer segment.

12 BEHAVIORAL

Summary The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), and participation, by cohort, where applicable.

TABLE 12-1 PY15 BEHAVIORAL ENERGY SAVINGS (kWh)

Measure	<i>Ex Ante</i> Gross Energy Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	NTG	<i>Ex Post</i> Net Energy Savings (kWh)
PY15 Combined Cohort	13,790,000	97.6%	13,462,745	1	13,462,745
Total	13,790,000	97.6%	13,462,745	1	13,462,745

Sums may differ due to rounding.

TABLE 12-2 PY15 BEHAVIORAL DEMAND REDUCTIONS (kW)

Measure	<i>Ex Ante</i> Gross Demand Reductions (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand Reductions (kW)	NTG	<i>Ex Post</i> Net Demand Reductions (kW)
PY15 Combined Cohort	2,831	NA	2,765	100%	NA
Total	2,831	NA	2,765	100%	NA

Sums may differ due to rounding.

TABLE 12-3 PY15 BEHAVIORAL LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
PY15 Combined Cohort	1	13,462,745	13,462,745
Total	1	13,462,745	13,462,745

Sums may differ due to rounding.

TABLE 12-4 PY15 BEHAVIORAL PARTICIPATION BY COHORT

Measure	Weighted Treatment Customers	Weighted Control Customers
PY15 Combined Cohort	151,803	34,966
Total	151,803	34,966

Sums may differ due to rounding.

12.1 Program Description

The Energy Smart Behavioral program (“Behavioral”) is intended to use social norming to leverage energy savings; this is a long-known behavioral science tenet that individuals desire to be at a similar or better level than their peers, and thus, the report drives high users to reduce their energy consumption. The offering was implemented by Franklin Energy Services (“Franklin”) and administered by APTIM.

The program provides tailored reports to residential customers that include:

- Comparisons of customers' current energy use to their past use;
- Comparison of energy use to similar homes in the area; and
- Tips on how customers can reduce their energy use as well as information on other Energy Smart offerings.

12.2 EM&V Methodology

The impact evaluation approach for this program is as follows:

- The control group was tested for validity as a statistical match for the treatment households in the baseline year;
- If the monthly pre-period usage for the treatment and control groups did not match for at least 9 of the 12 pre-period months, an ad-hoc control group would then be created via propensity score matching;
- Energy savings were estimated via regression modeling;
- Double counted savings were removed; and
- Demand (kW) savings were estimated from the validated energy savings.

For PY15, Franklin implemented a second wave using the same RCT design as the combined cohort that was added in PY14. The following table summarizes the PY15 combined cohort.

TABLE 12-5 FRANKLIN COHORTS

Cohort	Treatment	Control	Intervention Date
PY15 Combined Cohort -- Wave 1	131,139	29,652	December 1, 2023
PY15 Combined Cohort -- Wave 2	20,664	5,314	February 27, 2025
Total	151,803	34,966	N/A

This led to a total of 151,803 treatment customers for the Behavioral Program. The Evaluators estimated savings for this cohort. There were 12 months of post period data for Wave 1 and 10 months of post period data for Wave 2.

12.2.1 DATA PROVIDED

ENO provided the following data to support the analysis:

- Pre-treatment hourly AMI data for all customers in the Entergy service territory, aggregated on a monthly timestep. The data started on December 1, 2022, and ended on November 30, 2023, for Wave 1 and started on February 1, 2024, and ended on January 31, 2025, for Wave 2;
- Post-treatment hourly AMI data for all customers in the Entergy service territory, aggregated on a monthly timestep. The data started on January 1, 2025, for Wave 1, and started on March 1, 2025, for Wave 2. The data ended on December 31, 2025, for Waves 1 and 2;
- Participants that received reports through the 2025 program year;
- Participant and nonparticipant account active and account inactive dates; and,
- Program tracking data for participants, including date of installation and verified kWh savings for each measure installed.

The above data was sufficient for the Evaluators to conduct the evaluation activities summarized in the following sections.

12.2.2 DATA PREPARATION AND CLEANING

Prior to cohort validation and regression analysis, the Evaluators prepared monthly billing data through a series of cleaning steps. First, an average daily usage value was calculated by dividing the monthly usage by the number of billed days in a month. Additionally, data was filtered using the following criteria:

- Customer months in which average monthly usage exceeded 6,000 kWh were excluded from analysis.
- Usage that was less than or equal to 0 kWh was excluded from analysis.
- Pre-treatment data was limited to December 1, 2022 – November 30, 2023, for Wave 1 and February 1, 2024 – January 31, 2025, data for Wave 2.
- Excluded December 2023 data which overlapped with the intervention date for Wave 1, and February 2025, which overlapped with the intervention date for Wave 2.

The data provided to Qualus were monthly aggregates of hourly AMI data. For the remainder of the report, therefore, the Evaluators will reference the billing data as having monthly intervals.

The Evaluators identified high outliers at the threshold of average monthly kWh usage over 6,000 kWh per month. This level of consumption is unrealistic for residential households and can reasonably be categorized as the result of a reading error rather than a valid reading from a high user. The Evaluators aimed to remove error readings rather than remove high and low users, as these subgroups contribute real behaviors to the average savings estimate.

12.2.3 VALIDITY TESTING

Control group validity was tested for statistically significant differences in usage between the treatment and control groups for each of the 12 pre-period months. Validity testing was completed to determine if propensity score matching would be required to create an ad-hoc, quasi-experimental control group.

The table below displays the results of the control group validation:

TABLE 12-6 PY15 VALIDITY TESTING RESULTS

Cohort	Valid Control Group	PSM
PY15 Combined Cohort – Wave 1	✓	
PY15 Combined Cohort – Wave 2	✓	

12.2.4 PROPENSITY SCORE MATCHING

Regression model analyses are unable to be run on cohorts in which a statistically comparable control group is not defined. Therefore, to analyze cohorts that have non-equivalent counterfactual groups, a post-hoc control group is required to be created. The Evaluators create a statistically similar control group using propensity score matching (PSM), a method that allows the Evaluators to find the most similar household based on customers' billed consumption trends in the pre-period and verified with statistical difference testing. The PY15 combined cohort for both waves was created from an RCT in November 2023. The Evaluators determined that the RCT's monthly usage was statistically valid for the 12 pre-period months for both waves, and propensity score matching was not required.

A propensity score is a metric that summarizes several dimensions of household characteristics into a single metric that can be used to group similar households. To create a post-hoc control group, the Evaluators compile billing data of all control participants from all waves to compare against treatment households via quasi-

experimental methods. This allows the Evaluators to select from a large group of similar households that have not received home energy reports. With this information, the Evaluators can then match the treatment group to a similar control group via seasonal pre-period usage. After matching, a t-test is conducted for each month in the pre-period to help determine the success of PSM.

After creating a PSM control group, the cohort undergoes the same regression modeling as the remaining statistically valid cohorts. The regression specifications and details are summarized in the next section.

12.2.5 LINEAR REGRESSION MODELING

After validating control groups were a sufficient match for each wave, the Evaluators employed a difference-in-difference (D-in-D) regression model to evaluate verified savings for the impact evaluation for each wave.

12.2.5.1 *Difference-in-Difference (D-in-D) Regression Model*

The D-in-D regression model controls for individual differences by including fixed terms that are equal to each treatment customer's average monthly energy use across the pre- and post-treatment period. The specific model used by the Evaluators also utilizes fixed effects for each time period (e.g., year and month) and interacts these time period fixed effects with the pre-program, or post-program energy use variable respectively without considering the treatment effect. These terms are included to account for monthly differences in energy usage that are independent of the Home Energy Reports. The time period fixed effects are also interacted with the treatment indicator variable to estimate the impact of treatment in each time period. The model specification is as follows:

EQUATION 12-1 DIFFERENCE-IN-DIFFERENCE MODEL SPECIFICATION

$$y_{it} = \sum_{j=1}^{12} \beta_j * Tr_i * d_{jt} + \sum_{j=1}^{12} Tr_i * d_{jt-1} + \sum_{j=1}^{12} \theta_j * d_{jt-1} \sum_{j=1}^{12} \theta_j * d_{jt-1} + \varepsilon_{it}$$

Where,

i = the i th household

j = the first, second, third, etc. month of the period t

y_{it} = Average daily usage for the period t and customer i

β_j = The average daily savings for customer i , period t , and month j

Tr_i = The treatment indicator. Equals 1 for the treatment group and 0 otherwise

d_{jt} = Dummy variable for each month j , in the post-period t . Equals 1 if $j = t$ and 0 otherwise

d_{jt-1} = Dummy variable for each month j , in the pre-period $t-1$. Equals 1 if $j = t-1$ and 0 otherwise

θ_j = The average effect on consumption specific to the post-period t or pre-period $t-1$

ε_{it} = Customer-level random error

The treatment coefficient β_j represents the average change in consumption between the pre-period and post-period for the treatment group in each month.

In this specification, savings are calculated by:

EQUATION 12-2 MONTHLY SAVINGS ESTIMATE

$$Savings = \sum Treatment\ Coeff \times Number\ of\ recipients\ in\ month\ j \times Number\ of\ days\ in\ month\ j$$

12.2.6 REMOVE DOUBLE COUNTED SAVINGS

Participants in both the treatment and control groups participate in other Energy Smart residential energy efficiency programs. The Behavioral Program reports may also increase the customer's propensity to participate in other programs. This additional participation is known as uplift. The reports sent to customers include information about other Energy Smart incentives and programs, which may lead to customers adopting more energy efficient upgrades for their home.

When a household participates in an efficiency program because of this encouragement, the utility might count their savings twice: once in the regression-based estimate of behavioral program savings and again in the estimate of savings for the other energy efficiency program. Although uplift rarely displays a statistically significant difference between the treatment and control groups, the UMP recommends removing uplift from each group at the household level.

The double counted savings, whether positive or negative, are subtracted from the wave's savings estimates from the regression analysis to get total verified savings. The approach for removal of double counted savings will differ based on whether the other program is a downstream program. The following sections detail our proposed methodology for downstream programs.

Downstream programs traditionally track installed measures at the customer level. Entergy delivered customer-level tracking data for other programs offered to residential customers. The Evaluators evaluated these programs and used the verified savings from each program to use towards downstream double counting for the Behavioral Program. The residential Energy Smart programs included in the double counting analysis are the Heating, Cooling, and Home Comfort Program, the Income-Eligible Multi-Family Program, and the Smart Thermostats Program.

The Evaluators corrected for cross-program participation that occurred after treatment began to the extent that the treatment group participated at a higher rate than the control group. The Evaluators estimated and subtracted savings from program uplift from the total program portfolio savings for each program year. The double count savings were calculated on a per-household level for each treatment group in each cohort as follows.

EQUATION 12-3 DOUBLE COUNT SPECIFICATION

$$Double\ Counting = \left(\frac{OP\ kWh}{Household_{Treatment}} - \frac{OP\ kWh}{Household_{Control}} \right) \times \# Accounts_{Treatment}$$

Where,

$$\frac{OP\ kWh}{Household_{Treatment}} = \text{Other program kWh per household in the treatment group}$$

$\frac{OP\ kWh}{Household_{Control}}$ = Other program kWh per household in the control group

$Accounts_{Treatment}$ = Total accounts in the treatment group

To estimate double counted program savings from downstream program uplift, the Evaluators:

1. Matched the Behavioral Program treatment and control group customers to the utility energy efficiency program tracking data by account number;
2. Calculated the savings per treatment group subject from efficiency uplift as the difference between treatment and control groups in average efficiency program savings per subject; and
3. Multiplied that difference by the number of subjects who are in the treatment group.

The Evaluators summarized and removed program uplift for each wave and treatment status for each of the other residential program offerings.

12.3 Evaluation Findings

12.3.1 IMPACT FINDINGS

This section details the level of program activity for 2025, the reported and verified gross savings that resulted from that activity.

The monthly-level savings are calculated by multiplying the average monthly household impact estimate by the weighted days in the month and number of active program participants in the treatment group for that month. These estimates are then added together and, after removing double counted savings, the resulting sum is the program-level savings estimate.

The Evaluators calculated the percent savings per home dividing the average annual energy savings estimated in the treatment group by the average annual energy consumption from the control group. This methodology is presented in the UMP Chapter 17 Residential Behavior Protocol⁹.

12.3.1.1 Data Preparation and Cleaning

The Evaluators prepared and cleaned the aggregated AMI data provided by Entergy. The Evaluators employed the following cleaning steps for each cohort:

- Filter for customers currently treated in 2025
- Remove negative bills and bills that equal 0 kWh
- Remove bills with usage that was over 20,000 kWh/month
- Filter for post-period after January 1, 2025, for Wave 1 and March 1, 2025, for Wave 2 and pre-period for 1 year prior to the intervention dates of December 1, 2023, for Wave 1 and March 1, 2025, for Wave 2

⁹ <https://energy.gov/sites/prod/files/2015/02/f19/UMPChapter17-residential-behavior.pdf>

- Remove December 2023 bills for Wave 1 and February 2025 bills for Wave 2 because they overlap with the intervention dates

After conducting the above cleaning steps, the Evaluators conducted validity testing. The results of validity testing are displayed below.

12.3.1.2 Validity Testing

The treatment and control group energy usage was tested for each of the 12 pre-period months in each wave. The validity testing found no significant differences between the treatment and control group's pre-period energy usage for any of the 12 months. The results of the testing are displayed in Table 12-7 and Table 12-8.

TABLE 12-7 PY15–VALIDITY TESTING RESULTS – WAVE 1

Pre-Period Month	Treatment Group Average Daily Usage (kWh/day)	Control Group Average Daily Usage (kWh/day)	Average Daily Usage Difference (kWh/day)	P-value	Statistically Significant Difference
Dec 2022	33.90	33.66	-0.31	0.200	-
Jan 2023	27.57	27.30	-0.29	0.073	-
Feb 2023	28.44	28.26	-0.24	0.210	-
Mar 2023	26.80	26.62	-0.24	0.177	-
Apr 2023	24.77	24.67	-0.12	0.425	-
May 2023	33.08	33.14	-0.03	0.690	-
Jun 2023	47.62	47.91	0.16	0.160	-
Jul 2023	51.12	51.36	0.18	0.268	-
Aug 2023	56.19	56.58	0.25	0.093	-
Sep 2023	42.71	43.02	0.23	0.091	-
Oct 2023	26.59	26.65	0.06	0.622	-
Nov 2023	23.62	23.61	-0.04	0.886	-

TABLE 12-8 PY15–VALIDITY TESTING RESULTS – WAVE 2

Pre-Period Month	Treatment Group Average Daily Usage (kWh/day)	Control Group Average Daily Usage (kWh/day)	Average Daily Usage Difference (kWh/day)	P-value	Statistically Significant Difference
Feb 2024	24.44	24.19	0.25	0.654	-
Mar 2024	19.58	19.48	0.10	0.807	-
Apr 2024	22.88	23.02	-0.14	0.724	-
May 2024	34.07	34.02	0.05	0.917	-
Jun 2024	40.33	41.00	-0.67	0.189	-
Jul 2024	41.78	42.65	-0.87	0.070	-
Aug 2024	46.65	46.93	-0.28	0.552	-
Sep 2024	33.01	33.11	-0.10	0.779	-
Oct 2024	28.28	28.61	-0.32	0.232	-
Nov 2024	27.20	27.33	-0.13	0.631	-
Dec 2024	30.80	30.87	-0.07	0.842	-
Jan 2025	48.25	48.07	0.18	0.760	-

The Evaluators continued with linear regression modeling to evaluate average household savings across the cohorts. The results of the linear regression modeling are summarized in the next section.

12.3.1.3 Linear Regression Modeling Results

This section details the regression results.

As discussed in the evaluation approach section, savings are determined through the equation summarized in Equation 12-2.

The Evaluators summarize the model results in Table 12-9 and Table 12-10.

TABLE 12-9 PY15 REGRESSION MODEL RESULTS -- WAVE 1

Year/Month	Average Monthly Savings per Customer (kWh)	Monthly Estimate P-Value	Statistically Significant Savings	Number of Treatment Customers	Ex Post Gross Energy Savings (kWh)
Jan 2025	14.88	0.004	Yes	106,546	1,585,539
Feb 2025	9.37	<0.001	Yes	105,598	989,740
Mar 2025	10.03	<0.001	Yes	104,681	1,050,061
Apr 2025	10.62	<0.001	Yes	103,703	1,101,741
May 2025	8.83	<0.001	Yes	102,578	906,145
Jun 2025	8.90	<0.001	Yes	101,199	900,902
Jul 2025	7.16	<0.001	Yes	99,724	713,749
Aug 2025	10.08	<0.001	Yes	98,426	991,798
Sep 2025	11.54	<0.001	Yes	97,278	1,123,048
Oct 2025	8.94	<0.001	Yes	96,199	859,995
Nov 2025	9.10	<0.001	Yes	95,257	866,803
Dec 2025	3.64	<0.001	Yes	94,484	343,988

TABLE 12-10 PY15 REGRESSION MODEL RESULTS -- WAVE 2

Year/Month	Average Monthly Savings per Customer (kWh)	Monthly Estimate P-Value	Statistically Significant Savings	Number of Treatment Customers	Ex Post Gross Energy Savings (kWh)
Jan 2025	N/A	N/A	N/A	N/A	N/A
Feb 2025	N/A	N/A	N/A	N/A	N/A
Mar 2025	10.91	0.30	No	19,947	217,675
Apr 2025	10.56	0.31	No	19,347	204,218
May 2025	7.60	0.48	No	18,663	141,765
Jun 2025	11.35	0.28	No	17,850	202,599
Jul 2025	14.52	0.19	No	17,028	247,250
Aug 2025	24.11	0.03	Yes	16,298	392,927
Sep 2025	11.35	0.30	No	15,718	178,423
Oct 2025	7.66	0.51	No	15,177	116,282
Nov 2025	8.86	0.43	No	14,737	130,635
Dec 2025	13.74	0.24	No	14,372	197,461

The regression output displays statistically significant savings if the p-value for the treatment coefficient is less than 0.05.

For the full model summary, including confidence intervals, see Appendix C: Behavioral Program Model Output.

The following table summarizes the average annual household savings and percent of annual household savings.

TABLE 12-11 PY15 HOUSEHOLD-LEVEL SAVINGS BY COHORT

Cohort	Unadjusted Household Savings (kWh)	Average Annual Household Usage (kWh), Control Group	Percent Annual Household Unadjusted Savings
PY15 Combined Cohort – Wave 1	113	13,253	0.85%
PY15 Combined Cohort – Wave 2	121	11,087	1.09%

The monthly post-period savings estimates were extrapolated to the number of customers treated in PY15 across each of the post-period months. The following table summarizes the program-level savings resulting from regression model analysis, prior to double counting adjustments.

TABLE 12-12 PY15 PROGRAM-LEVEL UNADJUSTED SAVINGS BY COHORT

Cohort	Unadjusted Annual Household Savings (kWh)	Model Fit (Adj. R ²)	Unadjusted PY15 kWh Savings
PY15 Combined Cohort – Wave 1	113	0.72	11,433,511
PY15 Combined Cohort – Wave 2	121	0.62	2,029,234
Total	-	-	13,462,745

The program displays a total of 13,462,745 kWh verified savings in PY15.

12.3.1.4 Double Counted Savings Results

Participants in both the treatment and control groups participate in other energy efficiency programs. The double counted savings, defined in the methodology, whether positive or negative, are subtracted from the cohort's gross savings estimates from the regression analysis to get total verified savings. This section summarizes the results of the double counting analysis for downstream programs.

ENO delivered tracking data for the following programs:

- A/C Solutions
- HPwES Program
- RLA Program

The Evaluators identified and summarized the average treatment customer, average control customer, and average incremental savings attributed to the above residential programs for each cohort. The table below summarizes the double counting savings to be subtracted from each cohort's annual program savings. The double counted savings are not applicable for cohorts in which no verified savings could be estimated.

TABLE 12-13 PY15 DOUBLE COUNTED SAVINGS BY COHORT

Cohort	Treatment Savings per Household (kWh per Household)	Control Savings per Household (kWh per Household)	Double Counted Savings per Household (kWh per Household)	Total Double Counted Savings (kWh)
PY15 Combined Cohort	21.68	23.92	-2.24	-263,968
Total	21.68	23.92	-2.24	-263,968

PY15 displays a total of -263,968 kWh in double counted savings. The double counted savings represented in the table above are removed from each cohort's regression model savings estimate. The adjusted household-level savings for each cohort are summarized in the tables below.

TABLE 12-14 PY15 HOUSEHOLD-LEVEL ADJUSTED SAVINGS BY COHORT

Cohort	Unadjusted Household Savings (kWh)	Household Double Counted Savings (kWh)	Adjusted Household Savings (kWh)	% Change to Savings
PY15 Combined Cohort -- Wave 1	113.10	-2.24	115.34	-1.98%
PY15 Combined Cohort -- Wave 2	120.66	-2.24	122.90	-1.85%

After conducting double counting adjustments, the Evaluators extrapolated household-level adjusted savings to estimate total annual energy savings for PY15 for each cohort. The total verified and adjusted program-level savings are displayed in the table below.

TABLE 12-15 PY15 PROGRAM-LEVEL ADJUSTED SAVINGS BY COHORT

Cohort	Adjusted Household Savings (kWh per Household)	Average Annual Household Usage (kWh per year)	Percent Annual Household Adjusted Savings	Weighted Number of Customers in PY15
PY15 Combined Cohort -- Wave 1	115.34	13,253	0.87%	100,474
PY15 Combined Cohort -- Wave 2	122.90	11,087	1.11%	17,521

12.3.1.5 Demand Reduction Results

The relationship between annual usage savings and peak demand savings has not been defined for HERs. In previous evaluations, the Evaluators estimated demand reduction by dividing the annual energy savings by integrating hourly load factors with monthly estimated energy savings for each group for the annual program year, resulting in a ratio of 0.0001687, which was used to estimate the relationship between annual usage savings and peak demand savings.

TABLE 12-16 PY15 PROGRAM-LEVEL DEMAND REDUCTIONS BY COHORT

Cohort	Unadjusted PY15 kW Savings
PY15 Combined Cohort -- Wave 1	1,929
PY15 Combined Cohort -- Wave 2	342
Total	2,271

The Behavioral Program displayed 2,271 kW reductions in PY15 resulting from energy savings.

12.3.1.6 Verified Savings

The table below summarizes the verified gross and net energy savings. The Behavioral Program NTG ratio is 100% due to the nature of the program. Overall verified gross and net savings were 13,742,013 kWh and 2,318 kW between January 1, 2025, and December 31, 2025.

TABLE 12-17 PY15 BEHAVIORAL VERIFIED ENERGY AND DEMAND REDUCTIONS BY COHORT

Cohort	Verified PY15 kWh Savings	Verified PY15 kW Savings	Percent Annual Household Savings
PY15 Combined Cohort -- Wave 1	11,588,736	1,955	0.87%
PY15 Combined Cohort -- Wave 2	2,153,277	363	1.11%
Total	13,742,013	2,318	-

12.3.2 Process Evaluation Findings

The Evaluators conducted a limited process evaluation of the Behavioral program in PY15. Process activities included a database review and staff and implementer interviews.

12.3.2.1 Program Design and Implementation

The Behavioral Energy Efficiency program aims to increase customer awareness and promote energy-saving behaviors through regular delivery of Home Energy Reports. Customers are randomized into treatment and control groups, with treatment group members receiving HERs that compare their energy usage to that of similar households. The primary barrier addressed by the program is lack of awareness and motivation around day-to-day energy use.

Program staff reported that the cohort structure was redesigned in PY14 to improve statistical validity and reduce attrition in the control group. This redesign has been maintained in PY15 and is credited with a marked increase in report delivery and associated savings. The program is implemented under the oversight of Entergy New Orleans staff, with coordination between implementers and utility staff to ensure accurate targeting and delivery.

Program staff shared that the cohort refresh enabled delivery of more HERs to more customers and has led to measurable savings. They indicated satisfaction with the program's recent performance, particularly in light of past years when savings were lost due to flaws in cohort structure. Staff expressed optimism that these recent improvements have enhanced the value delivered to participants by maintaining regular engagement and providing actionable energy use comparisons.

12.4 Findings & Recommendations

Findings:

The program design is largely consistent with PY14. The program design remained largely unchanged in PY15, with the cohort structure introduced in PY14 continuing to guide implementation. Program staff reported that the PY14 redesign, intended to improve statistical validity and reduce control group attrition, was maintained in PY15 and has been instrumental in increasing report delivery and associated savings. Staff indicated that the refreshed cohort approach enabled HERs to reach more customers, supported measurable savings, and addressed prior structural issues that had limited savings in earlier years.

13 EASYCOOL BRING YOUR OWN THERMOSTAT

13.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, incentive spend, and *ex post* net NEBs, by measure, where applicable.

TABLE 13-1 PY15 EASYCOOL BYOT ENERGY SAVINGS (kWh)

Measure	<i>Ex ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex post</i> Gross Savings (kWh)	NTG	<i>Ex post</i> Net Savings (kWh)
DR Participation: BYOT-only	N/A	N/A	105,865	N/A	105,865
DR Participation: PTR-BYOT	N/A	N/A	18,907	N/A	18,907
Total	N/A	N/A	124,772	N/A	124,772

Sums may differ due to rounding.

TABLE 13-2 PY15 EASYCOOL BYOT DEMAND REDUCTIONS (kW)

Measure	<i>Ex ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex post</i> Gross Demand (kW)	NTG	<i>Ex post</i> Net Demand Reductions (kW)
DR Participation: BYOT-only	N/A	N/A	5,041.18	100%	5,041.18
DR Participation: PTR-BYOT	N/A	N/A	900.34	100%	900.34
Total	N/A	N/A	5,941.52	100%	5,941.52

Sums may differ due to rounding.

TABLE 13-3 PY15 EASYCOOL BYOT LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex post</i> Net Lifetime Energy Savings (kWh)
DR Participation: BYOT-only	1	105,865	105,865
DR Participation: PTR-BYOT	1	18,907	18,907
Total	1	124,772	124,772

Sums may differ due to rounding.

TABLE 13-4 PY15 EASYCOOL BYOT PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
DR Participation: BYOT-only	5,234	
DR Participation: PTR-BYOT	985	
Total	6,219	\$317,625

Sums may differ due to rounding.

TABLE 13-5 PY15 EASYCOOL BYOT NEB SUMMARY

Measure	<i>Ex post</i> Net ARCs (\$)	<i>Ex post</i> Net Water Savings (gallons)	<i>Ex post</i> Net Avoided Arrearages
DR Participation: BYOT-only	\$0	0	\$0
DR Participation: PTR-BYOT	\$0	0	\$0
Total	\$0	0	\$0

Sums may differ due to rounding.

13.2 Program Description

The EasyCool Bring Your Own Thermostat (EasyCool BYOT) program uses a Distributed Energy Resource Management System (DERMS) to enroll customers, monitor participation, and schedule load-control events that reduce electricity use during periods of high demand. During an event, the system increases participating thermostats' temperature settings by three degrees. Events occur between June 1 and September 30, last no more than four hours, and are limited to 15 per year. To help maintain comfort, the system pre-cools the home for 30 minutes before each event.

Participants receive notifications about 30 minutes before an event through their thermostat or its mobile app, and event information is also posted on the Energy Smart website.

The program focuses on residential customers with smart thermostats who want to participate in demand response. Although small businesses were originally included, low participation led staff to concentrate on residential enrollment.

EasyCool BYOT supports a wide range of thermostat brands, including ecobee, Honeywell, Nest, Alarm.com, and Emerson. A full list of eligible devices is available on the program website.

Customers enroll through a web-based portal or their thermostat app. To qualify, they must be ENO residential customers with an internet-connected thermostat controlling central air conditioning and must agree to the program's terms and conditions.

Participants receive a \$50 enrollment incentive per device, \$25 per device for each event they participate in, and a \$25 annual continued-enrollment incentive. Customers may unenroll via email or opt out of individual events through the web portal.

The program was first introduced in PY10.

13.2.1 Program Changes

There were no changes to the program in PY15.

13.2.2 Timing of Projects

All projects occurred from February to September.

TABLE 13-6: NUMBER OF NEW ENROLLMENTS BY MONTH

Enrollment Month	Number of Enrollments
February, 2025	331

March, 2025	93
April, 2025	153
May, 2025	173
June, 2025	163
July, 2025	209
Aug, 2025	146
Sept, 2025	5,706
Total	6,974

13.2.3 Trade Allies

There were no reported trade allies in this program.

13.2.4 Goal Achievement

The table below summarizes the programs' performance against goal.

TABLE 13-7 EASYCOOL BYOT PERFORMANCE TOWARDS GOAL

<i>Ex post</i> Gross Energy Savings (kW) Target	% to kW Target	<i>Ex post</i> Gross Savings (kW)
10,885.00	55%	5,941.52

13.3 EM&V Methodology

The Evaluators employed the following approach to complete impact evaluation activities for the program. The Evaluators explored the Calculated Baseline approach outlined in the Midcontinent Independent System Operator, Inc. (MISO) Business Practices Manual (BPM)¹⁰, but opted to use a different approach that better suited the program season's usage patterns. Additionally, the Evaluators excluded a Weather Sensitive Adjustment (WSA) from the various Baseline models because weather data was unavailable for the program season at the time of the evaluation. The following impact evaluation steps were taken to determine the suitability of the MISO Calculated Baseline approach:

- Developed an Additive Adjustment Baseline, Unadjusted Consumption (UC) Baseline, and a Symmetric Multiplicative Adjustment (SMA) Baseline for each program participant. Loads were calculated utilizing 1-hour AMI data.
- Determined days that will serve as proxy days for testing the suitability of the baseline approach. Proxy days represent days like demand response event days in terms of load shape and temperature profiles.
- Estimated bias (uncertainty) and error on proxy days for each model to assess baseline performance. Bias is assessed by examining the average percent error of the baseline predictions relative to the actual

¹⁰ *Ibid.*

usage on proxy days. In a similar manner, error is assessed through various metrics such as Root Mean Squared Error (RRMSE) using baseline predictions and actual usage on proxy days.

- Selected the Additive Adjustment uncapped Baseline model based on previous evaluator experience with the program.

13.3.1 Gross Impact Methodologies

In the evaluation of demand response programs, energy savings are estimated by comparing a participant's load shape during a demand response event with a baseline load shape. This baseline load is assumed to be a good estimate of the counterfactual load—that is, the load that would have manifested had there not been an event called that day.

13.3.1.1 Data Sources

Data used for this evaluation include program tracking data that identifies which customers participated in the program and contains data fields such as hourly usage, hourly AMI data for each customer participating in the program, and a full schedule of DR program events, including the time of the event.

13.3.1.2 Customer Baseline Approach

The following details the general requirements for the MISO Calculated Baseline Approach. The Evaluators explored Customer Baselines (CBLs) in accordance with this approach, but a 20% cap requirement prevented MISO models from adequately adjusting to proxy days. Due to milder weather in 2025, proxy days did not observe heat on the level of event days, therefore the 20% cap limited the Evaluators' success in determining sufficient baselines. The Evaluators thus excluded the 20% cap and followed all other requirements for the MISO Calculated Baseline. For a demand resource, the Consumption Baseline is a profile of hourly demand based on an averaged sample of historical data which may be adjusted for factors that reflect specific, on-the-day conditions, such as temperature.

The default consumption baseline is designed as follows:

- Separate hourly demand profiles for non-holiday weekdays and for weekends/holidays
- The "weekday" hourly profile is based on the average of the ten (10), but not less than five (5), most recent weekdays that are not holidays or other non-standard "event" days
- The "weekend/holiday" hourly profile is based on the average of the four (4), but not less than two (2), most recent weekend days or holidays that are not "event" days
- An "event" day is one during which there was, for the resource in question, a real-time energy or ancillary services dispatch, or a scheduled outage
- The maximum look-back window is limited to 45 days
- If the 45-day window contains insufficient days to meet the minimum number of days described above, the profiles are constructed based on the available days within the 45-day window that qualify, supplemented by the largest (MW) matching "event" day(s) values for that resource within that same window as necessary to obtain the minimum number of values.

Adjustment mechanisms to the default Consumption Baseline include:

- Symmetric Multiplicative Adjustment (SMA)
 - Adjusts each baseline hourly value (MW) during the event up or down by the ratio of

- (a) the sum of hourly demands for the three hours beginning four hours prior to the event and (b) the sum of those same three hourly baseline demands
- The adjustment is limited to a change in any individual baseline hour of plus or minus 20 percent (included only in MISO models).
- If multiple events occur during the same day, the SMA is calculated only for the first event, but applied to all events that day.

13.3.1.3 Evaluators Models

The following CBL models were developed for each customer.

For a 5-of-10 (or 5-of-5) unadjusted baseline, the Evaluators examine the load data from the most recent ten (or five) non-event, non-holiday weekdays relative to the event day and calculate the mean demand usage values of the five highest load days. This baseline is then adjusted for the SMA and MISO models utilizing the method described in Section 13.3.1.2.

TABLE 13-8 EVALUATORS' CBL MODELS

Model Type	Baseline Days	MISO	SMA
Additive Adjusted	5-of-10	No	No
SMA-Adjusted	5-of-10	No	Yes
MISO SMA-Adjusted	5-of-10	Yes	Yes
MISO-Unadjusted	5-of-10	Yes	No
Additive Adjusted	5-of-5	No	No
SMA-Adjusted	5-of-5	No	Yes
MISO SMA-Adjusted	5-of-5	Yes	Yes
MISO-Unadjusted	5-of-5	Yes	No

13.3.1.4 Baseline and Proxy Day Development

The Evaluators defined proxy days as the top eight non-event, non-holiday, non-weekend days with the highest loads across all summer months. In addition, proxy days must display a maximum temperature of greater than or equal to the minimum temperature observed during normal curtailment hours during the events. The Evaluators used these defined proxy days to determine the ability of CBL models to predict actual usage for each customer.

13.3.1.5 Cross Program Participation Adjustments

Customers who participate in multiple demand response programs will have double counted savings if the savings estimates are not adjusted in each program where cross participation occurs. For some DR programs, the source of curtailment driving the demand response impact overlaps, such as for BYOT and PTR, where both programs may both involve curtailment of cooling loads. In this case, a savings estimate was developed for participants with and without cross participation. The savings for those with cross participation were adjusted at each hour using the savings for those without cross participation in the respective programs, according to the following equation:

$$\begin{aligned} \text{Cross Participant kW Reduction for BYOT Program (PTR – BYOT Cohort)} = \\ \text{Average kW Reduction (PTR – BYOT)} * ((\text{Average kW Reduction (BYOT – only)}) / \\ (\text{Average kW Reduction (BYOT – only)} + \text{Average kW Reduction (PTR – only)})) \end{aligned}$$

Where:

Average kW Reduction (PTR – BYOT) = Average estimated kW reduction for participants in both PTR and BYOT.

Average kW Reduction (BYOT – only) = Average estimated kW reduction for participants in BYOT only.

Average kW Reduction (PTR – only) = Average estimated kW reduction for participants in PTR only.

The adjustment for the PTR-BYOT cross participant savings estimate reflects the percentage share of the BYOT-only savings estimate out of the total savings for BYOT-only and PTR-only combined. A separate adjustment following similar logic occurs in the PTR program to remove overlapping savings between BYOT and PTR cross participants. Because BYOT and PTR events ended at different hours, these adjustments were calculated separately at each event hour programs overlapped.

13.3.1.6 Cohort Creation

The Evaluators created the following measure cohorts for the BYOT program in PY15. Participants without AMI data during DR events (approximately 11% of participants) were considered to have inactive accounts and were excluded from the extrapolation of estimated savings.

TABLE 13-9 BYOT MEASURES

Measure (Cohort)	Total Number of Accounts in Participant Data	Number of Accounts with AMI Data
DR Participation: BYOT-only	5,987	5,252
DR Participation: PTR-BYOT	1,022	986
Total	7,009	6,238

13.3.1.7 Savings Calculations and Extrapolation

The Evaluators estimated the Average kW Savings per Event per Participant using participants with complete AMI data during all events. The estimate is extrapolated and weighted based on the number of participants with AMI data on each demand response event date.

The Average kW Savings per Event per Participant is the average kW reduction for each participant across all demand response events in the season, as shown in the equations below.

$$\text{Average kW Savings per Event per Participant} = \left(\sum_{i=1}^n \text{Average kW Reduction per Event}_i \right) / n$$

$$\text{Average kW Reduction per Event}_i = \left(\sum_{h=1}^{\text{hours}} (\text{Baseline kW}_{ih} - \text{Actual kW}_{ih}) \right) / \text{hours}$$

Where,

i = an indicator for participant i ;

h = indicator for event hour h ;

n = Total number of participants;

$hours$ = total number of event hours;

$Baseline\ kW_{ih}$ = Baseline kW for participant i during event hour h .

$Actual\ kW_{ih}$ = Actual kW for participant i during event hour h .

The Evaluators also calculated the Average kW Savings per Event per Device as shown in the following equation:

$$\begin{aligned} & \text{Average kW Savings per Event per Device} \\ &= \text{Average kW Savings per Event per Participant} * \left(\frac{\text{Number of Devices}}{\text{Number of Participants}} \right) \end{aligned}$$

13.3.2 Net Impact Methodologies

In demand response programs, it is typically assumed that there are neither spillover nor free-ridership effects (customers are not expected to curtail without participating). Furthermore, for each participant, they are compensated only if they reduce their load during the peak demand window, the primary program goal. As such, the net-to-gross ratio for this program is assumed to be 100%.

13.4 Evaluation Findings

The Evaluators determined that 16% of BYOT participants were also enrolled in the Peak Time Rebate (PTR) Pilot program; therefore, savings were adjusted for cross participation. Savings for cross participants were adjusted to avoid double counting impacts across the two DR programs. The method of adjusting savings for cross participation is detailed in the Gross Impact Methodologies section.

The Evaluators defined two measure types for the BYOT program: 1) BYOT-only, representing participants that are only enrolled in the BYOT program, and 2) PTR-BYOT, representing BYOT participants that are dual enrolled in the PTR program.

One small DR Pilot ran concurrently with BYOT in PY15, the Electric Vehicle (EV) Charging Pilot, and it showed some cross participation with BYOT. However, for the EV Charging Pilot, there are no demand response events for the program and the Evaluators estimated peak demand impacts for the EV Charging Pilot utilizing days when no demand response events were called. In addition, for BYOT and EV Pilot cross participants, the BYOT baselines incorporate any impacts from the EV Pilot so there is no need to adjust either program for cross participation.

TABLE 13-10 EVENT DATES AND TIMES

Event Dates	Event Times (CDT)
6/12/2025	2:00-6:00
7/22/2025	4:00-6:00

7/23/2025	3:00-6:00
7/28/2025	4:00-6:00
7/29/2025	2:00-4:00
8/19/2025	4:00-6:00
9/16/2025	3:00-7:00
9/23/2025	4:00-6:00

13.4.1 Load Shapes and Model Performance

The figures below are average load shapes for each subgroup on proxy and event days and depict actual kW and baseline kW for the selected baseline model. The figures show that baseline kW is a good match for actual kW during the hours of curtailment on most proxy days.

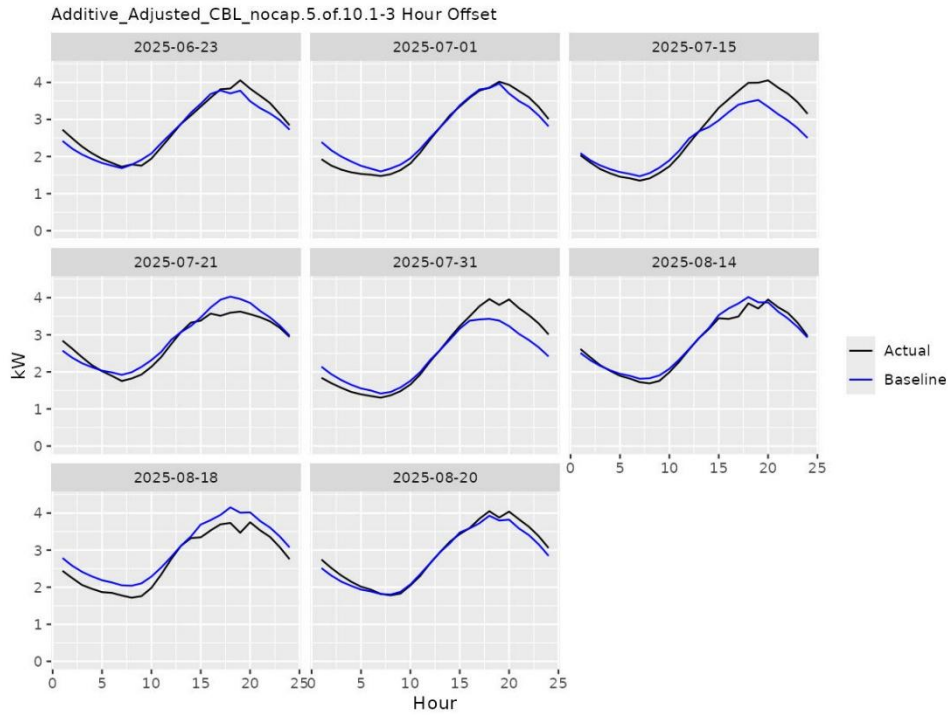


FIGURE 13-1 EASYCOOL BYOT PROXY DAY LOAD SHAPES, BYOT-ONLY

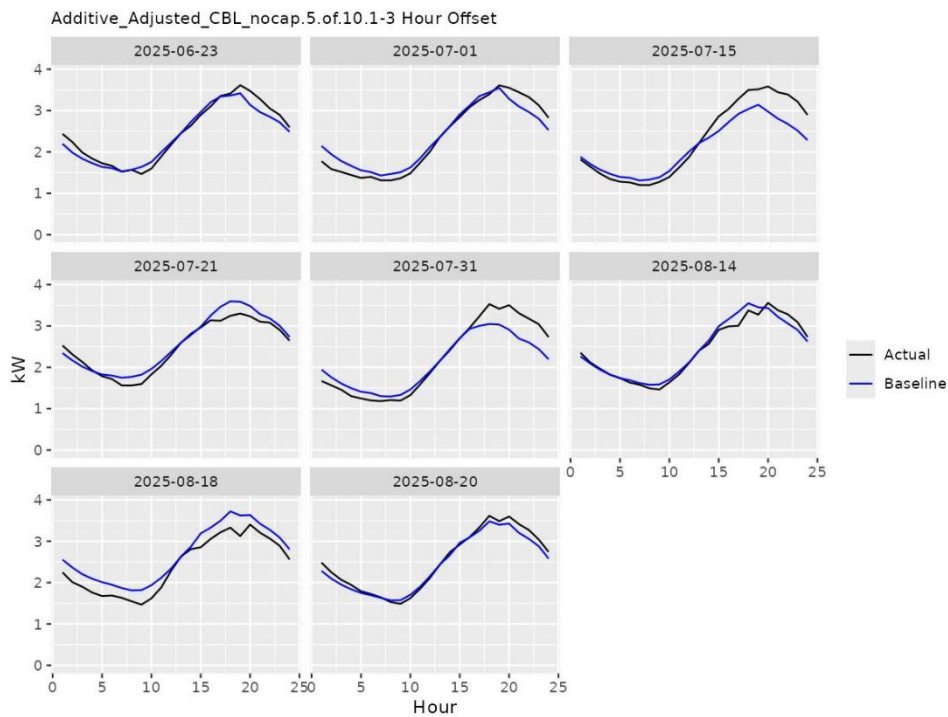


FIGURE 13-2 EASYCOOL BYOT PROXY DAY LOAD SHAPES, PTR-BYOT CROSS PARTICIPANTS

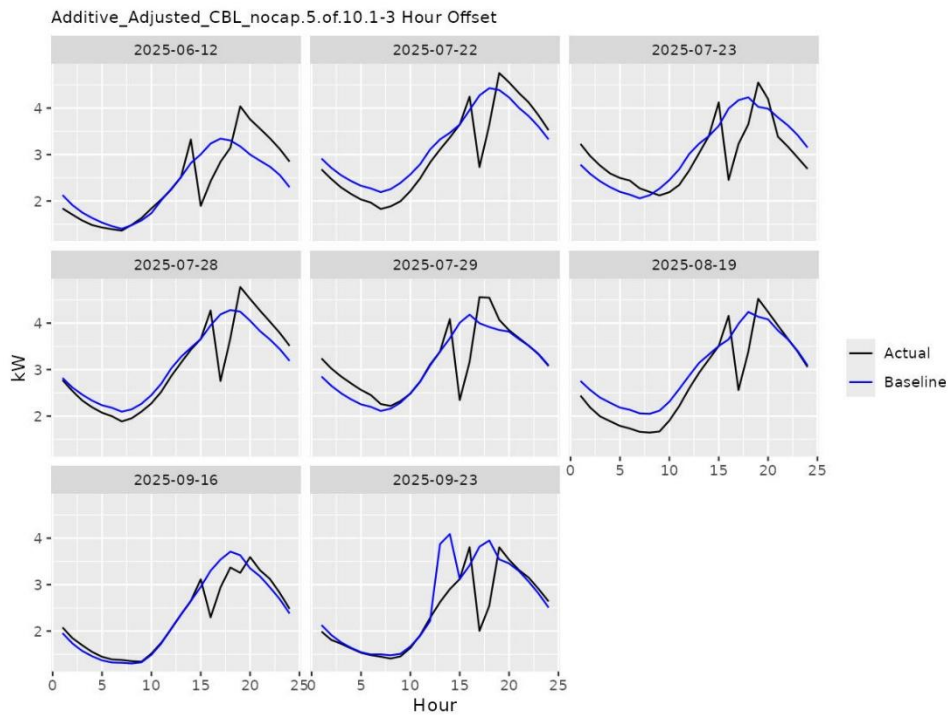


FIGURE 13-3 EASYCOOL BYOT EVENT DAY LOAD SHAPES, BYOT-ONLY

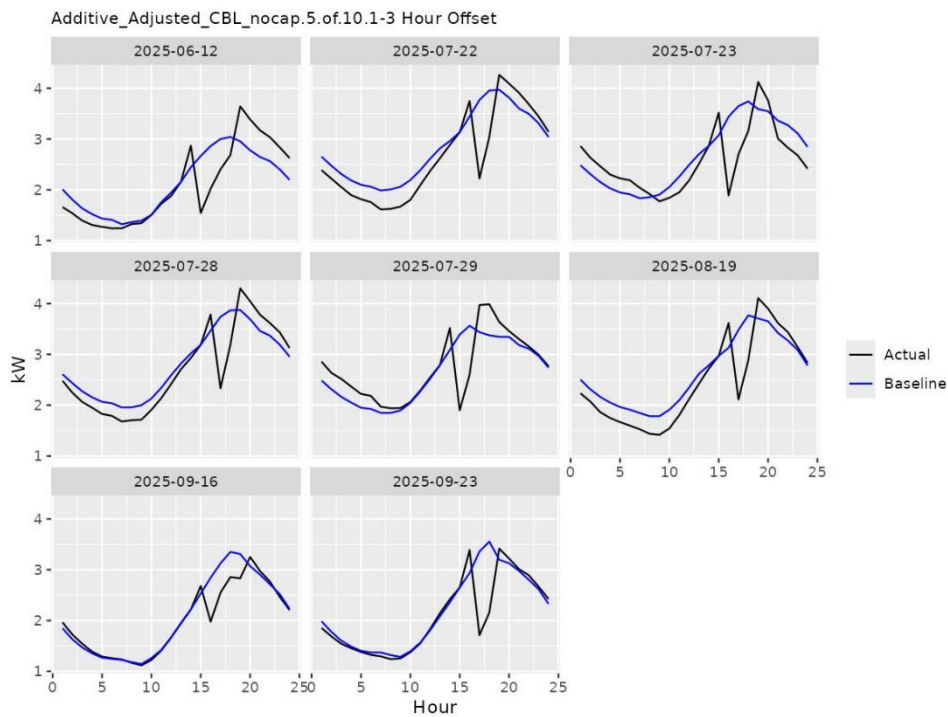


FIGURE 13-4 EASYCOOL BYOT EVENT DAY LOAD SHAPES, PTR-BYOT CROSS PARTICIPANTS

The Evaluators estimated bias and error for the Evaluators' models across all sites selected the Additive Adjusted Uncapped 5-of-10 model to calculate savings.

TABLE 13-11 MODEL FIT AND BIAS

Measure (Cohort)	Model	RRMSE	Bias
DR Participation: BYOT-only	Additive_Adjusted_CBL_nocap.5.of.10.1-3 hour offset	0.077	0.45%
DR Participation: PTR-BYOT	Additive_Adjusted_CBL_nocap.5.of.10.1-3 hour offset	0.075	1.60%

13.4.2 Gross Impact Findings

Using results from the CBLs, the Evaluators calculated the PY15 kW reduction. Results are shown below in the table below.

TABLE 13-12 TOTAL GROSS EASYCOOL BYOT DEMAND REDUCTIONS

Measure	Average Savings per Event per Participant (kW)	Number of Participants	Total Program kW Reduction
DR Participation: BYOT-only	0.963161	5,234	5,041.18
DR Participation: PTR-BYOT	0.914048	985	900.34
Total	0.955382	6,219	5,941.52

The overall verified kW reduction is 5,941.52 kW.

The average savings for the PTR-BYOT cohort shown in the table above were adjusted for cross participation with the PTR program, as detailed in section 13.3.1.5. PTR participants without cross participation (i.e., PTR-only) showed average savings per event per participant of 0.04226 kW.

13.4.3 Net Impact Findings

For demand response programs, net savings equals gross savings.

TABLE 13-13 TOTAL EASYCOOL BYOT NET DEMAND REDUCTION RESULTS

Gross kW Reduction	Net-to-Gross Ratio	Net Demand Reduction
5,941.52	100%	5,941.52

Program results can be found in tables in Section 13.1.

13.4.4 Non-Energy Benefits Findings

There were no NEBs identified in this program.

13.4.5 Process Findings

The Evaluators conducted a process evaluation of the EasyCool BYOT program in PY15. Process activities included a database review, a participant survey, and staff and implementer interviews.

In total, 176 customers completed the participant survey for the BYOT program.

13.4.5.1 Program Design and Implementation

The BYOT program is a demand response offering that allows customers to enroll their eligible smart thermostats to receive seasonal incentives for reducing energy usage during peak events. Participants agree to have their thermostat automatically adjusted by a few degrees during events, with the ability to override at any time.

EnergyHub serves as the program platform provider, integrating with OEM partners (e.g., Nest, Ecobee, Sensi, Honeywell) to manage enrollment, dispatch, and performance tracking. Aptim manages enrollment verification and incentive processing. The platform includes built-in event scheduling, participant communication capabilities, and data tracking.

The program includes a base incentive for participation, and a one-time \$100 enrollment promotion was offered in May 2025. Opt-outs from events do not affect eligibility for this incentive.

Program staff confirmed that the BYOT program continues to operate largely as in previous years. They noted that incentives were increased temporarily during the first half of PY15 to drive additional participation. The number of enrolled accounts, potentially due to the incentive change, increased from 5,848 in PY14 to 7,009 in PY15.

No other structural or operational changes were reported.

13.4.5.1 Marketing and Outreach

The majority of enrollments occur through OEM channels, including:

- In-app enrollment flows provided by thermostat manufacturers
- Branded Energy Smart microsite hosted by EnergyHub
- Push notifications and limited email campaigns (reviewed by Aptim and Entergy)
- Seasonal promotions, like the May 2025 \$100 bonus

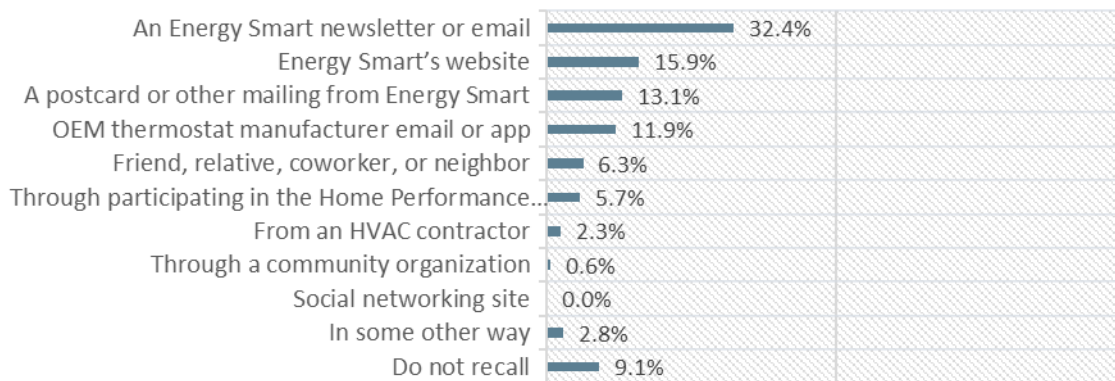
Marketing through these channels is ongoing and largely managed by OEM partners in coordination with EnergyHub. Direct outreach or in-person recruitment is minimal.

13.4.5.2 Participant Awareness and Motivation

Awareness was driven primarily by owned digital channels, led by Energy Smart newsletters/emails (32.4%) and the Energy Smart website (15.9%), with additional lift from direct mail (13.1%) and OEM thermostat manufacturer emails/apps (11.9%). Social discovery was secondary (6.3% via friends/family), while paid and community channels contribute minimally, reinforcing EasyCool as a digitally discovered, opt-in program.

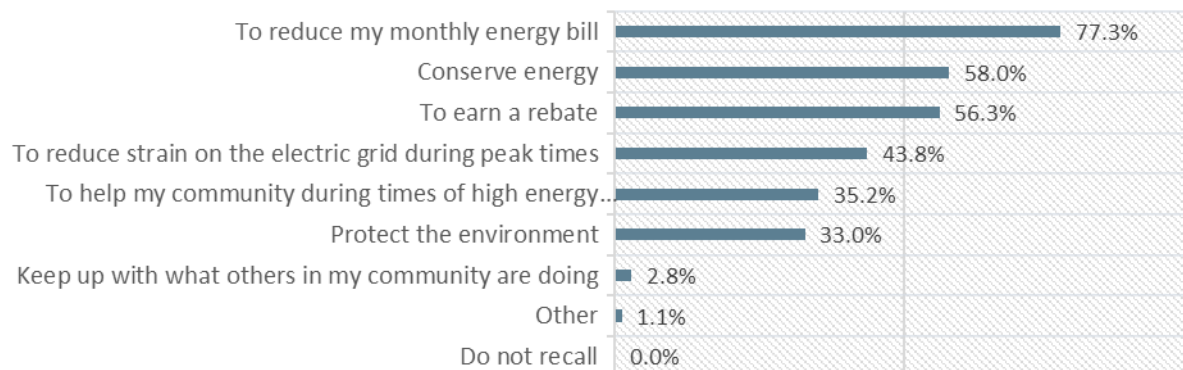
While program staff identified OEM and partner platforms as the primary enrollment channels, participants most often recall learning about EasyCool through Energy Smart emails and the program website. This difference may reflect a distinction between where participants first become aware of the program (as shown in the survey response) and where enrollment is ultimately completed (as program staff may see from enrollment data).

FIGURE 13-5 SOURCES OF PROGRAM AWARENESS (N=176)



Motivation to participate was strongly financial and civic-minded, with 77.3% aiming to reduce monthly energy bills, 58.0% to conserve energy, and 56.3% to earn a rebate. Grid and community benefits were also meaningful (43.8% reducing grid strain; 35.2% helping the community), indicating participants largely understand EasyCool's demand-response purpose, not just the rebate.

FIGURE 13-6 REASONS FOR PARTICIPATION (N=176)



Most participants enrolled without any concerns (81.3% had no concerns), though 16.5% expressed concerns. Concerns centered on comfort and control, including worries about being uncomfortable (65.5%), losing temperature control (55.2%), or utility control over A/C (51.7%). Privacy/security (34.5%) and understanding how the program works (24.1%) are secondary but notable.

FIGURE 13-7 CONCERNS BEFORE JOINING (N=176)

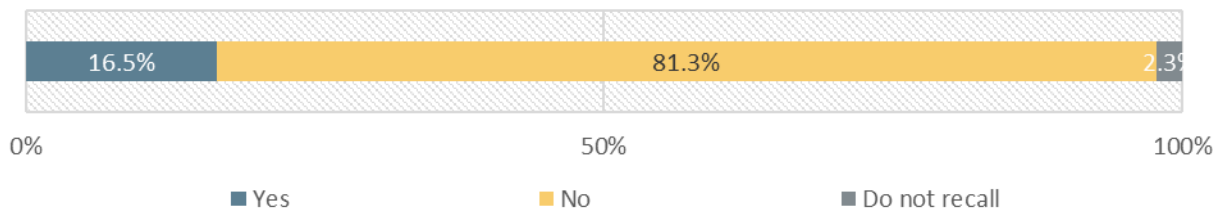
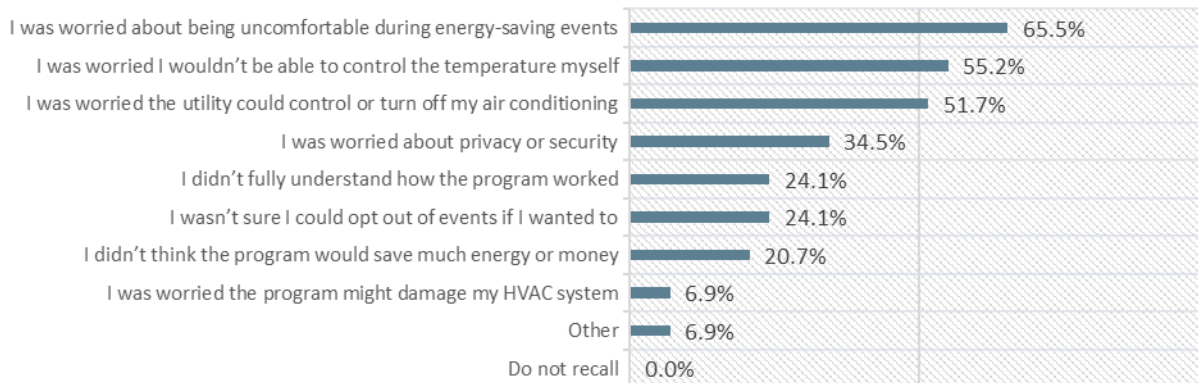
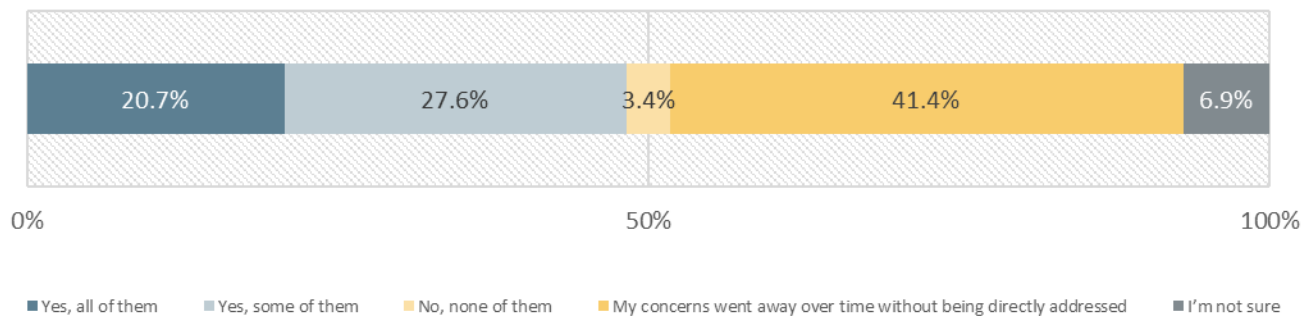


FIGURE 13-8 NATURE OF CONCERNS (N=29)



How these concerns were addressed varied: 48.3% said their concerns were directly addressed (all or some), while 41.4% said concerns faded over time without being addressed.

FIGURE 13-9 WERE CONCERNS ADDRESSED (N=29)



Open-ended responses show that ability to override events and real-world testing during the first event were key to easing anxiety.

- "Further information was provided which made it clear that we could still control our thermostat during an event. Also, during our first event, we were able to confirm that we could still control the thermostat and override the EasyCool set point if we chose."
- "Had one even that I recall and during that event my wife commented she was warm and I was able to adjust the thermostat to her satisfaction."
- "I read more about how the outages were handled. I like that I would be notified ahead of time."

- “Office staff listened to my complaint regarding the installers, not listening to me and hanging it and evenly. They listened, but no one corrected it.”
- “Online communication through email about events explained how you could opt out or adjust temps based on needs.”
- “Was pretty hot during one of the events but, I was able to adjust the temp”

13.4.5.3 Participation in Program Offerings

13.4.5.3.1 Participant Journey Overview

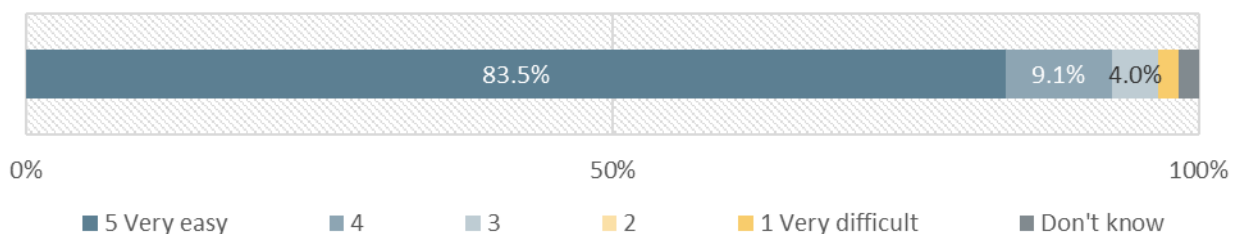
Customers interact with the BYOT program through a fully digital process:

1. Customers enroll via their thermostat’s app or the Energy Smart website.
2. The enrollment is verified by Aptim using EnergyHub’s automated enrollment matching feature.
3. Participants receive communications about upcoming events via email and/or push notification.
4. During events, thermostats are adjusted by a set amount (e.g., 3–4°F) and can be overridden by the customer.
5. Performance data is tracked through EnergyHub and shared with the program team for end-of-season evaluation and incentive distribution.

13.4.5.3.2 Program Enrollment

Most respondents found the process easy, with a large majority rating it at the highest ease level. Specifically, 83.5% selected “very easy,” and an additional 9.1% selected the next-highest rating, indicating that over nine in ten respondents had a positive experience. Only 4.0% selected one of the difficult ratings, and the remaining responses accounted for a small share of the total.

FIGURE 13-10 EASE OF ENROLLMENT (N=176)



Reported issues are isolated and technical (e.g., account sync problems, thermostat replacements, platform errors), indicating process failures rather than widespread UX issues.

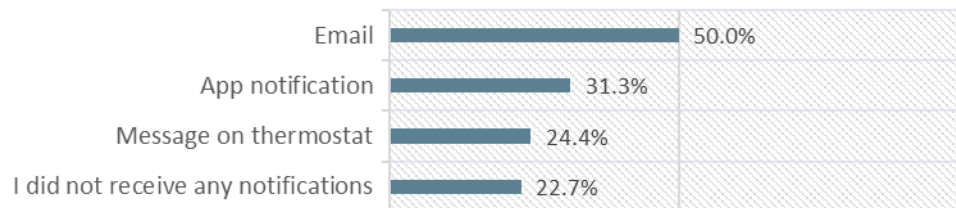
TABLE 13-14 CAUSE OF ENROLLMENT DIFFICULTY (N=3)

What made enrollment process difficult?	(n=3)
The website	66.7%
Thermostat quit working	33.3%
Slow Service	33.3%

13.4.5.3.3 Program Events

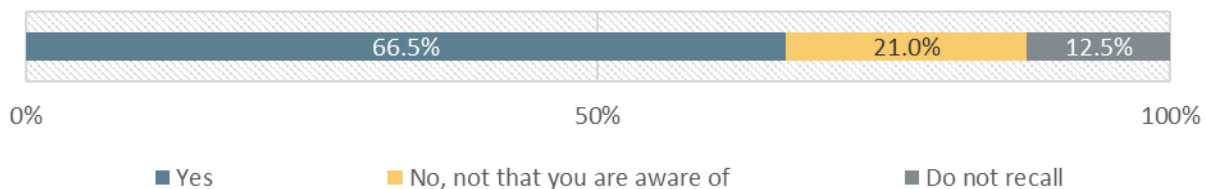
Email is the primary notification channel (50.0%), followed by app notifications (31.3%) and thermostat messages (24.4%). However, 22.7% report receiving no notifications, revealing a meaningful communication gap.

FIGURE 13-11 HOW PARTICIPANTS WERE NOTIFIED (N=176)



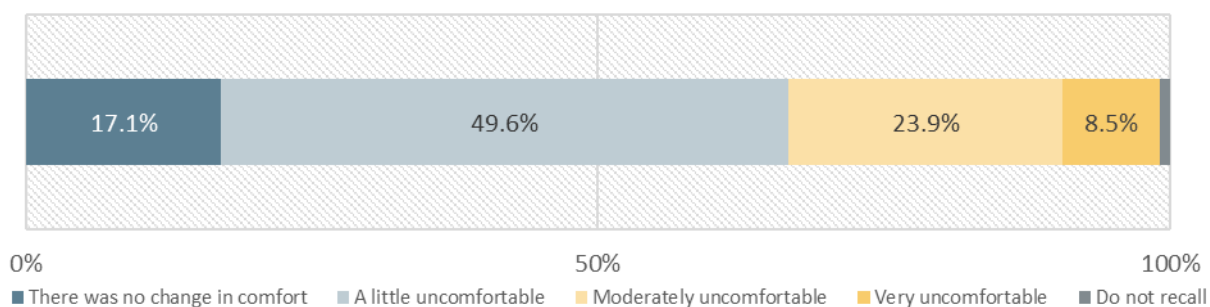
Two-thirds (66.5%) were home during at least one event, increasing the salience of comfort impacts and communication timing.

FIGURE 13-12 WERE PARTICIPANTS HOME (N=176)



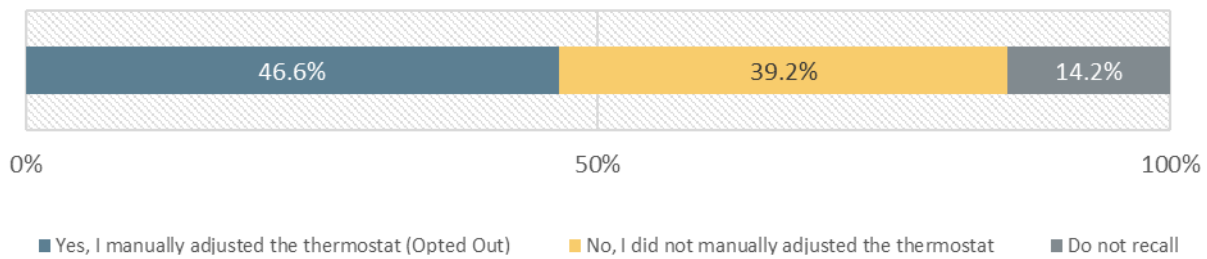
Most participants experienced some discomfort during events: 49.6% felt a little uncomfortable, 23.9% moderately uncomfortable, and 8.5% very uncomfortable. Only 17.1% experienced no comfort change, indicating comfort trade-offs are common, even if often tolerable.

FIGURE 13-13 COMFORT DURING EVENTS (N=117)



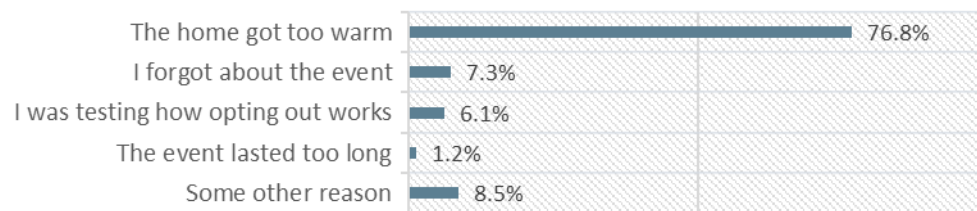
Nearly half (46.6%) manually adjusted their thermostat to opt out at least once, while 39.2% did not, highlighting active engagement and self-management rather than passive participation.

FIGURE 13-14 OPT-OUT BEHAVIORS (N=176)



Opt-outs were overwhelmingly comfort-driven, with 76.8% saying the home got too warm, far outweighing other reasons such as forgetting the event (7.3%) or testing the system (6.1%).

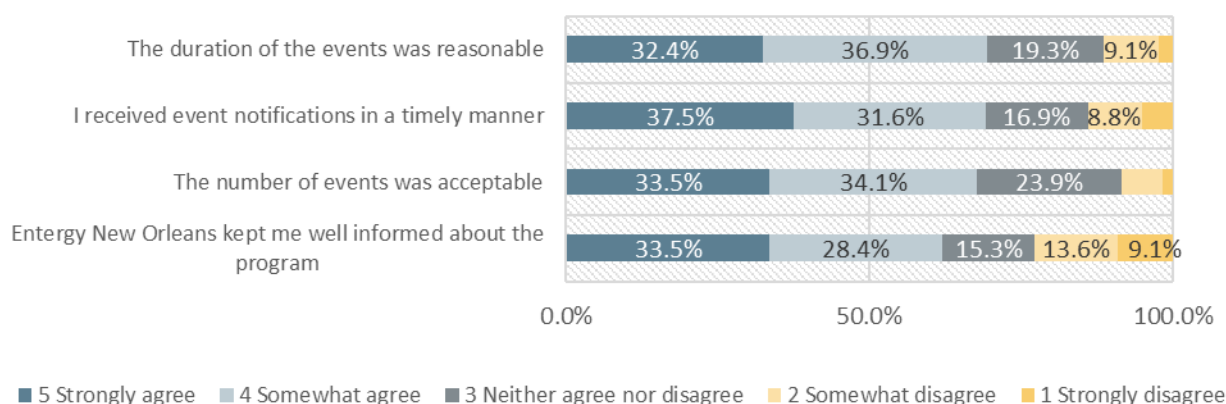
FIGURE 13-15 REASON FOR OPT-OUT (N=82)



Overall perceptions of event design and communications were positive, with a majority of respondents expressing agreement across all four measures.

- Agreement that event duration was reasonable was high, with 69.3% reporting either strongly agree (32.4%) or somewhat agree (36.9%). A further 19.3% were neutral, while a relatively small share expressed disagreement.
- Timeliness of event notifications also received favorable ratings, as 69.1% agreed (37.5% strongly agree and 31.6% somewhat agree). Neutral responses accounted for 16.9%, and disagreement represented a minority of responses.
- Views on the number of events followed a similar pattern, with 67.6% agreeing that the number of events was acceptable (33.5% strongly agree and 34.1% somewhat agree). Nearly one-quarter of respondents (23.9%) neither agreed nor disagreed.
- Ratings of program communications were more mixed, though still net positive. Agreement that Entergy New Orleans kept participants well informed totaled 61.9% (33.5% strongly agree and 28.4% somewhat agree). Neutral responses accounted for 15.3%, while a combined 22.7% reported some level of disagreement (13.6% somewhat disagree and 9.1% strongly disagree), representing the highest level of dissatisfaction among the measures shown.

FIGURE 13-16 AGREEMENT WITH PROGRAM STATEMENTS (N=176)

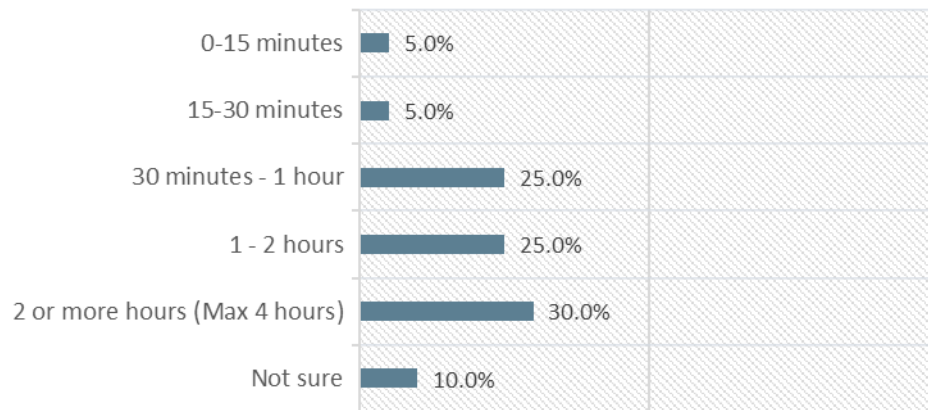


Preferences vary widely among those who disagreed that the number of events was disagreeable, but many respondents suggest 1–3 events per month and 1–3 hours per event.

TABLE 13-15 ACCEPTABLE NUMBER AND LENGTH OF EVENTS (N=15)

Number of events per month that are acceptable	(Base: Among those who selected “2 - Somewhat Disagree” or “1” for “The number of events was acceptable”; n=15)
None	20.0%
Very few (Once a year)	6.7%
2 per month	6.7%
3 per month	20.0%
4 per month	6.7%
5 or more per month	26.7%
Not Sure	13.3%

FIGURE 13-17 REASONABLE LENGTH OF TIME FOR EVENT (N=20)



Respondents who felt insufficiently informed most often indicated a need for more frequent and direct notifications, particularly via text and email. About one-third of respondents cited a general lack of notifications (32.5%), while 25.0% specifically preferred text alerts and 15.0% preferred email notifications. Smaller shares pointed to the quality and timing of communications, including clearer explanations of the program (10.0%) and more timely notifications, such as at least a week in advance (5.0%). A small number mentioned interest in a tutorial about the process (2.5%), additional notifications overall (2.5%), or mailed communications (2.5%), while 10.0% indicated nothing additional was needed and 5.0% were unsure (n=40).

TABLE 13-16 HOW ENERGY SMART COULD BETTER INFORM PARTICIPANTS (N=40)

Other ways to keep informed about the program	(Base: Among those who selected "2 - Somewhat Disagree" or "1 - Strongly Agree" for "Entergy New Orleans kept me well informed about the program"; n=40)
Any sort of notification (Have received very few so far)	32.5%
Send Me Text Alerts/Messages	25.0%
Send Me Email Notifications	15.0%
Better explanations of the program in the communication	10.0%
More timely notifications (at least a week before)	5.0%
A tutorial about the process	2.5%
More notifications in general	2.5%
Send Me Mailers	2.5%
I don't know	5.0%
Nothing	10.0%

Among those that did not agree they received sufficient notification, most respondents indicated that receiving notification one day or more in advance would be sufficient, with fewer finding same day notice adequate.

About one-fifth of respondents cited one day before the event as sufficient (21.1%), followed by notification at least sometime on the day prior (15.8%). Smaller shares reported that two days before (10.5%) or one week or one month before the event (each 5.3%) would meet their needs. Same-day notifications were acceptable to a minority, including notice when the event starts (10.5%) or 2 hours before the event (10.5%). An additional 10.5% indicated that any sort of notification would be sufficient, while an equal share reported that no notification was needed (n=19).

TABLE 13-17 SUFFICIENT NOTIFICATION (N=19)

How much notification would you consider to be sufficient?	(Base: Among those who selected "2 - Somewhat Disagree" or "1 - Strongly Agree" for "I received event notifications in a timely manner"; n=19)
When the event starts	10.5%
2 hours before the event	10.5%
At least sometime on the day prior to the event	15.8%
One day before the event	21.1%
Two days before the event	10.5%
One week before the event	5.3%
One month before the event	5.3%
Need any sort of notification	10.5%
None	10.5%

13.4.5.4 Participant Experience and Satisfaction

Among those who contacted staff (n = 17), responses skew positive but mixed: 52.9% rate timeliness positively (4 or 5), and 41.1% rate thoroughness positively (4 or 5), though roughly one-third rate responses poorly, suggesting inconsistent support experiences.

FIGURE 13-18 THOROUGHNESS OF PROGRAM STAFF (N=17)

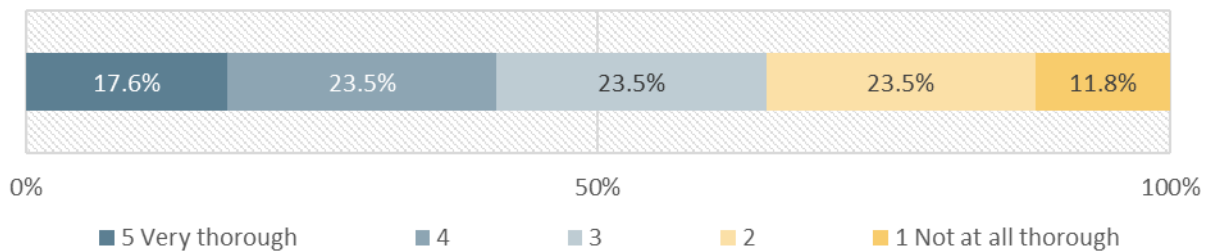
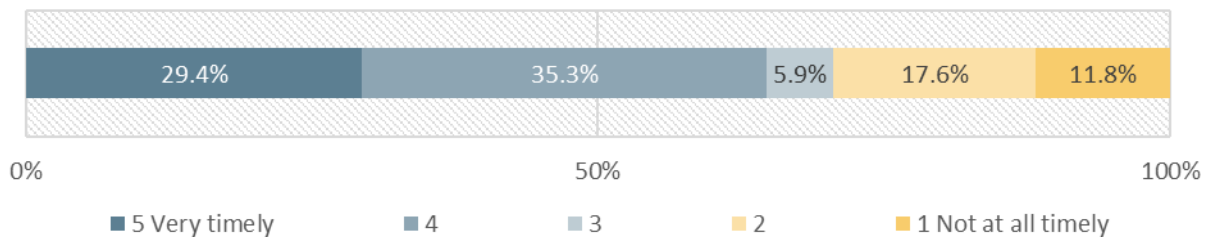
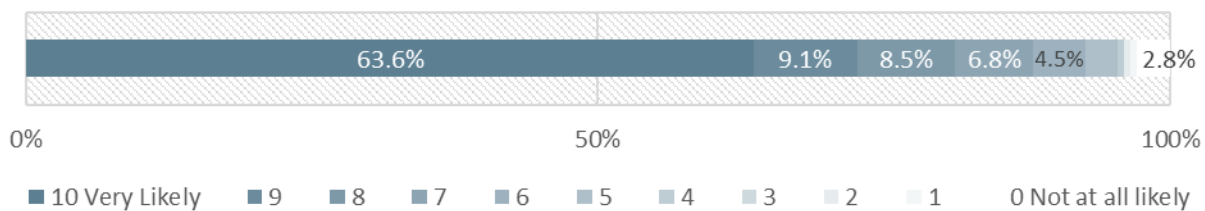


FIGURE 13-19 TIMELINESS OF PROGRAM STAFF (N=17)



Most respondents indicated that they were likely to participate in the following year. Among respondents, 63.6% “very likely” (10) and 81.2% rating 8–10, indicating high program stickiness despite comfort trade-offs.

FIGURE 13-20 LIKELIHOOD OF PARTICIPATING NEXT YEAR (N=176)



Potential future non-participation was driven by comfort concerns, lack of perceived bill savings, privacy/control issues, not receiving notifications, and issues with their thermostat.

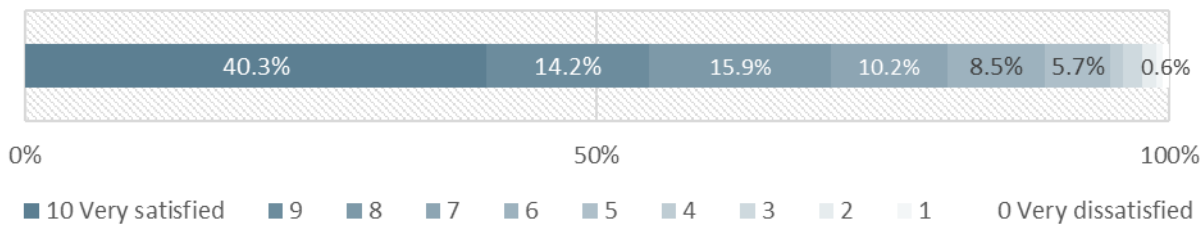
- “Because I never got any notifications and it was impossible to leave the program - I had to completely set up the thermostat again with a different email address to get it to not be participating.”
- “A few times my house got uncomfortably hot and took a while to get cool enough for my toddler.”

“It depends on how my bill looks for next year I am enrolled in a set price for 12 months, so this program is not changing my monthly bill.”

- “The thermostat stopped working and I can’t get it reinstalled.”
- “Paranoia about anyone else having access to my thermostat.”

Satisfaction was high, with 70.4% rating 8–10 and 40.3% giving a perfect 10, positioning EasyCool as a well-liked but not friction-free program.

FIGURE 13-21 OVERALL SATISFACTION WITH EASYCOOL (N=176)

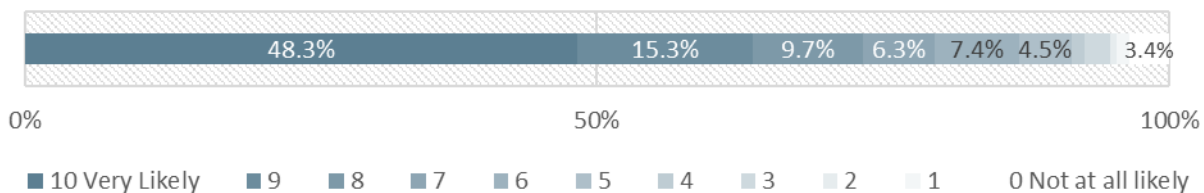


A small share of respondents reported dissatisfaction (n=19) and the reasons centered on limited financial incentive, difficulty understanding event timing and impacts, and perceived overreach into home comfort, rather than enrollment or technology issues.

- “Did not get that much savings out of it.”
- “Don’t fully understand how program works”
- “I don’t think there is enough savings or enough opportunities to save, and not enough incentives.”
- “Impossible to see when and how the adjustments occurred and hard to manage the temperature fluctuations”
- “No notifications. Too many events. Obtrusive.”
- “The compensation doesn’t equate to not being able to touch your thermostat during hot peak times”

A significant share of respondents expressed a high likelihood of recommending the program to others, with 48.3% rating 10 and 73.3% rating 8–10, though lower than intent-to-continue, reflecting hesitation to recommend a program that directly affects home comfort.

FIGURE 13-22 LIKELIHOOD TO RECOMMEND EASYCOOL (N=176)



Open-end feedback suggests that main factors for why participants are willing to recommend the program to other were the ease and tangible financial benefit, with promoters most often citing convenience, rebates, and community/grid impact.

Those who were less likely to recommend the program expressed perceptions of minimal savings, comfort concerns, or a general reluctance to recommend utility-related programs.

TABLE 13-18 REASONS FOR RECOMMENDATION (N=176)

Why participants recommend (or hesitate to recommend - Coded)	Promoter	Passive	Detractor	Total	Total %
Rebates and Financial Incentive (Savings, Checks, Discount)	19	2	1	22	12.5%
Easy / Convenient / No Hassle	17	1	0	18	10.2%

Environmental Reasons / Good for Community / Grid Support	13	1	1	15	8.5%
No Specific Reason	7	3	3	13	7.4%
Some Comfort and Control Concerns (Heat, Pets, Autonomy)	5	4	2	11	6.3%
It works / Is valuable / Is effective	9	2	0	11	6.3%
Doesn't Recommend Things in General	3	0	7	10	5.7%
Low Savings / No Value / Doesn't Work	0	2	8	10	5.7%
Good Service and Communication	5	0	0	5	2.8%
Good Info, Education, or Tips	5	0	0	5	2.8%
Low Incentive / Rebate Too Small	0	0	3	3	1.7%
Distrust of Entergy	0	0	2	2	1.1%
Other or Unclear	29	13	9	51	29.0%

13.5 Data Tracking Review

The Evaluators were able to perform the analysis as planned once advanced metering infrastructure (AMI) data was provided. The Evaluators found that roughly 89% of participants had AMI data during the evaluation period. ENO found that this occurred due to participants with inactive accounts. All participants in the participant data that were not present in the AMI data were removed from the analysis when extrapolating kW reduction impacts.

13.6 Key Findings and Recommendations

Findings:

- **The enrollment process is performing well from the participant perspective, with a sizable majority (83.5%) describing enrollment as very easy.**
- **Communication gaps create friction for a meaningful minority of participants.** A sizable minority, 22.7%, reported receiving no event notifications, and several requested clearer, earlier, or multi-channel communication. Preferences vary widely, but a common theme was a desire for notice 24–48 hours in advance and clearer explanations of what temperatures will change to and why.
- **Comfort impacts are common and drive much of the opt-out behavior, yet participants generally remain committed to the program.** Most participants experienced at least some discomfort during events (49.6% a little; 23.9% moderate; 8.5% very uncomfortable). Nearly half (46.6%) opted out at least once, overwhelmingly due to the home getting too warm (76.8%). Despite this, intent to continue was high (81.2% rating 8–10), suggesting that participants accepted some discomfort as part of the program's value proposition.

Participant motivations are well aligned with program goals, but perceived savings and clarity about program mechanics vary. Motivation was strongly financial and conservation-oriented (77.3% bill savings; 58.0% energy conservation; 56.3% rebate). Yet dissatisfaction often stems from limited perceived savings, uncertainty about how events affect bills, or difficulty understanding when adjustments occurred. Some participants also express privacy or control concerns, though these are less common.

- **Overall satisfaction and likelihood to recommend the program are high, but inconsistent support experiences and unclear exit pathways create frustration for a small subset of participants.**

Satisfaction is strong (70.4% rating 8–10), and advocacy is high (73.3% rating 8–10). Only 9.7% contact staff, but among those who do, experiences are mixed: roughly one-third rate timeliness or thoroughness poorly. Some participants also describe difficulty unenrolling or resolving thermostat issues, which can amplify frustration when combined with comfort or savings concerns.

Recommendations:

- **To strengthen the event experience, review notification pathways and ensure that messages reliably reach participants across email, app, and thermostat channels.** Offering clearer, more predictable advance notice, especially early in the season, could help reduce confusion and improve comfort expectations without altering the core event structure.
- **To support a smoother experience for the small subset of participants who encounter problems, reinforce clarity around support channels, troubleshooting resources, and unenrollment steps.** Given that only a minority of participants contact staff, yet a substantial share of those report poor support experiences and difficulty exiting the program, making assistance and exit pathways easier to understand and access could reduce frustration, prevent dissatisfaction from escalating, and help preserve high overall satisfaction and advocacy.

14 PEAK TIME REBATE PILOT

14.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, incentive spend, and *ex post* net NEBs, by measure, where applicable.

TABLE 14-1 PY15 PTR ENERGY SAVINGS (kWh)

Measure	<i>Ex ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex post</i> Gross Savings (kWh)	NTG	<i>Ex post</i> Net Savings (kWh)
DR Participation: PTR-only	N/A	N/A	6,550	N/A	6,550
DR Participation: PTR-BYOT	N/A	N/A	1,302	N/A	1,302
Total	N/A	N/A	7,852	N/A	7,852

Sums may differ due to rounding.

TABLE 14-2 PY15 PTR DEMAND REDUCTIONS (kW)

Measure	<i>Ex ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex post</i> Gross Demand (kW)	NTG	<i>Ex post</i> Net Demand Reductions (kW)
DR Participation: PTR-only	N/A	N/A	595.43	100%	595.43
DR Participation: PTR-BYOT	N/A	N/A	162.72	100%	162.72
Total	N/A	N/A	758.15	100%	758.15

Sums may differ due to rounding.

TABLE 14-3 PY15 PTR LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex post</i> Net Lifetime Energy Savings (kWh)
DR Participation: PTR-only	1	6,549.72	6,549.72
DR Participation: PTR-BYOT	1	1,301.79	1,301.79
Total	1	7,851.51	7,851.51

Sums may differ due to rounding.

TABLE 14-4 PY15 PTR PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
DR Participation: PTR-only	3,522	\$67,975
DR Participation: PTR-BYOT	979	\$18,895
Total	4,501	\$86,870

Sums may differ due to rounding.

TABLE 14-5 PY15 PTR NEB SUMMARY

Measure	<i>Ex post</i> Net ARCs (\$)	<i>Ex post</i> Net Water Savings (gallons)	<i>Ex post</i> Net Avoided Arrearages
DR Participation: PTR-only	\$0	0	\$0
DR Participation: PTR-BYOT	\$0	0	\$0
Total	\$0	0	\$0

Sums may differ due to rounding.

14.2 Program Description

The Peak Time Rebate (PTR) offering provides incentives to residential customers for reducing their energy usage during short periods of high electricity usage. The offer was made available on a limited basis to the first customers to sign up during the Pilot phase.

Customers enrolled in the PTR pilot receive an email notification to reduce energy usage during short periods of high electricity usage, also known as peak demand events. The email shares tips on how to electric usage during peak demand events. A maximum of 15 demand response events are called in a year.

Enrolled customers receive the following:

- An email at least 24 hours in advance of a scheduled peak demand event with the date and time of the event.
- An email at the start of the event with specific recommendations on how to reduce electricity usage.
- An email at the end of the event, letting them know the event has ended.
- An email after peak season, totaling energy saved across the peak demand events and the amount of the earned cash incentive.
- A check in the mail for the total incentive earned.
 - Standard savers: \$20
 - High savers: \$50

14.2.1 Program Changes

There were no changes to the program in PY15.

14.2.2 Timing of Projects

Enrollment in the program occurred primarily between May and July in PY15, as shown in the table below.

TABLE 14-6 NUMBER OF NEW ENROLLMENTS BY MONTH

Enrollment Month	Number of Enrollments
May, 2025	5,315
June, 2025	68
July, 2025	29
Total	5,412

14.2.3 Trade Allies

There were no reported trade allies in this program.

14.2.4 Goal Achievement

The table below summarizes the programs' performance against goal.

TABLE 14-7 PTR PERFORMANCE TOWARDS GOAL

<i>Ex post</i> Gross Savings (kW) Target	% to kW Target	<i>Ex post</i> Gross Savings (kW)
1,250.00	61%	758.15

14.3 EM&V Methodology

The Evaluators employed the following approach to complete impact evaluation activities for the program. The Evaluators explored the Calculated Baseline approach outlined in the Midcontinent Independent System Operator, Inc. (MISO) Business Practices Manual (BPM)¹¹, but opted to use a different approach that better suited the program season's usage patterns. Additionally, the Evaluators excluded a Weather Sensitive Adjustment (WSA) from the various Baseline models because weather data was unavailable for the program season at the time of the evaluation. The following impact evaluation steps were taken to determine the suitability of the MISO Calculated Baseline approach:

- Developed an Additive Adjustment Baseline, Unadjusted Consumption (UC) Baseline, and a Symmetric Multiplicative Adjustment (SMA) Baseline for each program participant. Loads were calculated utilizing 1-hour AMI data.

¹¹ *Ibid.*

- Determined days that will serve as proxy days for testing the suitability of the baseline approach. Proxy days represent days like demand response event days in terms of load shape and temperature profiles.
- Estimated bias (uncertainty) and error on proxy days for each model to assess baseline performance. Bias is assessed by examining the average percent error of the baseline predictions relative to the actual usage on proxy days. In a similar manner, error is assessed through various metrics such as Root Mean Squared Error (RRMSE) using baseline predictions and actual usage on proxy days.
- Selected the Additive Adjustment uncapped Baseline model based on previous evaluator experience with the program.

14.3.1 Gross Impact Methodologies

In the evaluation of demand response programs, energy savings are estimated by comparing a participant's load shape during a demand response event with a baseline load shape. This baseline load is assumed to be a good estimate of the counterfactual load—that is, the load that would have manifested had there not been an event called that day.

14.3.1.1 Data Sources

Data used for this evaluation include program tracking data that identifies which customers participated in the program and contains data fields such as hourly usage, AMI data for each customer participating in the program, and a full schedule of DR program events, including the time of the event.

14.3.1.2 Customer Baseline Approach

The following details the general requirements for the MISO Calculated Baseline Approach. The Evaluators explored Customer Baselines in accordance with this approach, but a 20% cap requirement prevented MISO models from adequately adjusting to proxy days. Due to milder weather in 2025, proxy days did not observe heat on the level of event days, therefore the 20% cap limited the Evaluators' success in determining sufficient baselines. The Evaluators thus excluded the 20% cap and followed all other requirements for the MISO Calculated Baseline. For a demand resource, the Consumption Baseline is a profile of hourly demand based on an averaged sample of historical data which may be adjusted for factors that reflect specific, on-the-day conditions, such as temperature.

The default consumption baseline is designed as follows:

- Separate hourly demand profiles for non-holiday weekdays and for weekends/holidays
- The "weekday" hourly profile is based on the average of the ten (10), but not less than five (5), most recent weekdays that are not holidays or other non-standard "event" days
- The "weekend/holiday" hourly profile is based on the average of the four (4), but not less than two (2), most recent weekend days or holidays that are not "event" days
- An "event" day is one during which there was, for the resource in question, a real-time energy or ancillary services dispatch, or a scheduled outage
- The maximum look-back window is limited to 45 days
- If the 45-day window contains insufficient days to meet the minimum number of days described above, the profiles are constructed based on the available days within the 45-day window that qualify, supplemented by the largest (MW) matching "event" day(s) values for that resource within that same window as necessary to obtain the minimum number of values.

Adjustment mechanisms to the default Consumption Baseline include:

- Symmetric Multiplicative Adjustment (SMA)
 - Adjusts each baseline hourly value (MW) during the event up or down by the ratio of
 - (a) the sum of hourly demands for the three hours beginning four hours prior to the event and
 - (b) the sum of those same three hourly baseline demands
 - The adjustment is limited to a change in any individual baseline hour of plus or minus 20 percent (included only in MISO models).
 - If multiple events occur during the same day, the SMA is calculated only for the first event, but applied to all events that day.

14.3.1.3 Evaluators Models

The following CBL models were developed for each customer.

For a 5-of-10 (or 5-of-5) unadjusted baseline, the Evaluators examine the load data from the most recent ten (or five) non-event, non-holiday weekdays relative to the event day and calculate the mean demand usage values of the five highest load days. This baseline is then adjusted for the SMA and MISO models utilizing the method described in Section **Error! Reference source not found..**

TABLE 14-8 EVALUATORS' MISO CBL MODELS

Model Type	Baseline Days	SMA	WSA
Additive Adjusted	5-of-10	No	No
SMA-Adjusted	5-of-10	No	Yes
MISO SMA-Adjusted	5-of-10	Yes	Yes
MISO-Unadjusted	5-of-10	Yes	No
Additive Adjusted	5-of-5	No	No
SMA-Adjusted	5-of-5	No	Yes
MISO SMA-Adjusted	5-of-5	Yes	Yes
MISO-Unadjusted	5-of-5	Yes	No

14.3.1.4 Baseline and Proxy Day Development

The Evaluators defined proxy days as the top eight non-event, non-holiday, non-weekend days with the highest loads across all summer months. In addition, proxy days must display a maximum temperature of greater than or equal to the minimum temperature observed during normal curtailment hours during the events. The Evaluators used these defined proxy days to determine the ability of CBL models to predict actual usage for each customer.

14.3.1.5 Cross Program Participation Adjustments

Customers who participate in multiple demand response programs will have double counted savings if the savings estimates are not adjusted in each program where cross participation occurs. For some DR programs, the source of curtailment driving the demand response impact overlaps, such as for BYOT and PTR, where both programs may both involve curtailment of cooling loads. In this case, a savings estimate was developed for participants with and without cross participation. The savings for those with cross participation were adjusted at

each hour using the savings for those without cross participation in the respective programs, according to the following equation:

$$\text{Cross Participant kW Reduction for PTR Program (PTR – BYOT Cohort)} = \frac{\text{Average kW Reduction (PTR – BYOT)} * ((\text{Average kW Reduction (PTR – only)}))}{(\text{Average kW Reduction (BYOT – only)} + \text{Average kW Reduction (PTR – only)})}$$

Where:

Average kW Reduction (PTR – BYOT) = Average estimated kW reduction for participants in both PTR and BYOT.

Average kW Reduction (BYOT – only) = Average estimated kW reduction for participants in BYOT only.

Average kW Reduction (PTR – only) = Average estimated kW reduction for participants in PTR only.

The adjustment for the PTR-BYOT cross participant savings estimate reflects the percentage share of the PTR-only savings estimate out of the total savings for BYOT-only and PTR-only combined. A separate adjustment following similar logic occurs in the BYOT program to remove overlapping savings between BYOT and PTR cross participants.

14.3.1.6 Cohort Creation

The Evaluators created the following cohorts for the PTR Pilot in PY15. Participants without AMI data during DR events (approximately 14.9% of participants) were considered to have inactive accounts and were excluded from the extrapolation of estimated savings.

TABLE 14-9 PTR MEASURES

Measure (Cohort)	Total Number of Accounts in Participant Data	Number of Accounts with AMI Data
DR Participation: PTR-only	7,009	3,622
DR Participation: PTR-BYOT	1,022	986
Total	5,412	4,608

14.3.1.7 Savings Calculations and Extrapolation

The Evaluators estimated the Average kW Savings per Event per Participant using participants with complete AMI data during all events. The estimate is extrapolated and weighted based on the number of participants with AMI data on each demand response event date.

The Average kW Savings per Event per Participant is the average kW reduction for each participant across all demand response events in the season, as shown in the equations below.

$$\text{Average kW Savings per Event per Participant} = \left(\sum_{i=1}^n \text{Average kW Reduction per Event}_i \right) / n$$

$$\text{Average kW Reduction per Event}_i = \left(\sum_{h=1}^{\text{hours}} (\text{Baseline kW}_{ih} - \text{Actual kW}_{ih}) \right) / \text{hours}$$

Where,

i = an indicator for participant i ;

h = indicator for event hour h ;

n = Total number of participants;

hours = total number of event hours;

Baseline kW_{ih} = Baseline kW for participant i during event hour h .

Actual kW_{ih} = Actual kW for participant i during event hour h .

The Evaluators also calculated the Average kW Savings per Event per Device as shown in the following equation:

$$\begin{aligned} &\text{Average kW Savings per Event per Device} \\ &= \text{Average kW Savings per Event per Participant} * \left(\frac{\text{Number of Devices}}{\text{Number of Participants}} \right) \end{aligned}$$

14.3.2 Net Impact Methodologies

In demand response programs, it is typically assumed that there are neither spillover nor free-ridership effects (customers are not expected to curtail without participating). Although customers can find workarounds to make up for lost productivity due to demand response events, they are compensated only if they reduce their load during the peak demand window, the primary program goal. As such, the net-to-gross ratio for this program is assumed to be 100%.

14.4 Evaluation Findings

The Evaluators determined that 21% of PTR participants were also enrolled in the EasyCool BYOT program; therefore, savings were adjusted for cross participation. Savings for cross participants were adjusted to avoid double counting impacts across the two DR programs. The method of adjusting savings for cross participation is detailed in the Gross Impact Methodologies section.

The Evaluators defined two measure types for the PTR pilot: 1) PTR-only, representing participants that are only enrolled in the PTR pilot, and 2) PTR-BYOT, representing PTR participants that are dual enrolled in the BYOT program.

One small DR Pilot ran concurrently with BYOT in PY15, the Electric Vehicle (EV) Charging Pilot, and it showed some cross participation with BYOT. However, for the EV Charging Pilot, there are no demand response events for the program and the Evaluators estimated peak demand impacts for the EV Charging Pilot utilizing days when no demand response events were called. In addition, for BYOT and EV Pilot cross participants, the BYOT baselines incorporate any impacts from the EV Pilot so there is no need to adjust either program for cross participation.

In future programs years, the PTR program may need to adjust for cross participation with the BESS program in the same way the PTR pilot adjusts for cross participation with the BYOT program if BESS events are called on the same event days as PTR events. In PY15, BESS events were called later in the year than PTR events and no cross-participation adjustment was needed.

TABLE 14-10 EVENT DATES AND TIMES

Event Dates	Event Times (CDT)
7/22/2025	4:00-7:00
7/28/2025	4:00-7:00
7/29/2025	2:00-4:00
8/19/2025	4:00-7:00

14.4.1 Load Shapes and Model Performance

The figures below are average load shapes for each subgroup on proxy and event days and depict actual kWh and baseline kWh for the selected baseline model. The figures show that baseline kWh is a good match for actual kWh during the hours of curtailment on most proxy days.

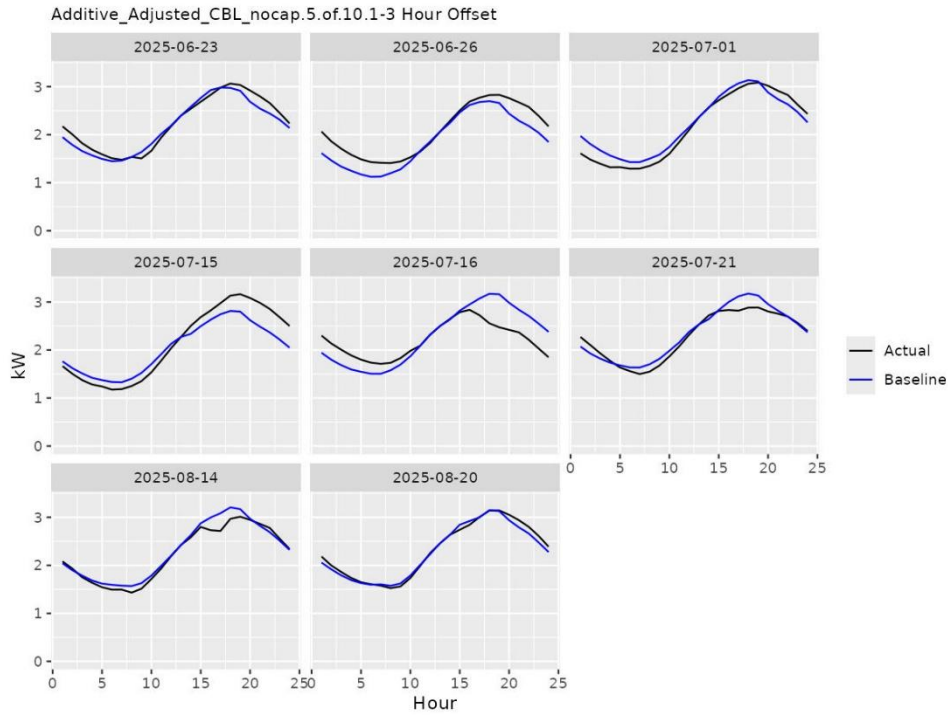


FIGURE 14-1 PTR PROXY DAY LOAD SHAPES, PTR-ONLY

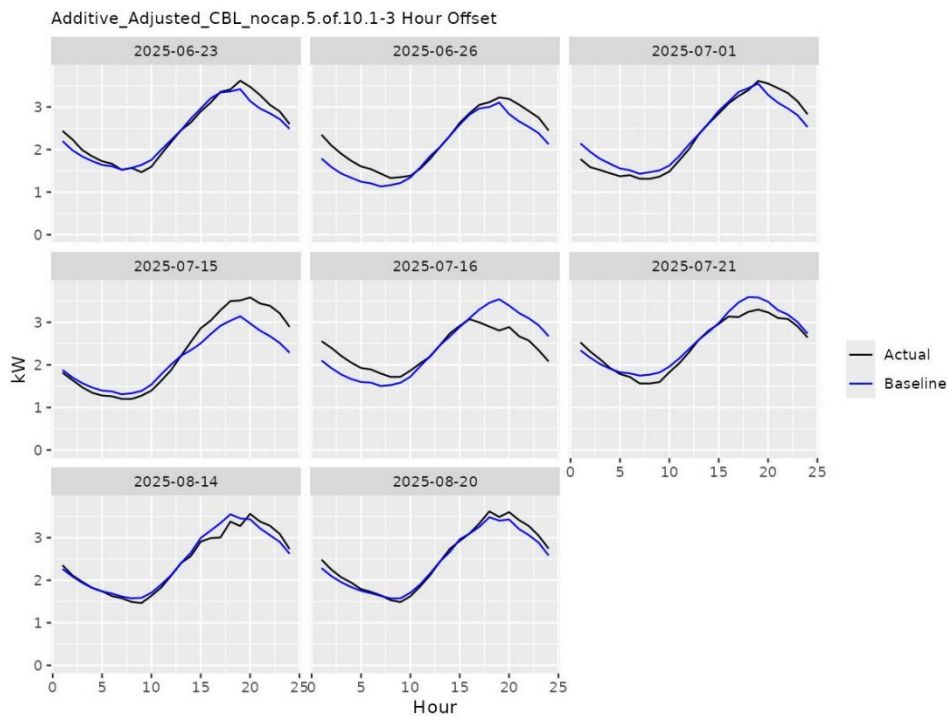


FIGURE 14-2 PTR PROXY DAY LOAD SHAPES, PTR-BYOT CROSS PARTICIPANTS

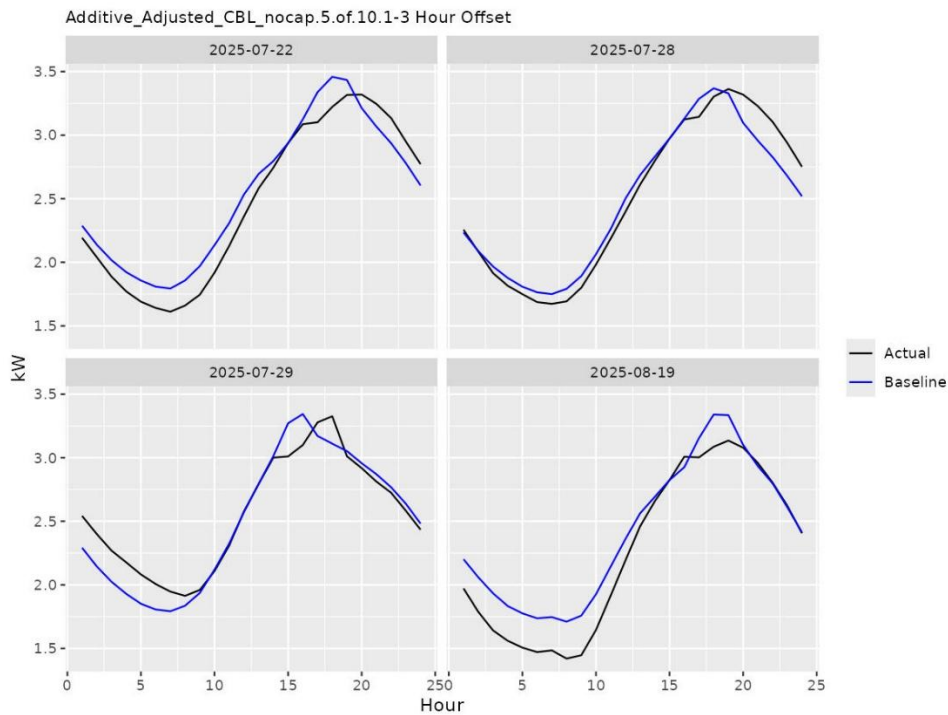


FIGURE 14-3 PTR EVENT DAY LOAD SHAPES, PTR-ONLY

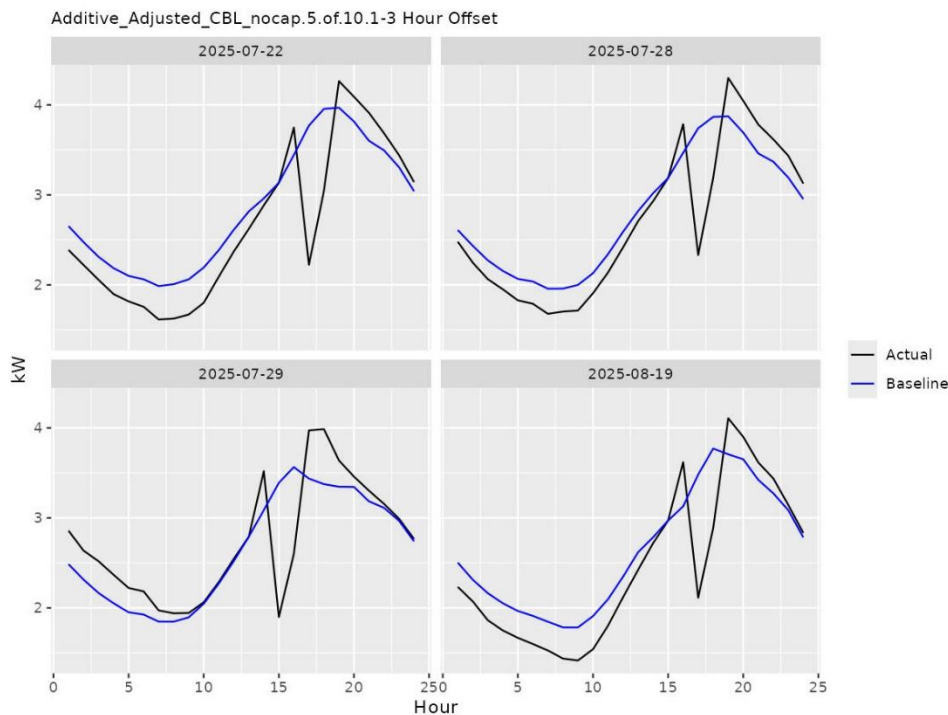


FIGURE 14-4 PTR EVENT DAY LOAD SHAPES, PTR-BYOT CROSS PARTICIPANTS

The Evaluators estimated bias and error for the Evaluators' models across all sites selected the Additive Adjusted Uncapped 5-of-10 model to calculate savings.

TABLE 14-11 MODEL FIT AND BIAS

Measure (Cohort)	Model	RRMSE	Bias
DR Participation: PTR-BYOT	Additive_Adjusted_CBL_nocap.5.of.10.1-3 hour offset	0.077	0.45%
DR Participation: PTR-only	Additive_Adjusted_CBL_nocap.5.of.10.1-3 hour offset	0.075	1.60%

14.4.2 Gross Impact Findings

Using results from the CBLs, the Evaluators calculated the PY15 kW reduction. Results are shown below in the table below.

TABLE 14-12 TOTAL GROSS PTR DEMAND REDUCTIONS

Measure	Average Savings per Event per Participant (kW)	Number of Participants	Total Program kW Reduction
DR Participation: PTR-only	0.169060	3522	595.43
DR Participation: PTR-BYOT	0.166214	979	162.72
Total	0.168441	4,501	758.15

The overall verified kW reduction is 758.15 kW.

The average savings for the PTR-BYOT cohort shown in the table above were adjusted for cross participation with the BYOT program, as detailed in section 13.3.1.5. BYOT participants without cross participation (i.e., BYOT-only) showed average savings per event per participant of 0.169060 kW.

Table 14-13 provides the gross demand reductions per event for the PTR-only cohort. While there is significant day-to-day variation in the demand reductions due to the small treatment impact, the average demand reduction impact across event days is an unbiased estimate.

TABLE 14-13 GROSS DEMAND REDUCTIONS PER EVENT

Measure (Cohort)	Event Date	Average Savings per Event per Participant (kW)	Number of Participants	Total Program kW Reduction
DR- Peak Time Rebate Pilot	7/22/2025	0.19665	3,521	692.39
DR- Peak Time Rebate Pilot	7/28/2025	0.05776	3,514	202.97
DR- Peak Time Rebate Pilot	7/29/2025	0.25231	3,507	884.84
DR- Peak Time Rebate Pilot	8/19/2025	0.20173	3,460	697.99

14.4.3 Net Impact Findings

For demand response programs, net savings equals gross savings.

TABLE 14-14 TOTAL EASYCOOL BYOT NET DEMAND REDUCTION RESULTS

Gross kW Reduction	Net-to-Gross Ratio	Net Demand Reduction
758.15	100%	758.15

14.4.4 Non Energy Benefits Findings

There were no NEB identified in this program.

14.4.5 Saver Type Comparison

The Evaluators provided the implementer with kWh savings estimates for each participant in PY15, adjusted for cross participation. As such, there were no differences in saver types between ex ante and ex post. This ensured that participants were paid incentives using the best fitting baseline model to avoid under or over payment of incentives.

14.4.6 Process Findings

The Evaluators conducted a process evaluation of the Peak Time Rebate program in PY15. Process activities included a database review, participant survey, and staff and implementer interviews.

In total, 59 customers completed the participant survey for the PTR program.

14.4.6.1 Program Design and Implementation

The Peak Time Rebate program is a behavioral demand response offering that incentivizes residential customers to reduce electricity usage during peak demand events. It is currently in its second year of pilot implementation.

Participants voluntarily enroll and receive communications before each event encouraging them to reduce usage through actions like raising thermostat settings or delaying appliance use. At the end of the season, participants are categorized into two tiers based on their average load reduction across events:

- Standard Savers receive a \$20 incentive
- High Savers (top ~15%) receive a \$50 incentive

All incentives are distributed at the end of the season. Program operations, communications, and data management are handled in-house by the implementer, without subcontractors. Qualus is responsible for analysis and baseline savings calculations.

14.4.6.2 Marketing and Outreach

Recruitment is conducted primarily through digital marketing campaigns, including:

- Email campaigns targeting customers who previously participated in other Energy Smart programs
- Website enrollment portals
- Pre-season and mid-season communication touchpoints

Cross-promotion may occur at tabling events for other programs, but in-person recruitment is minimal due to the pilot's participation cap and limited incentive budget. The current recruitment goal is to add 1,000 new participants for PY15.

14.4.6.3 Participant Awareness and Motivation

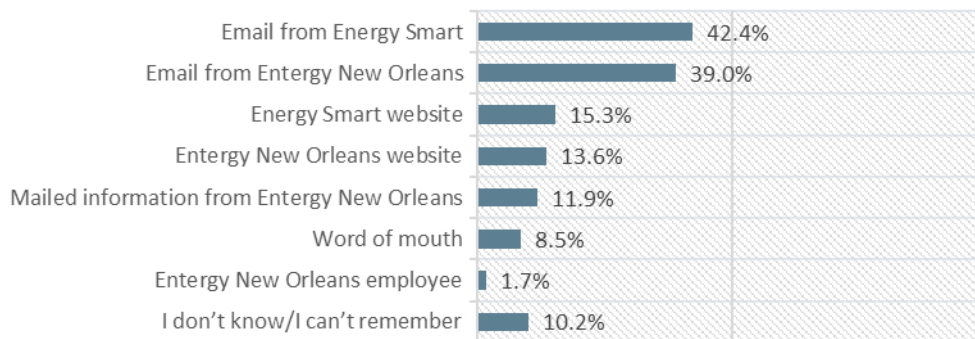
The majority of new enrollees are existing participants in other Energy Smart programs, including residential weatherization, marketplace purchases, or EasyCool BYOT. Implementers report that prior engagement with energy efficiency programs is the strongest predictor of enrollment in PTR.

Program messaging was updated following PY13 feedback to be more specific and actionable, with recommended actions including:

- Raising thermostat settings by 3°F
- Turning off lights
- Avoiding major appliance use during events
- Minimizing fridge/freezer opening
- Unplugging unused electronics

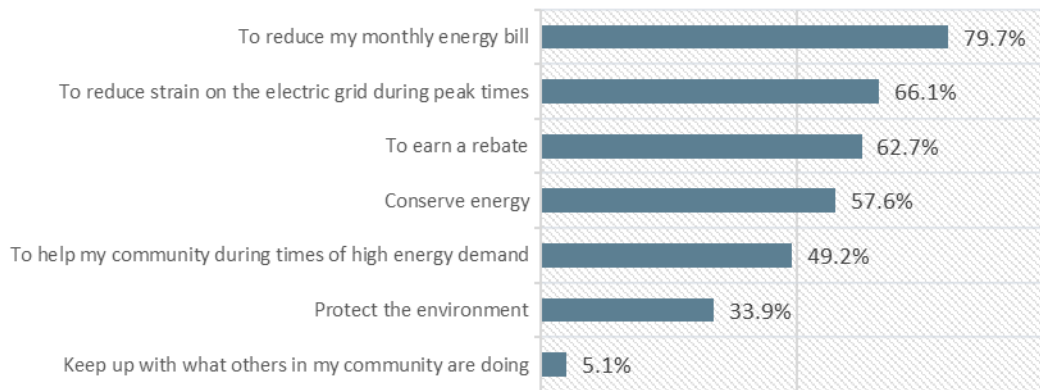
Program awareness was driven primarily by email outreach, with 42.4% learning via an Energy Smart email and 39.0% via an Entergy New Orleans email, far outpacing websites (13.6–15.3%) or word of mouth (8.5%), making email the dominant acquisition channel.

FIGURE 14-5 SOURCES OF PROGRAM AWARENESS (N=59)



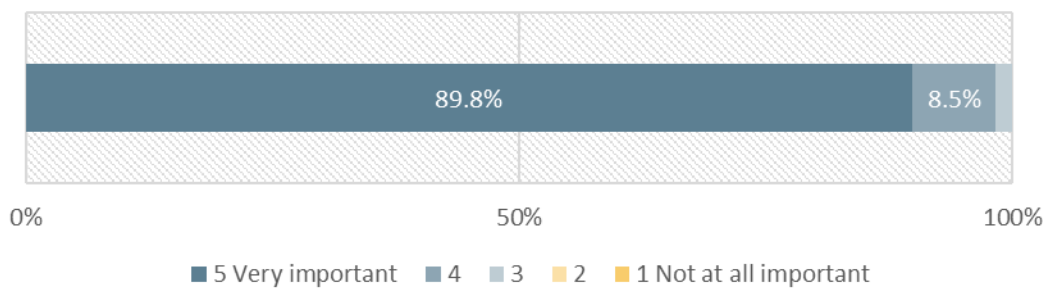
Financial considerations were the most frequently mentioned reason for participating, with 79.7% citing reducing their monthly energy bill and 62.7% citing earning a rebate as the reasons for participating. Community/grid benefits also resonated with respondents (66.1% reducing grid strain; 49.2% helping the community).

FIGURE 14-6 REASONS FOR PARTICIPATING (N=59)



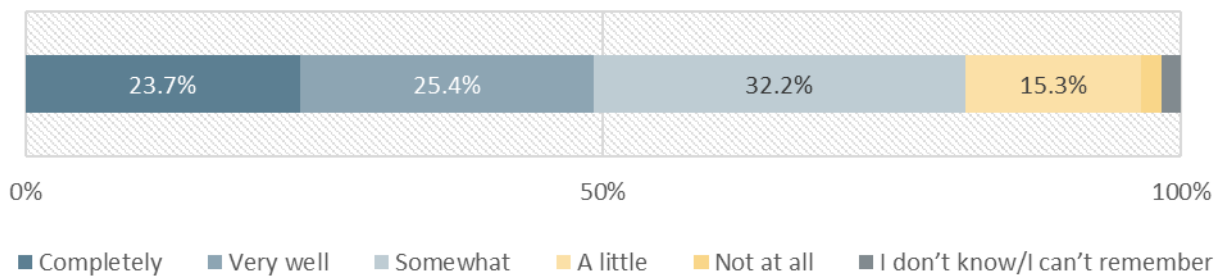
Lowering energy costs was a near-universal priority, with 89.8% rating it “very important” and no respondents rating it unimportant.

FIGURE 14-7 IMPORTANCE OF LOWERING ENERGY COSTS (N=59)



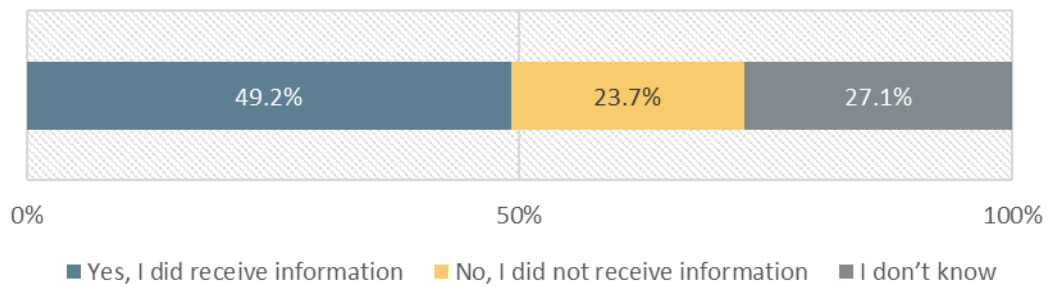
Almost half of respondents reported a strong understanding of the key parts of the program upon enrollment, while 47.5% report a somewhat or a little understanding of the program, indicating early comprehension gaps.

FIGURE 14-8 UNDERSTANDING OF PROGRAM AT ENROLLMENT (N=59)



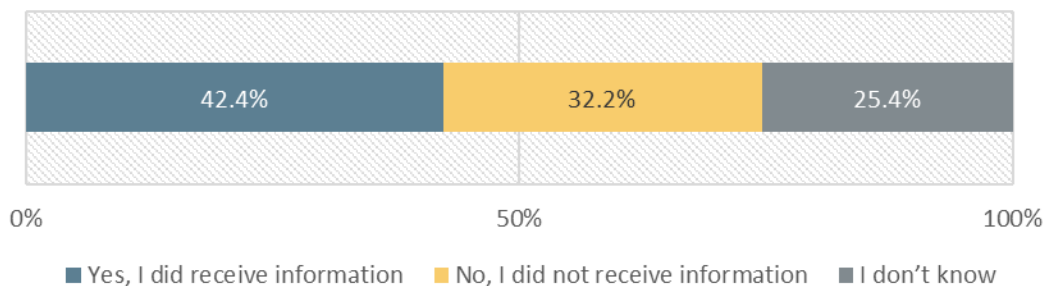
49.2% recalled receiving information about the number of events per season, while 23.7% say no and 27.1% don't remember, suggesting event expectations were not clearly established.

FIGURE 14-9 RECEIVED INFO ABOUT NUMBER OF EVENTS PER SEASON (N=59)



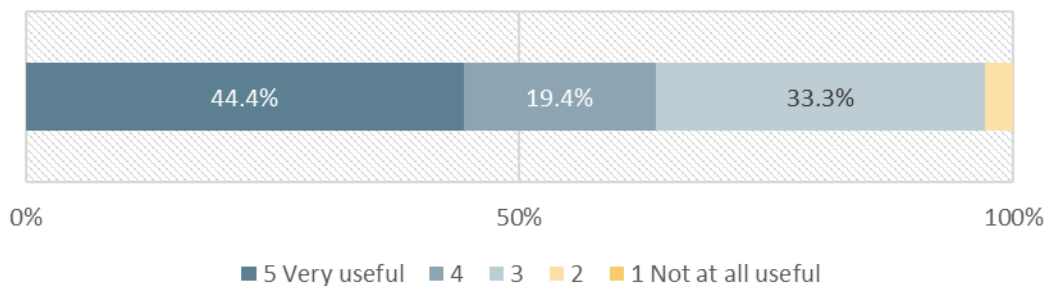
Understanding of rebate mechanics was weaker: just 42.4% say they received this information, while 57.6% either did not or don't remember.

FIGURE 14-10 RECEIVED INFO ABOUT HOW REBATES ARE CALCULATED (N=59)



Among those who rated it, 63.8% found the information about how the rebates were calculated useful (4-5 on a 5-point scale), though 33.3% gave a neutral “3,” possibly signaling room for improvement.

FIGURE 14-11 USEFULNESS OF INFORMATION RECEIVED (N=25)



In open-ended feedback, the respondent who rated the information as “Not at all Useful” called for clearer explanation of the usage baseline and rebate calculation.

14.4.6.4 Participation in Program Offerings

14.4.6.4.1 Participant Journey Overview

Participants engage with the Peak Time Rebate program through an online process. The journey is intentionally simple, requiring minimal effort from customers beyond enrolling and adjusting their behavior during events.

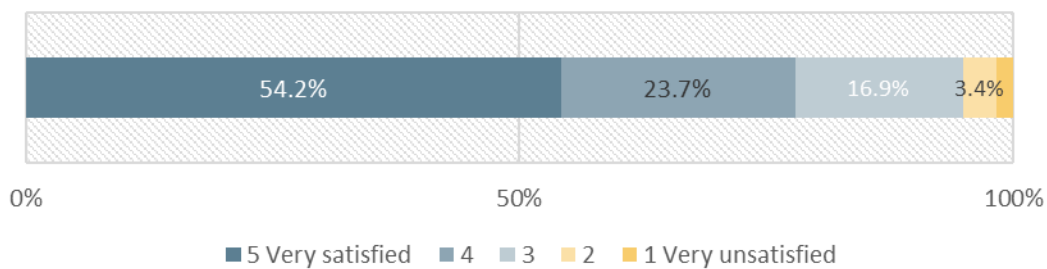
The process unfolds over the course of a summer season, with the key steps outlined below:

1. Customers enroll online and provide contact information for SMS and/or email alerts.
2. The program team schedules and announces peak events (based on Entergy's system forecasts).
3. Participants receive event notifications via email and SMS, typically 24 hours in advance.
4. Customers are encouraged to reduce usage during the event window using the tips provided.
5. At season's end, customer performance is analyzed based on AMI data, and incentives are mailed.

14.4.6.4.2 Enrollment Process

Most participants were satisfied with the enrollment process, with 78.9% indicating they are satisfied or very satisfied (4–5). About 2 out of 10 are neutral or dissatisfied.

FIGURE 14-12 SATISFACTION WITH ENROLLMENT PROCESS (N=59)

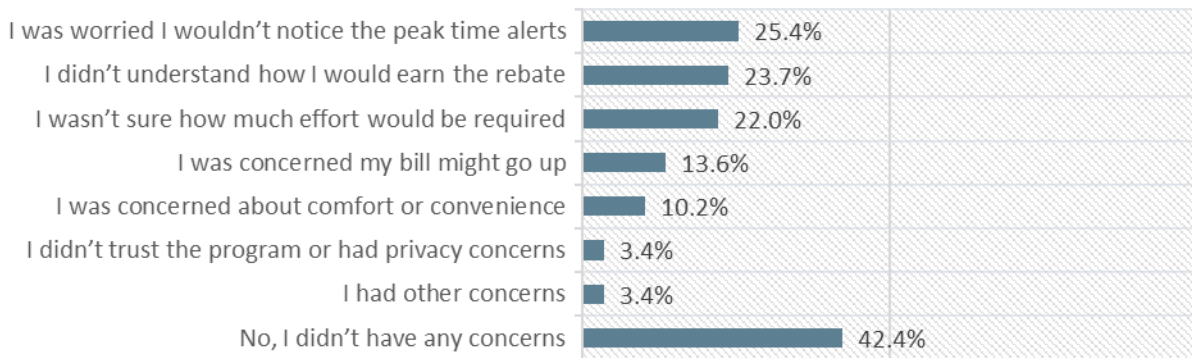


Among the 2 respondents who were dissatisfied, dissatisfaction was mainly due to a lack of follow-up, unclear registration steps, and mixed messaging, rather than objections to the program concept itself.

- “There was no follow up and I believe I am still waiting on a phone call. Therefore, I cannot give a fair assessment.”
- “Difficult to figure out how to register. I believe I was told that the program was full but then got program notifications.”

The most common concerns relate to missing alerts (25.4%), not knowing how to earn the rebate (23.7%), and the effort required (22.0%), though 42.4% report no concerns.

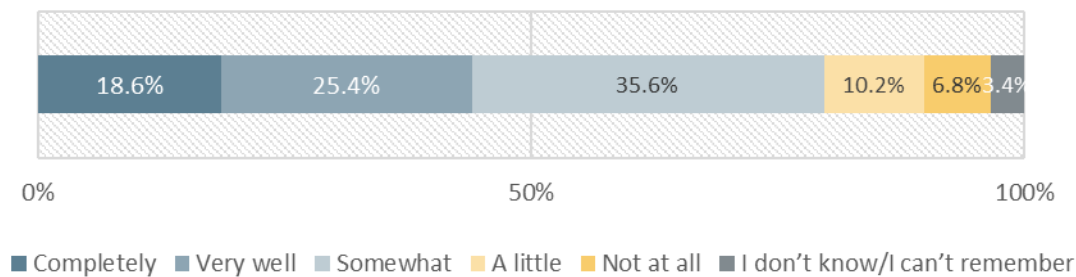
FIGURE 14-13 CONCERNS WHEN ENROLLING (N=59)



14.4.6.4.3 Program Understanding

Upon participation, there is minimal change in the understanding of the key parts of the program. More than half report a “somewhat” or lower understanding of the key parts of the program, similar to the initial understanding upon registration.

FIGURE 14-14 UNDERSTANDING OF KEY PROGRAM COMPONENTS (N=59)



The most common gaps in understanding center on how rebates are calculated, and how event notifications work.

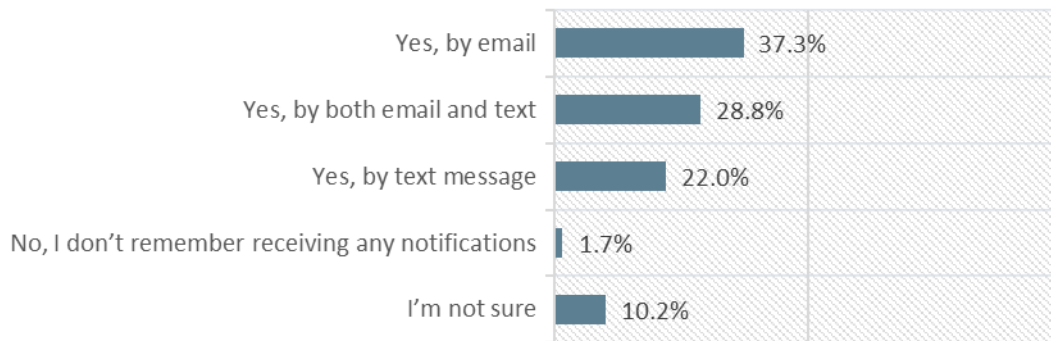
TABLE 14-15 PARTS NOT UNDERSTOOD (N=31)

Parts Not Understood as Well	(n=31)
How the rebates are calculated / How it applies to the credit card bill	67.7%
How the programs work overall	22.6%
How notifications work during an event / Not getting a notification during an event	19.4%
What to do when they get an event notification	16.1%

14.4.6.4.4 Event Notifications

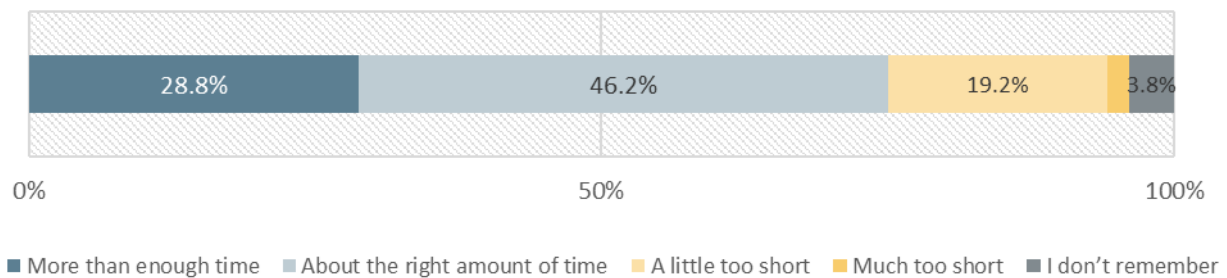
Most respondents recalled receiving notifications (88.1% via email, text, or both), indicating broad message reach, though 11.9% are unsure or do not recall.

FIGURE 14-15 RECALL OF EVENT NOTIFICATIONS (N=59)



Three-quarters of respondents said the amount of notice was about right or more than enough, while 21.2% felt it was too short, highlighting timing sensitivity.

FIGURE 14-16 RATING OF ADVANCE NOTICE (N=52)



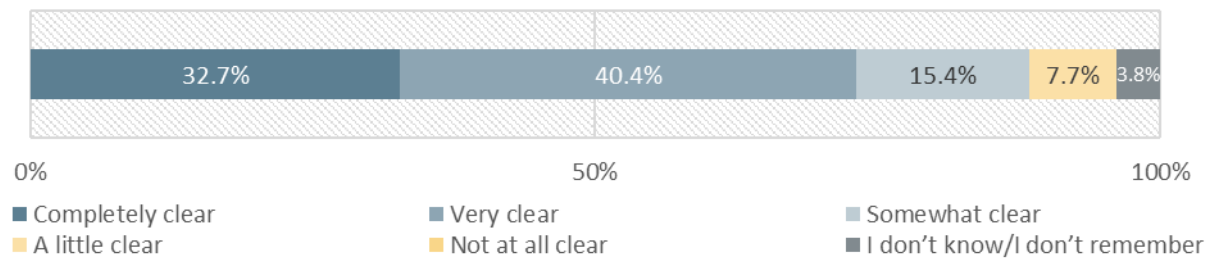
Requested notice commonly ranged from 1–3 hours to at least 2 days, with repeated mentions of 36–48 hours as an ideal planning window.

TABLE 14-16 PREFERRED AMOUNT OF NOTICE (N=11)

Time Needed for Notice	(n=11)
At least 1-3 hour advance	36.4%
At least a 1 day advance	9.1%
At least a 2 day advance	45.5%
Not sure	9.1%

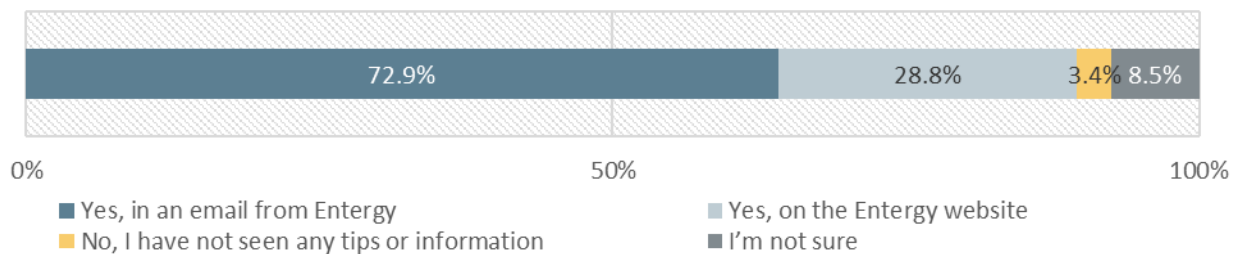
Event instructions are generally clear, with 73.1% rating them very or completely clear, and no respondents saying, “not at all clear.”

FIGURE 14-17 CLARITY OF EVENT INSTRUCTIONS (N=52)



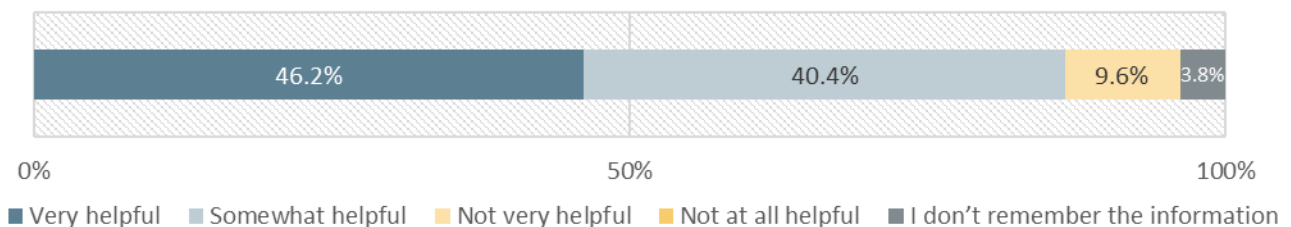
Most participants have seen tips, primarily via email (72.9%), compared to 28.8% via the website, confirming email as the key education channel for education participants on ways to save energy during events.

FIGURE 14-18 EXPOSURE TO ENERGY-SAVING TIPS (N=59)



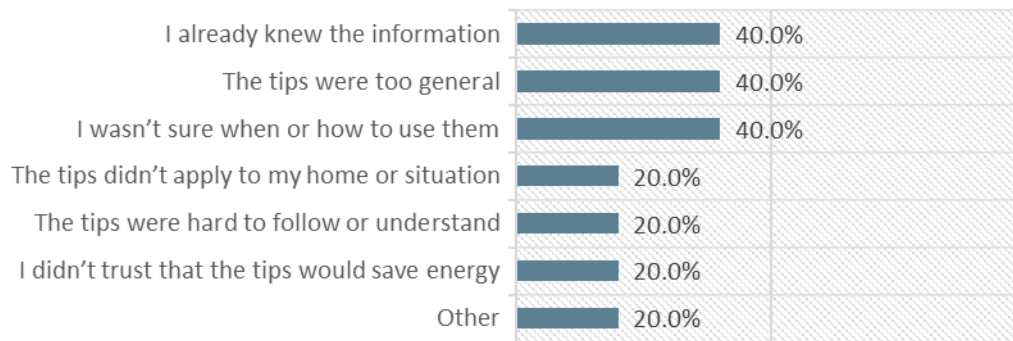
Tips were largely considered effective, with 86.6% finding them somewhat or very helpful, including 46.2% rating them very helpful.

FIGURE 14-19 HELPFULNESS OF TIPS (N=52)



Among the small, dissatisfied group, reasons include tips being too general (40.0%), already known (40.0%), or unclear on when/how to apply (40.0%).

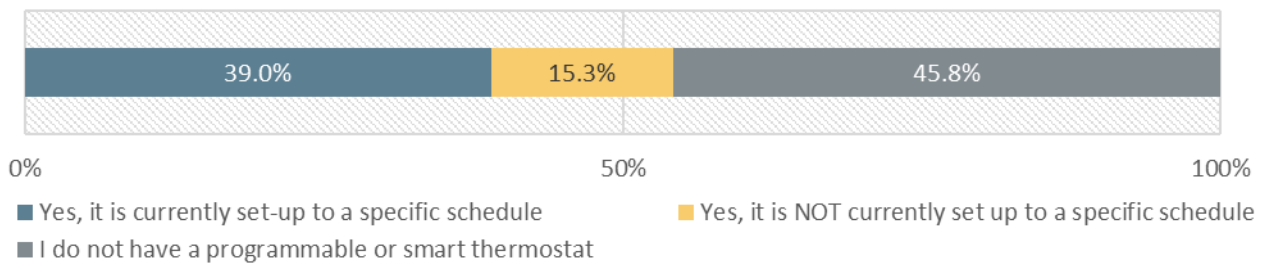
FIGURE 14-20 WHY TIPS WERE NOT HELPFUL (N=5)



14.4.6.4.5 Energy Use Management Behaviors

About 54.3% have a programmable or smart thermostat, the majority of whom have it actively set to a schedule. Almost half (45.8%) don't have a programmable thermostat.

FIGURE 14-21 THERMOSTAT USAGE (N=59)



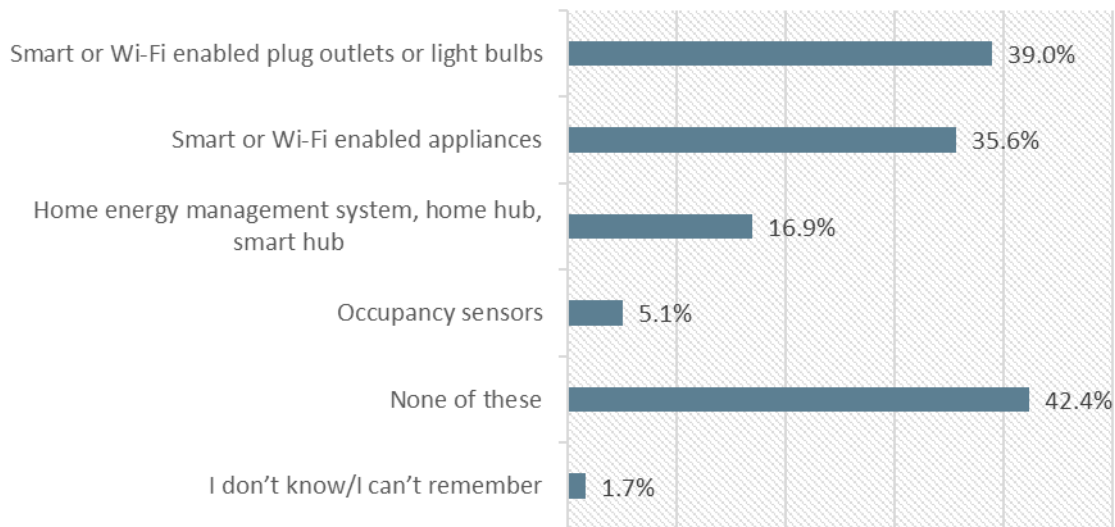
Automation-ready devices are present in a meaningful share of households, but participation in a residential behavioral demand response (BDR) program would largely rely on light-touch, device-level automation rather than whole-home or fully integrated systems.

Smart plugs or Wi-Fi-enabled light bulbs (39.0%) and smart appliances (35.6%) were the most common technologies in use, indicating that many participants have at least some capacity to automate discrete end uses during demand response events. These technologies can support low-friction participation, such as automatically cycling lighting, delaying appliance use, or powering down selected loads in response to event signals.

At the same time, 42.4% of respondents report using none of the listed smart technologies, which limits the reach of automation-enabled BDR strategies if participation depends on existing devices. More integrated solutions that enable coordinated, whole-home responses remain relatively uncommon, with 16.9% reporting a home energy management system or home hub. This suggests that most automation, where available, is likely fragmented rather than centrally optimized for demand response.

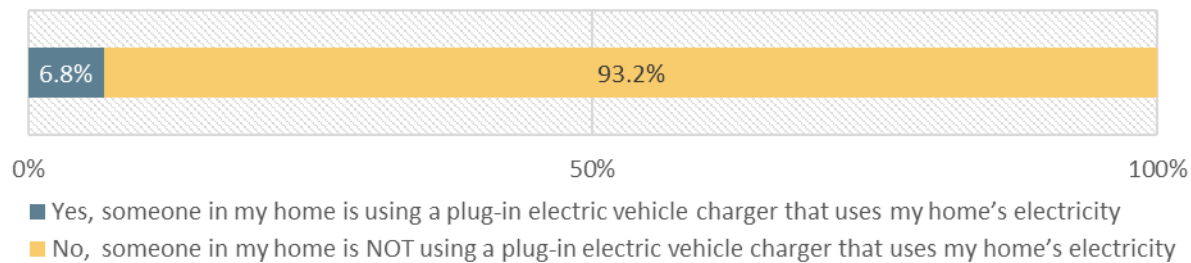
Taken together, these findings suggest that automation beyond thermostat controls can complement behavioral demand response but is unlikely to replace behavior-based participation in the near term.

FIGURE 14-22 OTHER SMART TECHNOLOGIES (N=59)



Only 6.8% (4 people) report having an EV charger, indicating EV load shifting was not a factor for most participants.

FIGURE 14-23 EV CHARGERS IN HOME (N=59)



Most EV users reported charging primarily in the evening, suggesting that avoiding charging during the three events that ran from 4:00 PM to 7:00 PM could enable participants to shift a substantial amount of load.

FIGURE 14-24 CHARGER TYPE (N=4)

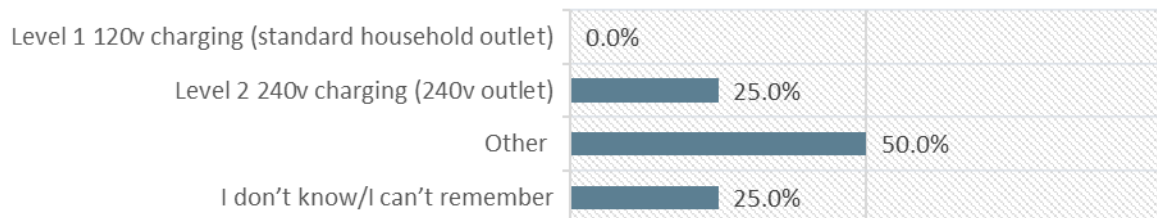
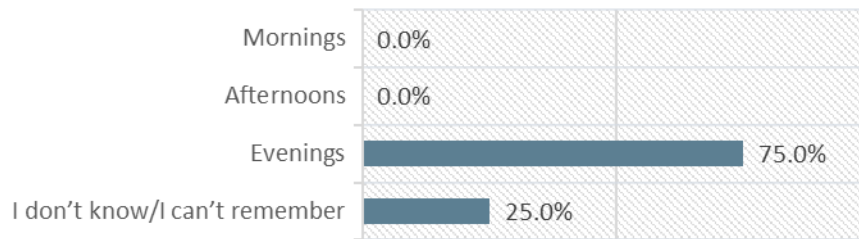
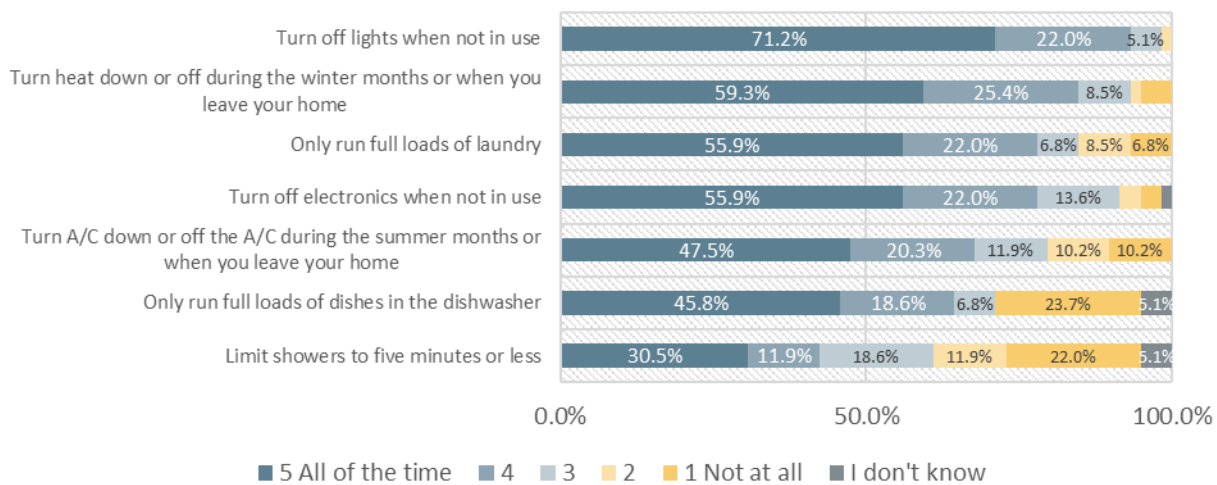


FIGURE 14-25 CHARGER USAGE (N=4)



Baseline conservation is high: 71.2% always turn off lights, 59.3% always turn down heat in winter, and 55.9% always run full laundry loads, suggesting limited incremental savings potential for some households.

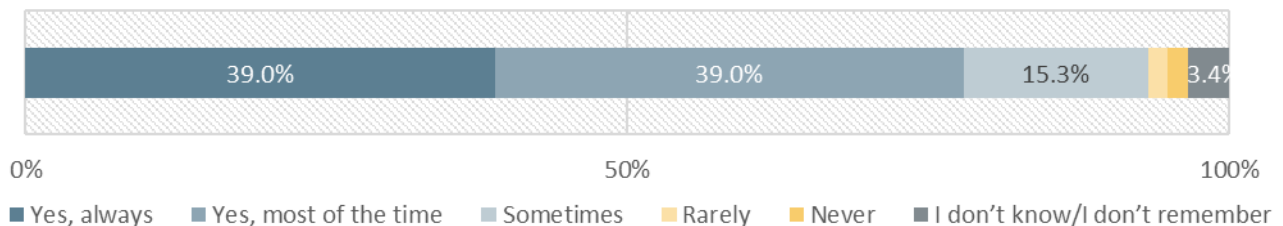
FIGURE 14-26 GENERAL ENERGY-SAVING BEHAVIORS (N=59)



14.4.6.4.6 Event Engagement

Participants reported a high level of engagement in the program events with 78.0% saying they always or mostly took action, and only 3.3% rarely or never took action.

FIGURE 14-27 TOOK ACTIONS DURING EVENTS (N=59)



Participants most commonly reported turning off lights (87.5%), delaying laundry (71.4%), delaying cooking (62.5%), and adjusting thermostats (62.5%). These actions are generally consistent with reducing larger energy loads. With the exception of lighting, which is typically a smaller load, delaying laundry and cooking and adjusting thermostat settings can reduce high-use electric loads and, in the case of cooking, associated cooling demand.

TABLE 14-17 ACTIONS TAEN DURING EVENTS (N=56)

Actions	(n=56)
Turned off unnecessary lights	87.5%
Delayed doing laundry	71.4%
Raised the thermostat temperature (in summer) or lowered it (in winter)	62.5%
Delayed using the oven, stove, or other kitchen appliances	62.5%
Turned off home computers or office equipment	42.9%
Delayed or shortened showers or use of hot water	33.9%
Left or stayed away from home during the event to reduce usage	32.1%
Turned off the heating or cooling system during the event	28.6%
Pre-cooled or pre-heated my home before the event	28.6%
Air-dried clothes instead of using the dryer	26.8%
Used features on my smart or programmable thermostat to manage usage	23.2%
Charged my electric vehicle at a different time or location	3.6%
Used occupancy sensors or timers to reduce lighting use	3.6%
Turned off pool pump or delayed pool heating	1.8%
I didn't need to take action	1.8%
Other	1.8%
I don't know / I don't remember	0.0%

Most respondents reported few barriers to reducing energy use during events, with many indicating that reduction was either not difficult or already maximized. A large share reported no difficulty reducing home energy use (40.7%), and an additional 22.0% said they had already shifted everything they could. Reported barriers were more often related to household context and comfort than to program understanding or motivation. These included people being home during the day (20.3%), discomfort associated with reducing cooling in summer (18.6%), limited control over other household members' energy use (16.9%), and the absence of automation or smart controls to support load reduction (10.2%). In contrast, difficulty keeping track of when events were happening (16.9%) points to a potential program delivery issue related to communications or notifications. Fewer respondents cited gaps in program understanding (6.8%) or low perceived value, such as that participation was not worth the effort or did not save money (both 5.1%), and no respondents reported needing energy for health or medical reasons (0.0%).

These results suggest that, for most participants, barriers are more often related to household context and comfort rather than program design or perceived value.

TABLE 14-18 BARRIERS TO REDUCING USAGE (N=59)

Reason	(n=59)
I didn't have any difficulty reducing my home's energy use during the events	40.7%
I already shifted everything I could	22.0%
People were home during the day	20.3%
Reducing cooling in summer was too uncomfortable	18.6%

Other members of my household were using energy and I couldn't control it	16.9%
It was hard to keep track of when events were happening	16.9%
I don't have automation or smart controls to help reduce use	10.2%
I don't fully understand how the program works	6.8%
Pets were home and needed a comfortable temperature	5.1%
It didn't seem worth the effort	5.1%
I didn't think it saved me money	5.1%
I work from home and need to keep devices or lights on	3.4%
I needed energy for health or medical reasons	0.0%
Other	6.8%
I don't know	1.7%

14.4.6.5 Participant Experience and Satisfaction

Participant feedback in PY13 noted several pain points, including:

- Lack of clarity around what actions would qualify for incentives
- A confusing incentive structure with few high payouts
- Misunderstanding that enrollment did not guarantee a reward

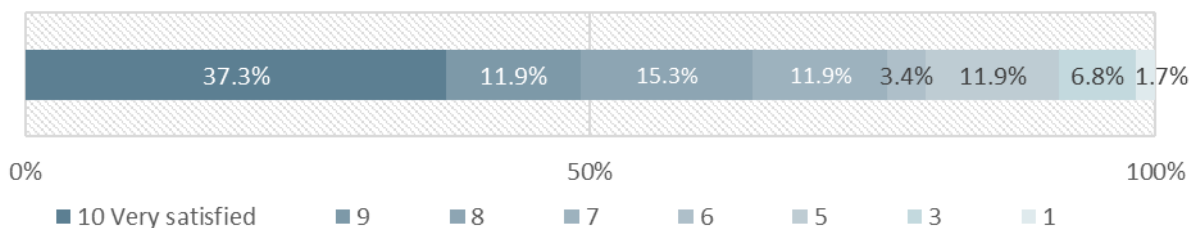
These concerns led to several changes in PY14 that are continuing into PY15:

- Replacing the tiered \$10/\$20/\$50 incentive structure with a \$20 minimum and \$50 for top 15% performers
- Clarifying that incentives are performance-based, not guaranteed
- Updating marketing to provide clear, specific energy-saving tips
- Filtering invalid or bounced email addresses for cleaner communication

Customers do not currently receive performance feedback after events, and AMI data is only accessed at the end of the season. No participant portal or event-by-event reporting is available.

Overall program satisfaction was positive, with 64.5% rating their satisfaction 8–10, including 37.3% giving a rating of “10”.

FIGURE 14-28 SATISFACTION WITH THE PROGRAM (N=59)



Dissatisfaction (n=12) centered on not seeing rebates, unclear payoff, comfort trade-offs, and effort outweighing benefit, rather than opposition to conservation goals. For example:

- “A lot of effort for small rebate and don’t know how much of a rebate it will be (no data available on how I performed until the rebate arrives).”
- “It’s not worth the effort.”
- “My bill was higher, so I don’t see the benefits.”
- “My energy usage is lower than the similar energy efficient homes in my neighborhood, and I almost always was/am at work at the time of the events. Due to those factors, I wasn’t really able to reduce my energy consumption much at all. So the financial incentive wasn’t great, and I appreciated that after the first pilot, when I enrolled again, the FAQ actually stated that it’s not a great program for low energy households.”
- “The program relies on the consumer’s understanding of events and their response to event notifications. It would be helpful for Entergy and the consumer if event responses were more specific and directed.”

Most respondents report no major issues (63%), but the issues that were reported related to heat discomfort (10%), limited notice of events (8%), unclear calculations of incentives (12%), and lack of performance feedback (7%).

In terms of how the program could be improved, 37 respondents had no recommendations. Those that did, called for clearer, more specific guidance, earlier and more frequent alerts, and feedback on individual and collective savings. Other Recommendations included:

- “Communication sooner to make the energy decisions rather than quick”
- “How to adjust common thermostats. More notice. Data on how I performed during events or for the season. Clearer idea of what the baseline use is. Would be good to know how much energy participants saved as a group.”
- “I think increasing frequency of communication - the content of the alerts was always great, but sometimes the information would too close to the peak event.”
- “I think letting a customer know specifically what they need to do would be helpful.”
- “Keep sending emails and TV commercials.”
- “Maybe host a YouTube live?”

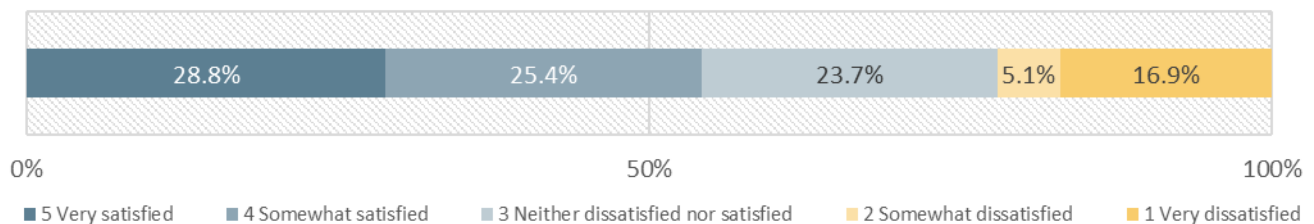
“More emails and text messages would be VERY helpful. I only ever received email/text on the day of / possibly day before an event. That can be too short of a notice. Also I think it would be really helpful to email and especially text people about how to save energy during peak times and state exactly how much money certain actions they take will help them save on their energy bills.”

- “Put it on the news media so more customers can try to participate in the programs. I asked a family member did she hear about it and she told me no.”
- “Regular peak hours alerts sent to the cell phone at least 2 or 3 times a week.”
- “Send a brochure in the mail or an email with a link to easy FAQs.”
- “Send paper information to clients that are older and don’t understand email.”
- “Stagger peak times in different neighborhoods.”
- “Using smart plugs on a schedule for things like AV system might be a clever way to save energy. The auto-off power strips we were provided were too clumsy to implement effectively, since you would have to flip them on every time you wanted to use them.”

- “Verify that people in the program must take action to reduce demand. Entergy does not have devices installed on home equipment to reduce demand.”
- “Yes use videos to explain better”
- “Yes, be more specific about event response based on that particular home and that home's technology.”

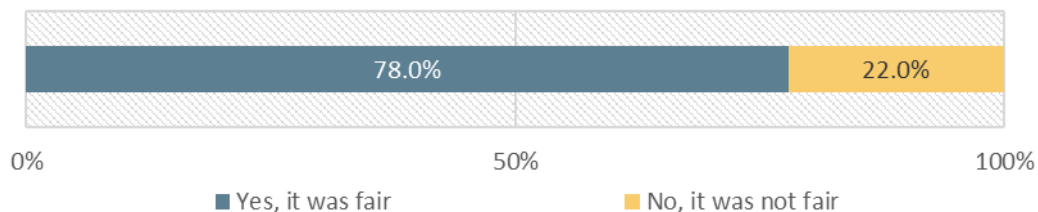
Satisfaction with Entergy was mixed: 54.2% satisfied (4–5), 23.7% neutral, and 22.0% dissatisfied, suggesting program perceptions may be influenced by broader service views.

FIGURE 14-29 SATISFACTION WITH ENTERGY NEW ORLEANS OVERALL (N=59)



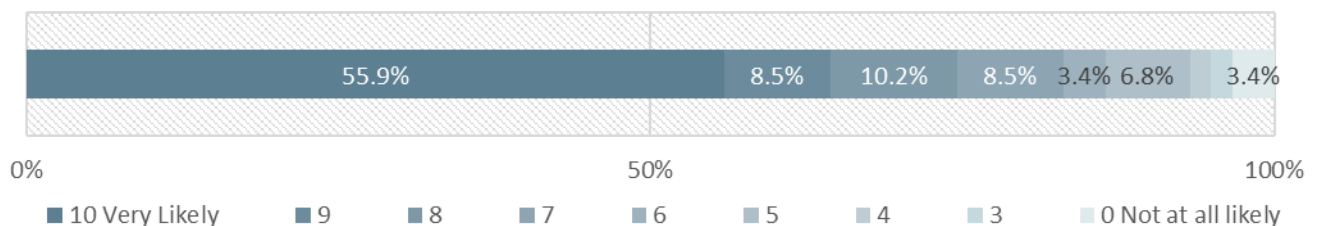
Most participants (78.0%) felt the incentive was fair, though 22.0% do not.

FIGURE 14-30 PERCEIVED FAIRNESS OF THE INCENTIVE (N=59)



A significant share of participants were likely to recommend the program. More than half rated their likelihood as extremely likely (55.9%, rating of 10), and nearly three-quarters provided a high rating of eight to 10 (74.6%), indicating favorable overall sentiment toward the program.

FIGURE 14-31 LIKELIHOOD TO RECOMMEND THE PROGRAM (N=59)



Recommendation of the Peak Time Rebate Pilot is primarily driven by clear bill savings and financial incentives, with conservation benefits reinforcing promoter enthusiasm.

Lower ratings stem largely from perceived limited financial impact or confusion about how the rebate works, suggesting an opportunity to better communicate savings clarity and tangible value.

TABLE 14-19 REASONS FOR RECOMMENDATION (N=59)

Why participants recommend (or hesitate to) recommend	Promoter	Passive	Detractor	Total	Total %
General Good Experience	12	4	2	18	10.2%
Rebates and Financial Incentive (Savings, Checks, Discount)	9	1	0	10	5.7%
Environmental Reasons / Good for Community / Grid Support	7	1	0	8	4.5%
Ease / Convenient	5	1	0	6	3.4%
Confusion and/or Doesn't Understand the Program	0	2	2	4	2.3%
Doesn't Recommend Things in General	1	2	1	4	2.3%
Low Savings / No Value / Doesn't Work	0	0	4	4	2.3%
No Specific Reason	4	0	0	4	2.3%
Distrust of Entergy	0	0	1	1	0.6%

14.5 Data Tracking Review

The Evaluators were able to perform the analysis as planned once advanced metering infrastructure (AMI) data was provided. The Evaluators found that roughly 85% of participants had AMI data during the evaluation period. ENO reported that this occurred due to participants with inactive accounts. All participants in the participant data that were not present in the AMI data were removed from the analysis when extrapolating kW reduction impacts.

14.6 Key Findings and Recommendations

Findings:

- **Email-driven recruitment is effective, but participants entered the program with uneven understanding of event expectations and rebate mechanics.** Email is the dominant awareness channel (over 80% combined across Energy Smart and Entergy emails), and most respondents were satisfied with the enrollment process (78.9% satisfied). However, comprehension gaps were noted: nearly half reported only partial understanding at enrollment, and fewer than half recalled receiving information about the number of events or how rebates are calculated. These gaps continued after participation, with many still unclear about baseline calculations, notification processes, and what actions matter most.
- **Participants are highly engaged during events, but notification timing and comfort constraints limit some households' ability to reduce usage.** Most participants took action during events (78.0% always or mostly), and the majority found tips helpful (86.6%). Among those reporting barriers, common challenges included people being home during the day (20.3%), discomfort from reducing cooling in summer (18.6%), and limited control over other household members' energy use (16.9%). In contrast, relatively few participants cited low perceived value, lack of savings, or poor understanding of the

program, and no respondents reported medical or health-related energy needs. These findings indicate that motivation and comprehension are generally strong, while physical comfort and household dynamics constrain further reductions.

Program communication was a secondary but notable barrier to participation during events. Nearly one in five respondents (16.9%) reported difficulty keeping track of when events were happening, making this one of the most frequently cited challenges outside of comfort-related issues. This suggests that, even among engaged participants, event timing and notifications may not always be sufficiently visible or actionable at the moment decisions need to be made.

- **Event performance feedback is provided at the end of the event season.** Not receiving event performance feedback was a program limitation or opportunity for program improvement cited by some participants in open-ended comments.
- **Participant satisfaction with Entergy and perceptions of incentive fairness indicate generally positive views of program value, though a meaningful minority remain unconvinced.** Just over half of respondents reported being satisfied with Entergy overall (54.2%), while 23.7% were neutral and 22.0% dissatisfied, suggesting that program perceptions may be influenced by broader utility experiences beyond the program itself. At the same time, most participants viewed the incentive as fair (78.0%), indicating that incentive levels are largely aligned with participant expectations and effort. However, the remaining 22.0% who did not view the incentive as fair aligns closely with the share expressing dissatisfaction with Entergy, reinforcing the possibility that broader service perceptions may shape how participants evaluate program compensation and value, even when incentives are generally well-received.

Recommendations:

- **Provide timely, post-event feedback to reinforce participant load shedding behaviors, motivation, and perceived impact.** Participant report that they are highly engaged during events and motivated to take action, yet many reported lingering uncertainty about what actions mattered most and how their behavior affected outcomes. Event performance feedback is currently delivered at the end of the event season, and the absence of more immediate feedback was cited by some participants as a program limitation. Providing post-event feedback, such as whether the household reduced usage relative to baseline or the expected incentive would help close comprehension gaps that persist after participation. Timely feedback can reinforce effective behaviors, validate participant effort, and strengthen the connection between individual actions and grid benefits, ultimately supporting sustained engagement and improved demand response performance.
- **Develop clearer strategies to explain incentive calculations and payments throughout the customer journey.** While most participants view incentives as fair, a subset remain unconvinced, and many reported incomplete understanding of rebate mechanics at enrollment and after participation. Fewer than half recalled receiving information about how incentives are calculated, and confusion persists around baselines and performance metrics. Clarifying incentive payment structures through simplified explanations and repeated touchpoints before, during, and after the event season would help align expectations with outcomes. Improving transparency around how actions translate into incentives can

reduce dissatisfaction driven by uncertainty, distinguish program value from broader utility perceptions, and strengthen trust in program fairness without requiring changes to incentive levels.

15 RESIDENTIAL BATTERY PILOT

15.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, incentive spend, and *ex post* net NEBs, by measure, where applicable.

TABLE 15-1 PY15 RESIDENTIAL BATTERY PILOT ENERGY SAVINGS (kWh)

Measure	<i>Ex ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex post</i> Gross Savings (kWh)	NTG	<i>Ex post</i> Net Savings (kWh)
BESS pilot	0	N/A	0	N/A	0
Total	0	N/A	0	N/A	0

Sums may differ due to rounding.

TABLE 15-2 PY15 RESIDENTIAL BATTERY PILOT DEMAND REDUCTIONS (kW)

Measure	<i>Ex ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex post</i> Gross Demand (kW)	NTG	<i>Ex post</i> Net Demand (kW)
BESS pilot	N/A	N/A	569.84	100%	569.84
Total	N/A	N/A	569.84	100%	569.84

Sums may differ due to rounding.

TABLE 15-3 PY15 RESIDENTIAL BATTERY PILOT LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex post</i> Net Lifetime Energy Savings (kWh)
BESS pilot	1	0	0
Total	1	0	0

Sums may differ due to rounding.

TABLE 15-4 PY15 RESIDENTIAL BATTERY PILOT PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
BESS pilot	116	N/A
Total	116	N/A

Sums may differ due to rounding.

TABLE 15-5 PY15 RESIDENTIAL BATTERY PILOT NEB SUMMARY

Measure	<i>Ex post</i> Net ARCs (\$)	<i>Ex post</i> Net Water Savings (gallons)	<i>Ex post</i> Net Avoided Arrearages
BESS pilot	\$0	0	\$0
Total	\$0	0	\$0

Sums may differ due to rounding.

15.2 Program Description

The residential Battery Energy Storage System (BESS) pilot offering allowed customers to earn an incentive for enrollment and by participating in peak demand events. During these events, ENO accessed stored energy from a home battery system to help provide more reliable power to the grid. The program allowed customers the ability to opt out without penalties. Participation was free with an eligible battery system. The program was limited to the first 30 customers who enrolled and met system qualifications. Customers qualified if they had a compatible solar photovoltaic system-connected BESS.

Customers received a one-time enrollment incentive of \$300 and annual participation incentive of up to \$250 based on the ratio of actual participation in up to 8 peak demand events.

The program was first introduced in PY13, or 2023.

15.2.1 Program Changes

PY15 was the third year for the BESS offering. The implementation partner changed between PY13 and PY14.

15.2.2 Timing of Projects

Enrollment occurred from June to November 2025.

15.2.3 Trade Allies

There were no reported trade allies in this program.

15.2.4 Goal Achievement

The program did not have ex post savings targets in PY15.

TABLE 15-6 EV PILOT PERFORMANCE TOWARDS GOAL

<i>Ex post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex post</i> Gross Energy Savings (kWh)	<i>Ex post</i> Gross Savings (kW) Target	% to kW Target	<i>Ex post</i> Gross Savings (kW)
53,347	N/A	0	0.00	N/A	569.84

15.3 EM&V Methodology

The Evaluators employed the following approach to complete impact evaluation activities for the program in PY14, and applied results to a deemed savings analysis for the program in PY15.

- Method 1: MISO Calculated Baseline using Interval (AMI) Data

Method 1 allowed the Evaluators to estimate peak demand impacts from batteries discharged during demand response events because the AMI data contained all imported and exported kWh values and included kWh from battery discharge to the grid¹².

¹² ENO refers to this AMI data with kW Received and kW Delivered as Channel 2 (or Cycle 2).

A list of advantages and disadvantages for Method 1 is shown in the table below.

TABLE 15-7 EMV METHOD ADVANTAGES AND DISADVANTAGES

Method	Advantages	Disadvantages
1) Interval (AMI) Data	- Accounts for any potential behavioral changes due to the demand response events. - Utilizes a census of demand response event days and times.	Potentially introduces noise from consumption and solar generation unrelated to battery discharge.

For Method 1, the Evaluator followed the Calculated Baseline approach outlined in the Midcontinent Independent System Operator, Inc. (MISO) Business Practices Manual (BPM)¹³. The following impact evaluation steps were taken to determine the suitability of the MISO Calculated Baseline approach:

- Developed an Unadjusted Consumption (UC) Baseline, a Symmetric Multiplicative Adjustment (SMA) Baseline, and a Weather Sensitive Adjustment (WSA) Baseline for each program participant. Loads were calculated utilizing hourly AMI data.
- Determined days that will serve as proxy days for testing the suitability of the baseline approach. Proxy days represent days like demand response event days in terms of load shape and temperature profiles.
- Estimated bias (uncertainty) and error on proxy days for each model to assess baseline performance. Bias is assessed by examining the average percent error of the baseline predictions relative to the actual usage on proxy days. In a similar manner, error is assessed through various metrics such as Root Mean Squared Error (RRMSE) using baseline predictions and actual usage on proxy days.
- Selected the baseline model with the lowest absolute bias.

15.3.1 Gross Impact Methodologies

For most demand response programs, energy savings are estimated by comparing a participant's load shape during a demand response event with a baseline load shape. This baseline load is assumed to be a good estimate of the counterfactual load—that is, the load that would have manifested had there not been an event called that day. In the prior program year (PY13), the Evaluators initially believed the interval AMI data would not include kWh amounts from battery discharge to the grid, and this would have prevented solely using AMI data to analyze peak load impacts. However, the Evaluators compared imported and exported kWh values with participant telemetry data provided via the implementer portal and determined that the Channel 2 AMI interval data accounted for kWh from battery discharge to the grid, as well as all kWh imported or exported to the grid (e.g., exported solar kWh, or imported battery charging kWh). Therefore, the Evaluators were successful in utilizing AMI data to estimate peak load impacts and constructed net kWh values for each participant by taking the difference between imported and exported kWh values.

The following equation defines the net kWh utilized to estimate peak load impacts for Method 1.

¹³ MISO Demand Response Business Practices Manual: BPM-026.

$$Net\ kWh_{it} = Imported\ kWh_{it} - Exported\ kWh_{it}$$

15.3.1.1 Data Sources

Data used for this evaluation include the following:

- 15-minute interval meter data (Channel 2 AMI) for each participant containing kW Received and kW Delivered.
- A full schedule of DR program events for each participant, including the date and time of the event and which customers participated in the event.
- Program tracking data that identifies which customers participated in the program.

The Evaluators were not provided with telemetry data in PY14.

15.3.1.2 MISO Calculated Baseline Approach (Customer Baselines)

The following details the general requirements for the MISO Calculated Baseline Approach. The Evaluators developed Customer Baselines (CBLs) in accordance with this approach. For a demand resource, the Consumption Baseline is a profile of hourly demand based on an averaged sample of historical data which may be adjusted for factors that reflect specific, on-the-day conditions, such as temperature.

The default consumption baseline is designed as follows:

- Separate hourly demand profiles for non-holiday weekdays and for weekends/holidays
- The “weekday” hourly profile is based on the average of the ten (10), but not less than five (5), most recent weekdays that are not holidays or other non-standard “event” days
- The “weekend/holiday” hourly profile is based on the average of the four (4), but not less than two (2), most recent weekend days or holidays that are not “event” days
- An “event” day is one during which there was, for the resource in question, a real-time energy or ancillary services dispatch, or a scheduled outage
- The maximum look-back window is limited to 45 days; and
- If the 45-day window contains insufficient days to meet the minimum number of days described above, the profiles are constructed based on the available days within the 45-day window that qualify, supplemented by the largest (MW) matching “event” day(s) values for that resource within that same window as necessary to obtain the minimum number of values.

Adjustment mechanisms to the default Consumption Baseline include:

- Symmetric Multiplicative Adjustment (SMA)
 - Adjusts each baseline hourly value (MW) during the event up or down by the ratio of
 - (a) the sum of hourly demands for the three hours beginning four hours prior to the event and
 - (b) the sum of those same three hourly baseline demands
 - The adjustment is limited to a change in any individual baseline hour of plus or minus 20 percent.
 - If multiple events occur during the same day, the SMA is calculated only for the first event, but applied to all events that day.
- Weather Sensitive Adjustment (WSA)
 - Adjusts each baseline hourly value (MW) up or down by a Weather Adjustment Factor

- The Weather Adjustment Factor is determined by a mathematical relationship derived through a regression analysis that considers the DRR load and historical hourly temperature data.

15.3.1.3 Evaluators MISO Models

The following CBL models were developed for each customer in accordance with MISO protocols.

For a 10-of-10 (or 5-of-5) unadjusted baseline, the Evaluators examine the load data from the most recent ten (or five) non-event, non-holiday weekdays relative to the event day and calculate the mean demand usage values of the five highest load days. This baseline is then adjusted for the SMA and WSA models utilizing the method described in Section 15.3.1.2.

TABLE 15-8 EVALUATORS' MISO CBL MODELS

Model Type	Baseline Days	SMA	WSA
Unadjusted	10-of-10	No	No
SMA-Adjusted	10-of-10	Yes	No
WSA-Adjusted	10-of-10	No	Yes
Unadjusted	5-of-5	No	No
SMA-Adjusted	5-of-5	Yes	No
WSA-Adjusted	5-of-5	No	Yes

15.3.1.4 Baseline and Proxy Day Development

The Evaluators defined proxy days as non-event, non-holiday, non-weekend days which display average temperature (F), maximum temperature (F), and Cooling Degree Days (CDD) that fall within the range of corresponding values seen on demand response event days. The Evaluators used these defined proxy days to determine the ability of CBL models to predict actual usage for each customer.

15.3.2 Net Impact Methodologies

In demand response programs, it is typically assumed that there are neither spillover nor free-ridership effects (customers are not expected to curtail without participating). Furthermore, participants are compensated only if they reduce their load during the peak demand window, the primary program goal. As such, the net-to-gross ratio for this program is assumed to be 100%.

15.4 Evaluation Findings

The results of the impact evaluation for Method 1 (AMI) are provided in the following sections.

15.4.1 EM&V Method 1 (AMI) Impact Results

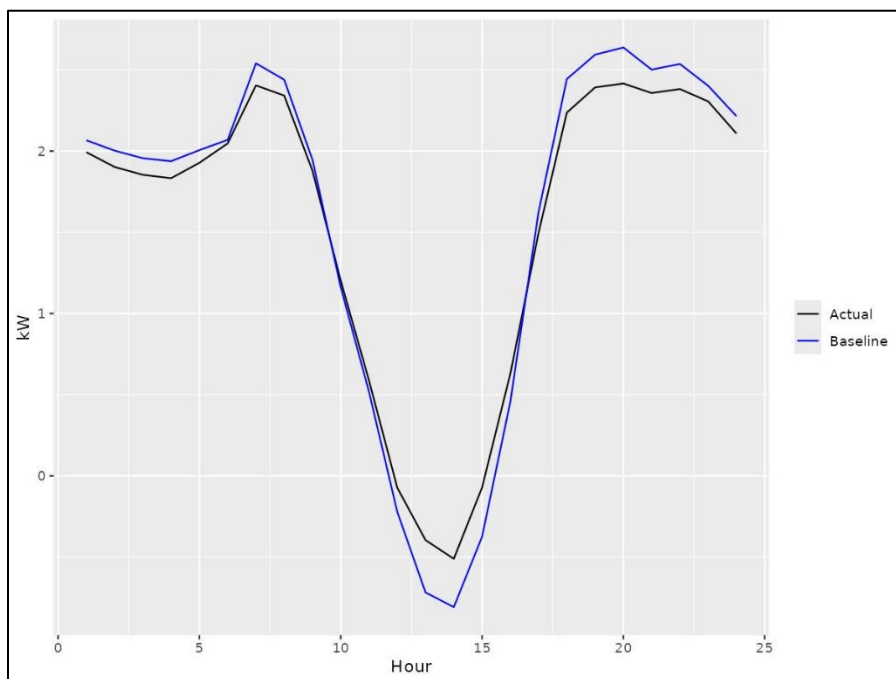
EM&V Method 1 used interval data and allowed the Evaluators to estimate peak demand impacts from batteries discharged during demand response events because the AMI data contained all imported and exported kWh values. Critically, these values included kWh from battery discharge to the grid. In addition, exported kWh values

account for any solar output sent to the grid while imported kWh accounts for recharging batteries after demand response events¹⁴.

Imported kWh values were positive when the customer was receiving energy from the grid, while exported kWh values were positive when the customer was providing kWh to the grid. In general, participants were either importing or exporting during a given interval, such that imported kWh was positive and exported kWh was zero or vice versa, however, because intervals spanned 15 minutes, it was possible for a participant to have positive values for both imported and exported kWh values during a given interval.

15.4.1.1 Load Shapes and Model Performance

The figures below provide average load shapes for each program on average proxy days and event days and depict actual kW and baseline kW for the selected baseline model for EM&V Method 1. The figures show that baseline kW is a good match for actual kW during the hours of curtailment on the average proxy day. The Evaluators utilized 24 proxy days due to the small number of participants and the variability of participant loads¹⁵.



¹⁴ All import and export values are in aggregate such that the Evaluators cannot determine individual contributions from consumption, solar generation, or battery charge and discharge.

¹⁵ Many participants had solar generation which results in more variable net consumption, all else equal. In addition, solar generation lowers net consumption during daylight hours which has an impact on bias calculations by bringing net consumption closer to zero.

FIGURE 15-1 RESIDENTIAL BATTERY PILOT AVERAGE PROXY DAY LOAD SHAPE

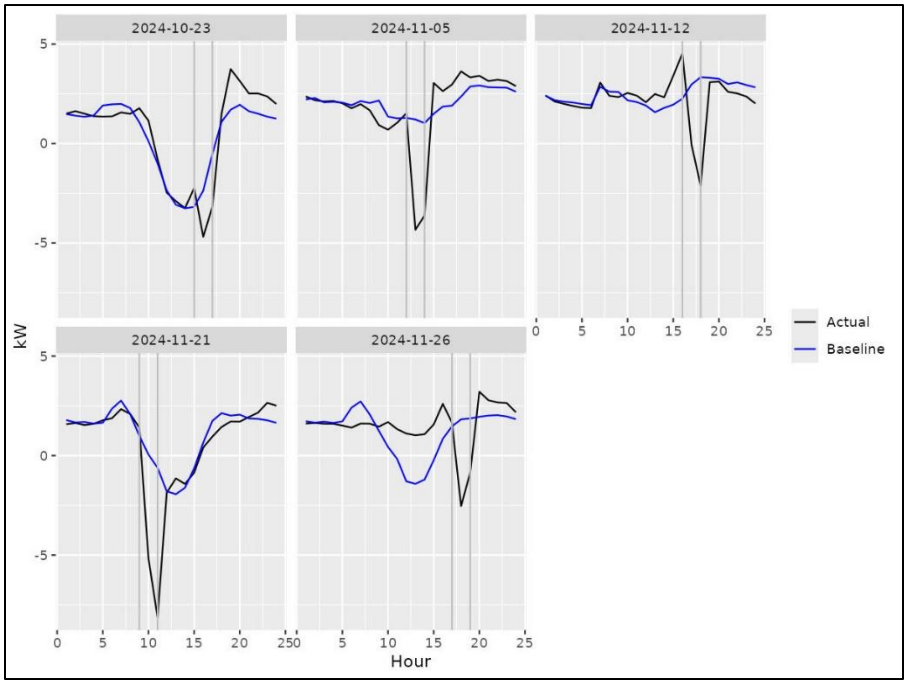


FIGURE 15-2 RESIDENTIAL BATTERY PILOT AVERAGE EVENT DAY LOAD SHAPES

The Evaluators estimated bias and error for the Evaluators MISO models for all participants and when applied on a site-specific basis and selected for the model with the lowest bias. As shown in the table below, the MISO SMA Adjusted CBL 5-of-5 model performed the best and had the lowest bias and error for the Residential Battery Pilot program.

TABLE 15-9 MODEL FIT AND BIAS

Model	Follow MISO Protocols	RRMSE	RMSE	Bias	Selected Model
MISO_SMA_Adjusted_CBL.5.of.5	X	0.185	0.227	-0.18%	X
MISO_WSA_Adjusted_CBL.10.of.10	X	0.240	0.294	1.36%	
MISO_SMA_Adjusted_CBL.10.of.10	X	0.170	0.209	1.63%	
MISO_Unadjusted_CBL.5.of.5	X	0.262	0.322	2.10%	
MISO_WSA_Adjusted_CBL.5.of.5	X	0.255	0.313	3.84%	
MISO_Unadjusted_CBL.10.of.10	X	0.257	0.316	5.92%	

15.4.1.2 Impact Findings

Using the kW per participant results from the PY14 evaluation, the Evaluators calculated the PY15 kW reduction for EM&V Method 1. Per-participant savings were applied to all 116 customers who participated in PY15. Results are shown below in the table below.

TABLE 15-10 TOTAL GROSS RESIDENTIAL BATTERY PILOT DEMAND REDUCTIONS

Ex Ante Average Savings per Participant	Number of Participants	Ex Ante Total Program kW Reduction	Average Savings per Participant (kW)	Total Program kW Reduction	Realization Rate
4.260	116	494.16	4.9124	569.84	115%

15.4.2 Gross Impact Findings

Using results from EM&V Method 1, the Evaluators calculated the PY15 kW reduction. Results are shown below in the table below.

TABLE 15-11 TOTAL GROSS RESIDENTIAL BATTERY PILOT DEMAND REDUCTIONS

Ex Ante Average Savings per Participant	Number of Participants	Ex Ante Total Program kW Reduction	Average Savings per Participant (kW)	Total Program kW Reduction	Realization Rate
4.260	116	494.16	4.9124	569.84	115%

The overall verified kW reduction is 569.84 kW.

15.4.3 Net Impact Findings

For demand response programs, net savings equals gross savings.

TABLE 15-12 TOTAL RESIDENTIAL BATTERY PILOT NET DEMAND REDUCTION RESULTS

Gross kW Reduction	Net-to-Gross Ratio	Net Demand Reduction
569.84	100%	569.84

15.4.4 Non Energy Benefits Findings

There were no NEBs identified in this program.

15.4.5 Process Findings

The Evaluators conducted a process evaluation of the BESS program in PY15. Process activities included a database review, participant survey, and staff and implementer interviews.

In total, 31 customers completed the participant survey for the Residential Battery Pilot. Respondents are more affluent, likely reflecting the cost of the batteries needed to participate.

TABLE 15-13 BATTERY PILOT RESPONDENT DEMOGRAPHICS (N=31)

Home Type	
Single Family Home	93.6%
Multi Family Home	3.2%
Business	3.2%
Home Owner Status	
Own	93.6%
Own and Rent to Someone Else	3.2%
Prefer not to answer	3.2%
Education	
Postgraduate degree	67.7%
College degree	29.0%
Income	
\$50,001 to less than \$75,000	6.5%
\$75,001 to less than \$100,000	3.2%
\$100,001 to less than \$150,000	16.1%
\$150,001 to less than \$200,000	29.0%
More than \$200,000	29.0%

15.4.5.1 Program Design and Implementation

PY15 marked the third year of the Residential Battery Pilot Program, which enrolls residential customers with interconnected battery systems such as Tesla and Enphase units. These customers typically use solar generation to charge their batteries and reduce reliance on Entergy New Orleans. Events are usually scheduled a day in advance so batteries can reach optimal charge levels. During an event, batteries discharge until they reach a customer-set reserve level, which is typically set at 20%. Program staff noted that dispatch patterns differ by

manufacturer: Tesla systems use Opticaster to maintain a flat discharge profile, while Enphase systems show more variability and gradual decline.

EnergyHub provides the software platform for enrollment, dispatch, and performance tracking. Entergy oversees application review, customer verification, and event scheduling. The program uses a pay-for-performance model with no upfront incentives; customers are compensated seasonally based on delivered kW. Residential participants can earn up to \$600, and commercial participants up to \$1,800.

The pilot is expanding to include Franklin whole-home batteries, and a proposed Phase 3 filing introduces an upfront incentive option. Program staff confirmed the pilot was relaunched through the end of 2025 with the same design and dispatch structure used in late 2024. No operational changes occurred in PY15. EnergyHub continues to manage dispatch but now contracts directly with Entergy rather than through the broader third-party administrator.

Interconnected batteries allow ENO to temporarily shift customers to stored energy during grid emergencies, reducing demand and supporting grid stability. When capacity allows, ENO can also draw stored energy to help meet peak system needs. The pilot's purpose is to evaluate the feasibility and performance of a demand response battery program.

15.4.5.2 *Marketing and Outreach*

Marketing for BYOB occurs through:

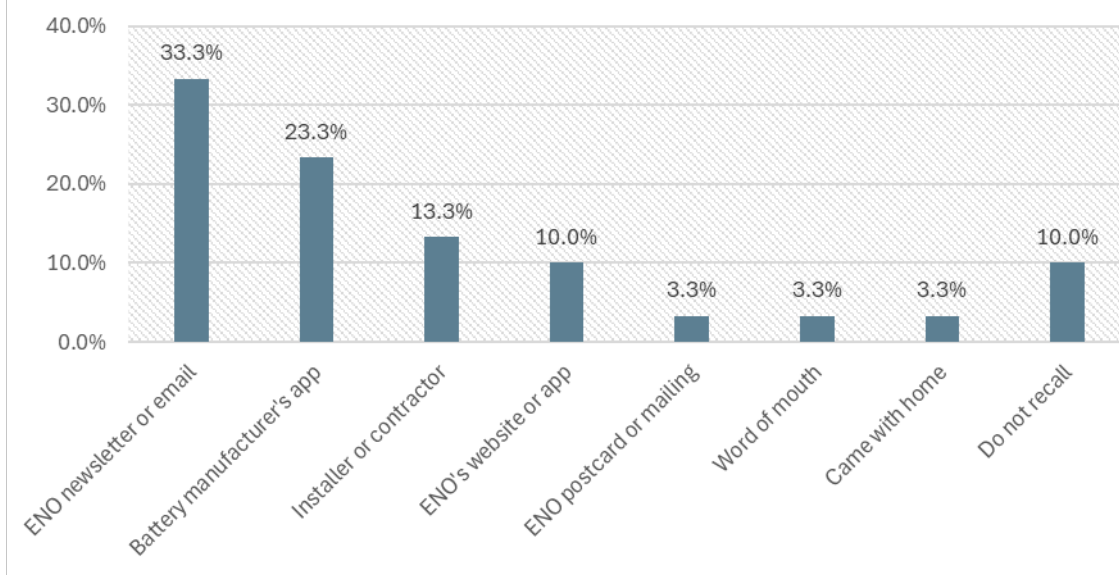
- In-app messaging within OEM platforms (Tesla, Enphase)
- Energy Smart microsite with program details
- Occasional launch emails (e.g., Tesla welcome campaigns)

EnergyHub coordinates messaging language and push notification timing with OEM partners, but does not manage large-scale marketing campaigns.

Fewer than half of respondents (46.7%) recalled learning about the program through ENO's outreach. Of those, 33.3% cited an ENO newsletter or email, 10.0% referenced ENO's website or app, 3.3% recalled receiving a postcard or mailing, and none reported hearing about the program through social media. Several respondents also mentioned a general lack of clear information from ENO about how the program functions. The following section examines sources of program awareness in greater depth.

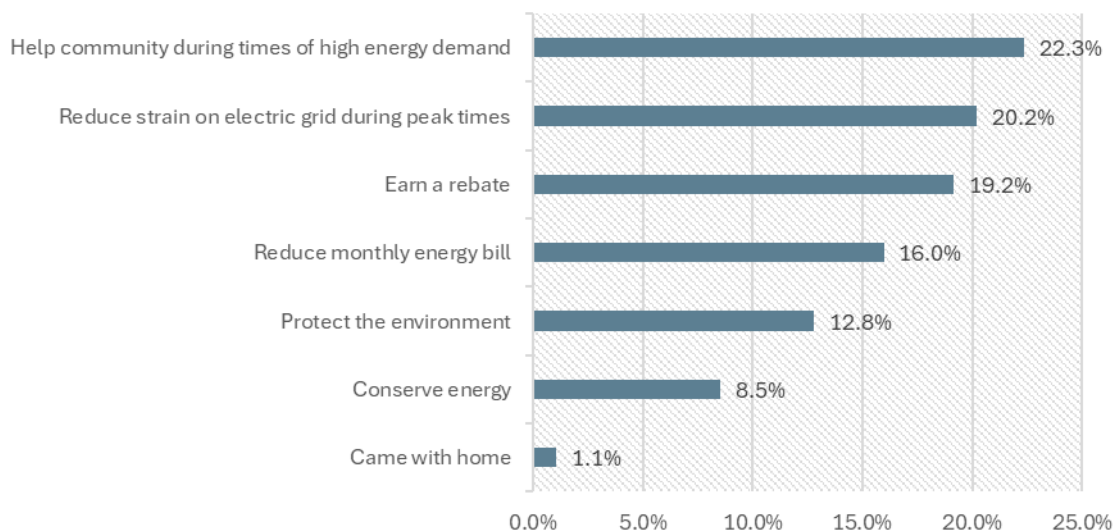
Beyond ENO's direct outreach, 23.3% became aware of the program through a battery manufacturer's app, and 13.3% heard about it from an installer or contractor. Smaller shares learned about it through word of mouth (3.3%) or because the system came with their home (3.3%). Another 10.0% did not recall how they first heard about the program.

FIGURE 15-3 SOURCES OF PROGRAM AWARENESS (N=30)



Participants cited a range of motivations for joining the program, with community- and grid-focused reasons emerging as important considerations. The most common motivation was helping the community during periods of high energy demand (22.3%), followed closely by reducing strain on the electric grid during peak times (20.2%). Financial and environmental considerations also played a significant role: 19.2% participated to earn a rebate, 16.0% to lower their monthly energy bills, and 12.8% to protect the environment. A smaller share joined to conserve energy (8.5%), and only one respondent (1.1%) indicated that participation was simply because the system came with their home.

FIGURE 15-4 REASONS FOR PARTICIPATING (N=31)



Additionally, only 12.9% of respondents said the Battery Storage Pilot played only a minor role in their decision to install a battery, while most indicated the program had no bearing on their choice. Instead, their decisions

were driven by practical and financial considerations: having backup power during outages (29.5%), storing power generated on site (23.2%), saving money on electric bills (19.0%), and supporting clean energy (17.9%) were the most commonly cited reasons for installing a battery.

15.4.5.3 *Participation in Program Offerings*

15.4.5.3.1 *Participant Journey Overview*

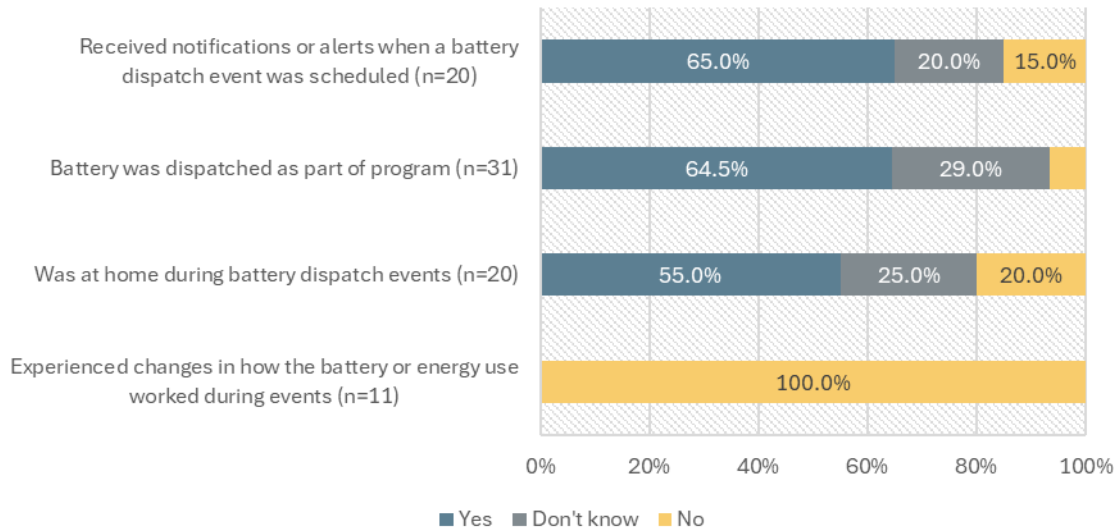
Below are the steps of the customer enrollment process.

1. Customers enroll via their battery manufacturer's app (Tesla or Enphase).
2. Enrollment data is passed to EnergyHub's platform for intake.
3. Entergy reviews and approves applications, confirming eligibility.
4. Participants receive periodic communications through the OEM app or email.
5. During events, batteries discharge down to a 20% reserve, either offsetting home load or exporting to the grid.
6. Incentives are calculated based on average performance (kW) and issued annually.

15.4.5.3.2 *Battery Dispatch Events*

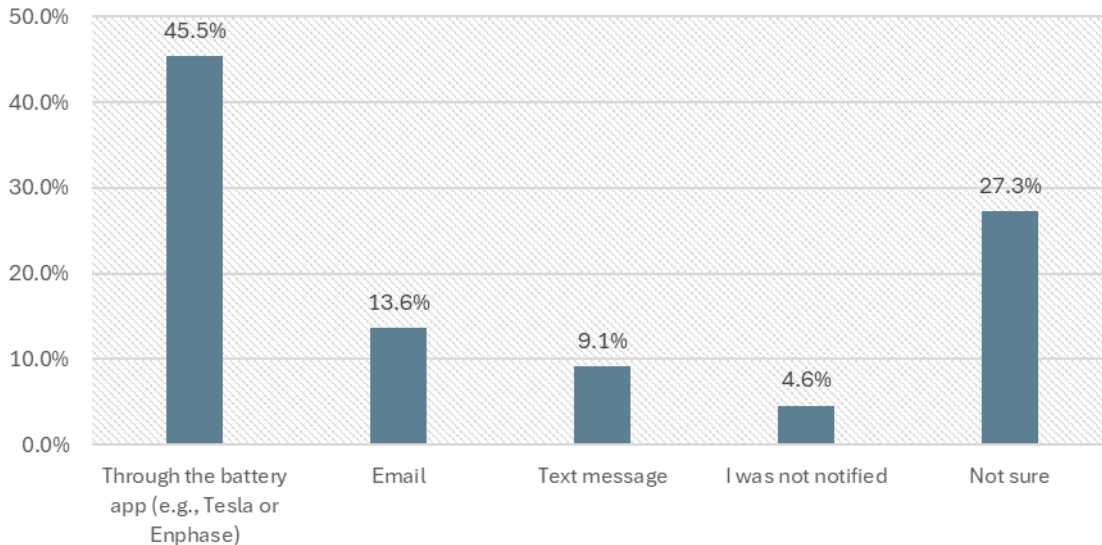
Most (87.1%) respondents said it was easy to enroll in the program. However, once enrolled, respondents sometimes struggled to navigate the program. For example, survey responses suggest that most participants had limited direct interaction with or awareness of battery dispatch events. Among the small group who reported on system performance during events, none experienced noticeable changes in how their battery or energy use functioned. Just over half (55.0%) were at home during at least one dispatch event, while a quarter were unsure. Most respondents (64.5%) believed their battery had been dispatched as part of the program, though nearly a third were not certain. Similarly, 65.0% said they received notifications or alerts when a dispatch was scheduled, while others either did not recall receiving them or reported receiving none.

FIGURE 15-5 RESPONDENT EXPERIENCE WITH BATTERY DISPATCH EVENTS



Most respondents who received dispatch notifications got them through their battery manufacturer’s app, with 45.5% citing platforms such as Tesla or Enphase. Smaller shares reported receiving alerts by email (13.6%) or text message (9.1%). A few participants (4.6%) said they were not notified at all, while more than a quarter (27.3%) were unsure whether they had received any notifications.

FIGURE 15-6 EVENT NOTIFICATIONS (N=22)

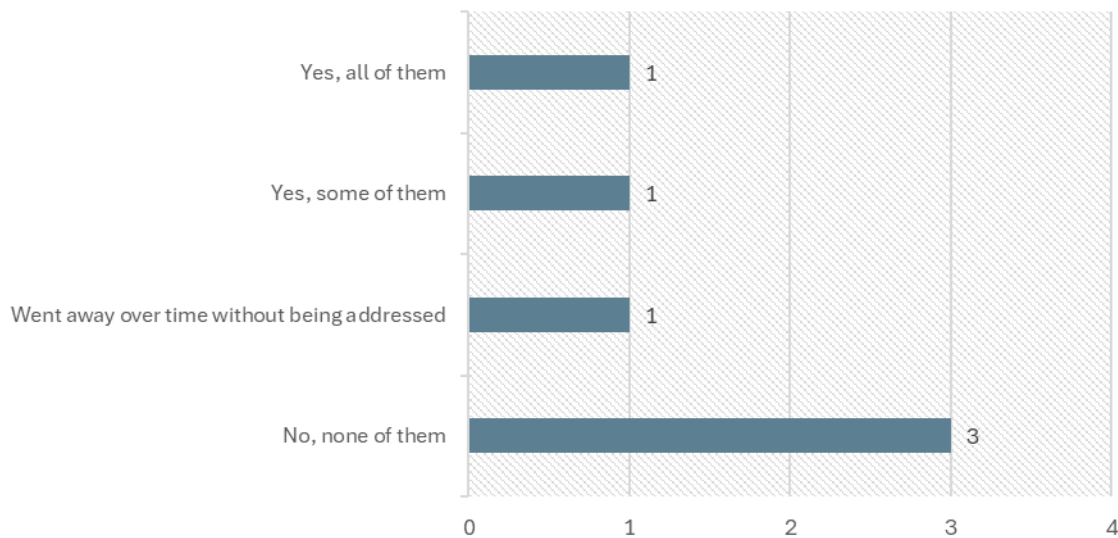


Only one respondent opted out of an event, and they could not remember why. However, two respondents said they did not know that opting out was an option.

15.4.5.4 Participant Experience and Satisfaction

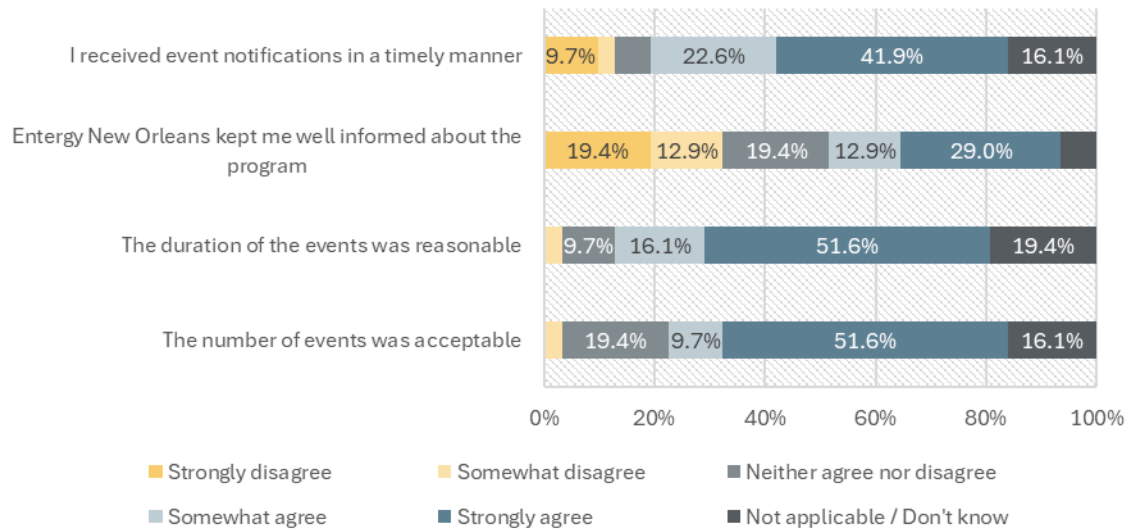
Nineteen percent of respondents reported having concerns when deciding whether to participate in the Battery Storage Program. Among the six individuals who expressed reservations, data privacy and the sharing of information with third parties were the most common worries, cited by four respondents. Three were unsure how participation might affect their backup power during an outage and were unclear about the payment structure or incentives, and two were uncertain about whether they would be able to opt out of the program. After enrolling, half of these respondents said their concerns remained unaddressed: three reported that none of their concerns were resolved, while one said their concerns faded over time without being directly addressed. The remaining two respondents indicated that at least some of their concerns were resolved, with one saying all concerns were fully addressed.

FIGURE 15-7 OUTCOME OF RESPONDENT CONCERNS (N=6)



Survey responses indicate that most participants were satisfied with the operational aspects of battery dispatch events but had more mixed views on program communication. A strong majority agreed that both the number of events (61.3% somewhat or strongly agreed) and the duration of events (67.7% somewhat or strongly agreed) were reasonable. However, perceptions of communication were more divided. While 29.0% strongly agreed that Entergy New Orleans kept them well informed, a combined 32.3% disagreed, and another 19.4% neither agreed nor disagreed. Timeliness of notifications was viewed more favorably, with 64.5% agreeing they received alerts promptly, though a notable share (12.9%) disagreed or strongly disagreed, and 16.1% said the question did not apply to them or they did not know.

FIGURE 15-8 RESPONDENT EVENT SATISFACTION (N=31)



Only four of the 31 respondents contacted ENO with a question or issue in the past year. Among them, ratings of the thoroughness of staff responses varied, from one to four out of five, and two noted that the responses were not timely. Despite these experiences, all but one respondent said they were likely to participate in the program again next year. Overall satisfaction with the ENO Battery Storage Program was high: 41.9% reported being extremely satisfied, and another 35.5% rated their satisfaction between 7 and 9 out of 10. Among those who were less satisfied, concerns centered primarily on communication challenges, particularly around event notifications and clarity about how participation affected their bills.

15.5 Data Tracking Review

In PY15, the Evaluators reviewed the program tracking data and found it contained all the information required to complete the program evaluation.

15.6 Key Findings and Recommendations

Findings:

Enrollment and dispatch operations function smoothly, but participants have limited visibility into how the program works day-to-day. Enrollment is easy for most participants (87.1%), and dispatch events generally occur without noticeable disruption. However, many respondents are unsure whether their battery was dispatched, whether they received notifications, or how to interpret event activity. Roughly one-third are uncertain about notifications, and several do not know that opting out is possible. This suggests that while the technical side of dispatch is stable, the customer-facing experience is largely invisible. **This lack of visibility is primarily a feature and not a bug.** It signals that the dispatch is not having a noticeable impact on the households participating. Nevertheless, given the community/social oriented motivations of participants, communicating information on the contributions of the dispatch to participants could improve their perception of the service.

- **Motivations are primarily community- and grid-oriented, but communication gaps leave some participants with unresolved concerns.** Participants joined primarily to support the grid and help the community, with financial and environmental motivations also meaningful. Yet 19% had concerns at enrollment, mostly about data privacy, backup power impacts, and incentive structure, and half of those say their concerns were never addressed. Communication ratings are mixed: about one-third disagree that they were kept well informed, and another one-fifth are neutral.
- **Satisfaction is high overall, but participants want clearer communication about event notifications and incentive calculations.** Overall satisfaction is strong (77.4% rating 7–10), and nearly all respondents intend to participate again. However, dissatisfaction centers on communication, particularly unclear notifications, uncertainty about how participation affects bills, and lack of transparency around performance-based incentives. Participants currently receive no event-level feedback and only learn their seasonal incentive at the end of the year.

Recommendations:

- **To strengthen participant awareness and engagement, the program should provide clearer, periodic touchpoints that explain when events occurred, how enrolled batteries responded, and what participants can expect going forward.** Even brief summaries delivered through OEM applications or email could help participants feel more connected to the program without requiring substantial operational changes. Communications could emphasize the collective, pro-social benefits of participation, which aligns with participant-reported motivations for enrolling in the program. Examples include:
 - Grid support during peak conditions: Collective battery discharge helped reduce system load during high-demand periods, supporting grid reliability.
 - Program scale and participation: Messages could note the number of participating customers or total aggregated capacity that responded during an event to contextualize individual contributions.
 - Alignment with stated motivations: Communications could acknowledge that many participants enroll to support community energy goals or grid stability, reinforcing that this objective is being met.
 - Program credibility and transparency: Event summaries that show how batteries were used and the role participants played may increase trust in program operations and outcomes.
- **To reinforce trust and clarity, consider offering brief, proactive explanations of key topics such as data use, backup power behavior during events, and how incentives are calculated.** These clarifications could be incorporated into onboarding materials or OEM-delivered notifications, helping ensure that participants' initial concerns are acknowledged and addressed.

16 ELECTRIC VEHICLE PILOT

16.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, incentive spend, and *ex post* net NEBs, by measure, where applicable.

TABLE 16-1 PY15 ELECTRIC VEHICLE PILOT ENERGY SAVINGS (kWh)

Measure	<i>Ex ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex post</i> Gross Savings (kWh)	NTG	<i>Ex post</i> Net Savings (kWh)
EV Charging	0	N/A	0	N/A	0
Total	0	N/A	0	N/A	0

Sums may differ due to rounding.

TABLE 16-2 PY15 ELECTRIC VEHICLE PILOT DEMAND REDUCTIONS (kW)

Measure	<i>Ex ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex post</i> Gross Demand (kW)	NTG	<i>Ex post</i> Net Demand (kW)
EV Charging	N/A	N/A	155.61	100%	155.61
Total	N/A	N/A	155.61	100%	155.61

Sums may differ due to rounding.

TABLE 16-3 PY15 ELECTRIC VEHICLE PILOT LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex post</i> Net Lifetime Energy Savings (kWh)
EV Charging	1	0	0
Total	1	0	0

Sums may differ due to rounding.

TABLE 16-4 PY15 ELECTRIC VEHICLE PILOT PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
EV Charging	398	\$23,117.00
Total	398	\$23,117.00

Sums may differ due to rounding.

TABLE 16-5 PY15 ELECTRIC VEHICLE PILOT NEB SUMMARY

Measure	<i>Ex post</i> Net ARCs (\$)	<i>Ex post</i> Net Water Savings (gallons)	<i>Ex post</i> Net Avoided Arrearages
EV Charging	\$0	0	\$0
Total	\$0	0	\$0

Sums may differ due to rounding.

16.2 Program Description

PY13 marked the first year of the “Bring Your Own Charger” (BYOC) program. This demand response pilot seeks to shift EV charging load to off-peak hours using a predetermined charging schedule. Sagewell uses software to

identify potential EV chargers and invites them to participate in the program. Customers receive a monthly incentive for participating in the program. To qualify, customers must charge their car during off-peak hours at least three times a month and cannot override the charging schedule more than four times a month.

The program seeks to enroll 350 cars over the three-year pilot. Target audience is single-family home residents with level-2 chargers.

16.2.1 Program Changes

PY15 was the third year for the BYOC offering. No changes were made to the program in PY15.

16.2.2 Timing of Projects

All new enrollments occurred from July to December 2025.

16.2.3 Trade Allies

There were no reported trade allies in this program.

16.2.4 Goal Achievement

The table below summarizes the programs' performance against goal.

TABLE 16-6 EV PILOT PERFORMANCE TOWARDS GOAL

<i>Ex post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex post</i> Gross Energy Savings (kWh)	<i>Ex post</i> Gross Savings (kW) Target	% to kW Target	<i>Ex post</i> Gross Savings (kW)
0	N/A	0	1,580	11%	155.61

16.3 EM&V Methodology

16.3.1 Gross Impact Methodologies

In the evaluation of demand response programs, energy savings are estimated by comparing a participant's load shape with a baseline load shape. This baseline load is assumed to be a good estimate of the counterfactual load—that is, the load that would have manifested in the absence of the program. The Evaluators created the baseline load from a matched control group of customers with electric vehicles.

16.3.1.1 Data Collection

Data used for this evaluation include the following:

- 15-minute interval meter data (AMI) for each participant.
- A full schedule of DR program event dates and times for all DR programs (DR event dates were excluded).
- Program tracking data that identifies which customers participated in the program.
- Program tracking that identifies potential control customers.

16.3.1.2 Cohort and Study Period Definitions

The following definitions were utilized for the study period:

- Pre-period start date: 06/1/2023.
- Pre-period end date: 7/20/2023.
- Post-period: Summer 2025 (June – September).
- Dates when DR events were called were excluded from the pre- and post-periods because dual enrollment in other DR programs could impact usage and create biased impact estimates if treatment and control customers enroll or opt-out in other DR programs at different rates. Two dates were excluded from the post-period, while five dates were excluded from the pre-period.

The Evaluators restricted the study period to the summer months to measure peak kW reductions for the program. In addition, the program was expected to only shift load and not result in energy savings, therefore, there was not a need to extend the study period beyond the summer months. Furthermore, keeping the study period close to the enrollment dates of the participant would help ensure that customers had EV charging in the pre- and post-periods.

The study cohort was created using the following requirements:

- Participants were actively enrolled in the program.
- The participant enrolled in the program after the pre-period end date (see above) and before the post-period start date. This allowed for the accumulation of participants between July 16, 2023, and May 31, 2025.
- Potential control group customers were identified from the following sources: 1) Customers receiving the Electric Vehicle Supply Equipment (EVSE) rebate with no enrollment in the EV Pilot, 2) customers with the EVSE rebate and either incomplete enrollment in the EV Pilot and 3) customers identified by Sagewell as having an EV by observing EV charging patterns in their interval meter AMI data.
- Treatment and potential control customer AMI data must be 99% complete during the study period.

16.3.1.3 Control Group Creation

For each treatment premise in the participant population, a corresponding control group premise was selected such that the pre-period consumption patterns are as closely matching as possible.

The Evaluators utilized the following matching methods to develop control groups:

- Method 1: Propensity Score Matching (PSM) using pre-period weekday and weekend hourly load shapes. PSM utilizes a logistic function to predict the probability of belonging to the treatment group. Customers were matched using the nearest neighbor algorithm, with 1 treatment customer for 2 control customers (e.g., a matching ratio of 2) and matching with replacement of control customers. Customers were exactly matched based on low/high total consumption and low/high maximum demand during the pre-period.
- Method 2: Euclidian distance matching using each customer's frequency distribution of hourly pre-period energy usage (kWh), selecting the control customer with the minimum distance.
- Method 3: Vector angle distance matching using each customer's frequency distribution of hourly pre-period energy usage (kWh), selecting the control customer with the minimum distance.

With the PSM approach (Method 1), a propensity score is estimated for treatment customers and a group of customers who did not receive the treatment using a logit model. Two additional matching strategies were

explored based on industry best practices¹⁶ historically utilized by the Evaluators. These approaches reduced meter data for evaluated premises to a normalized histogram curve that describes a premise's normal usage pattern in a single vector of values; an example is shown in

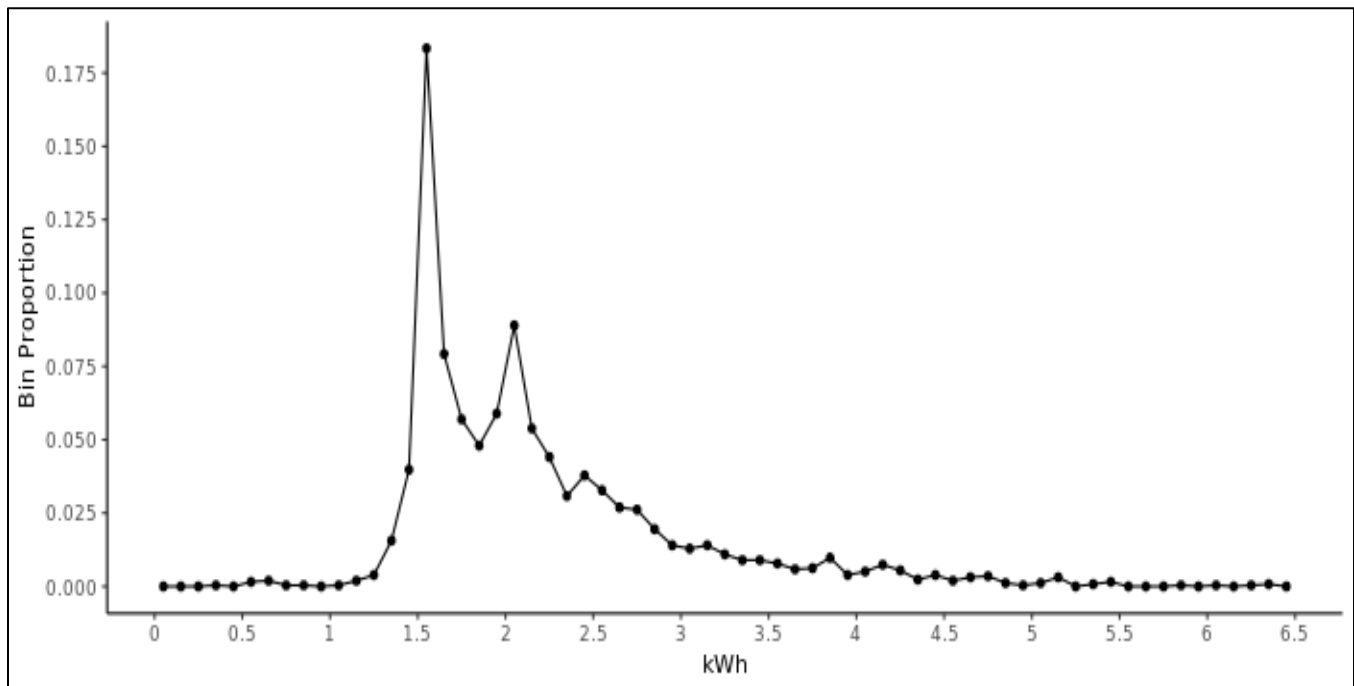


Figure 16-1. This approach has been found to optimize retention of both general consumption patterns and magnitudes in a condensed, easily comparable form. The Euclidean distance, the “ordinary” straight-line distance between two points in space denoted as d in the first equation below, for each set of premise values was calculated to determine matches by finding the treatment-control pair that had a minimum value d relative to other possible control premises. The bold letters, $\mathbf{q}$ and $\mathbf{p}$, denote vectors where each represents a single premises’ summarized consumption data; non-bold cases with number subscripts indicate a specific index position in each vector.

¹⁶ McBride, C. *Finding the Perfect Baseline: Advanced Time Series Control Group Matching Strategies on Energy Consumption*. IEPEC 2019.

EQUATION 16-1: EUCLIDEAN DISTANCE MATCHING

$$d(\mathbf{q}, \mathbf{p}) = \sqrt{\sum_{i=1}^n (q_i - p_i)^2} = \sqrt{(q_1 - p_1)^2 + (q_2 - p_2)^2 + \dots + (q_n - p_n)^2}$$

EQUATION 2: VECTOR ANGLE DISTANCE MATCHING

$$\theta(\mathbf{q}, \mathbf{p}) = \cos^{-1}\left(\frac{\sum_{i=1}^n q_i * p_i}{\sqrt{\sum_{i=1}^n q_i * q_i} * \sqrt{\sum_{i=1}^n p_i * p_i}}\right)$$

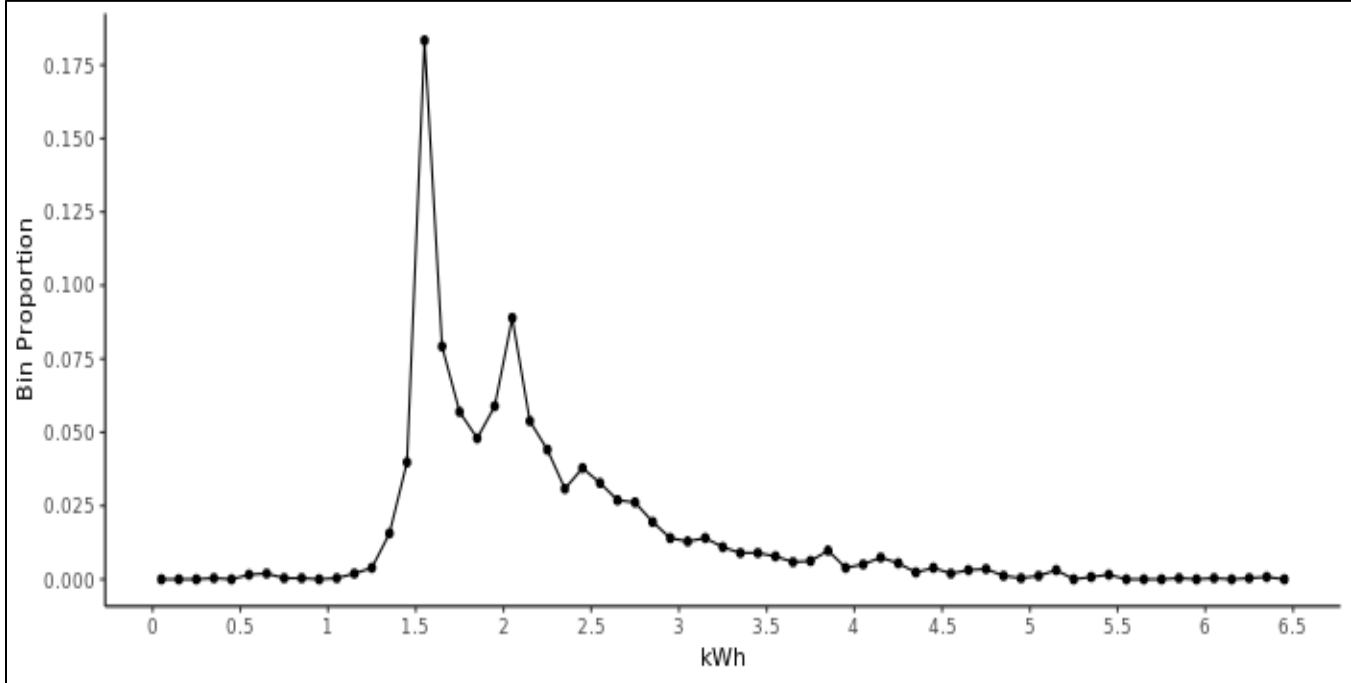


FIGURE 16-1: AVERAGE HOURLY ENERGY NORMALIZED HISTOGRAM BIN PROPORTIONS

To measure remaining error and bias after matching, the Evaluators utilized the Coefficient of Variation of Root Mean Squared Error (CV(RMSE)) to measure error and Normalized Mean Bias Error (NMBE) to measure bias¹⁷.

16.3.1.4 Savings Calculations and Extrapolation

The Evaluators expected no energy savings (kWh) for the Electric Vehicle Pilot because the program was designed to shift EV charging away from the peak period toward off-peak hours.

¹⁷ ASHRAE Guideline 14-2014. Measurement of Energy, Demand, and Water Savings.

The Evaluators calculated peak demand reductions (kW) by comparing usage in the post-period between matched control group customers and program participants (treatment customers). The post-period was defined as the period after which a large proportion of customers had enrolled in the program.

The peak demand reduction per participant (kW) was estimated during ENO's peak demand window according to the equation below.

Peak Demand Reduction (kW) per Participant

$$= \left(\sum_{h=1}^n \text{Average Control Customer } kW_h - \text{Average Treatment Customer } kW_h \right) / (\# \text{ of Peak Hours})$$

Where,

h = an indicator for peak hour h ;

Average Control Customer kW_h = average kW during peak hour h across all matched control customers during the post-period;

Average Treatment Customer kW_h = average kW during peak hour h across all treatment (participant) customers during the post-period;

Because electric vehicle loads were not weather sensitive in the selected post-period, the entire post-period was utilized when averaging hourly control and treatment customer usage.

The Average Peak Demand Reduction (kW) was extrapolated to the total number of participants that enrolled in the Pilot in PY15.

16.3.1.5 Cross Program Participation Adjustments

The Evaluators expected cross program participation with other DR programs for the EV Pilot. However, since the EV Pilot does not call DR events and instead causes participants to shift their EV charging away from the peak on any day of the week, no cross-program participation adjustments were made. This was determined by noting that MISO baselines for event-based DR programs would include any load shifting from the EV Pilot for customers with dual enrollment, because MISO baselines are based on prior-day averaging. In addition, the Evaluators removed all DR event days from other DR programs from the study period for the EV Pilot to avoid double counting or creating bias in the EV Pilot impact estimates.

16.3.2 Net Impact Methodologies

In demand response programs, it is typically assumed that there are neither spillover nor free-ridership effects (customers are not expected to curtail without participating). As such, the net-to-gross ratio for this program is assumed to be 100%.

16.4 Evaluation Findings

16.4.1 Matched Control Group Findings

Table 16-7 details the treatment and control cohort sizes before and after matching.

TABLE 16-7 COHORT SIZES BEFORE AND AFTER MATCHING

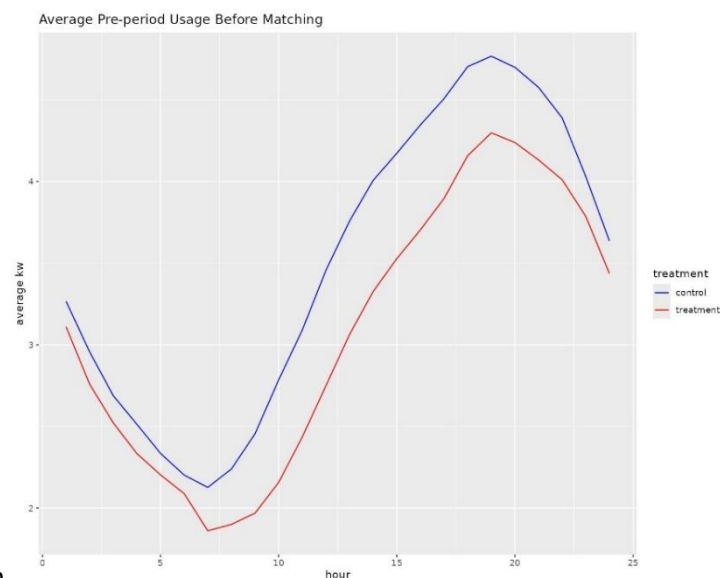
Matching Method	Number of Treatment Customers	Number of Potential Control Customers	Number of Matched Treatment Customers	Number of Matched Control Customers
Method 1 (PSM)	364	370	202	74
Method 2 (Euclidian)	364	370	247	66
Method 3 (Vector Angle)	364	370	247	69

Table 16-8 compares the matching methods using several statistical methods applied to the pre-period data after matching. The Evaluators selected Method 3 (Vector Angle) as the most suitable matching method because it showed lowest error (RRMSE), lowest bias (NMBE) and showed no statistically significant difference between treatment and control average pre-period usage after matching.

TABLE 16-8 MATCHING METHOD COMPARISON

Matching Method	Average Treatment Pre-Period Usage (kW), After Matching	Average Control Pre-Period Usage (kW), After Matching	P-Value (Welch's T-Test)	RRMSE	NMBE
Method 1 (PSM)	3.02	2.87	0.00	0.138	5.19%
Method 2 (Euclidian)	3.07	3.20	0.00	0.096	-4.11%
Method 3 (Vector Angle)	3.07	3.08	0.74	0.079	-0.42%

The figures below provide average pre- and post-period hourly usage before and after matching for the selected



matching method (Vector Angle). As shown in

Figure 16-2, there are large differences between the control and treatment groups before matching, while in

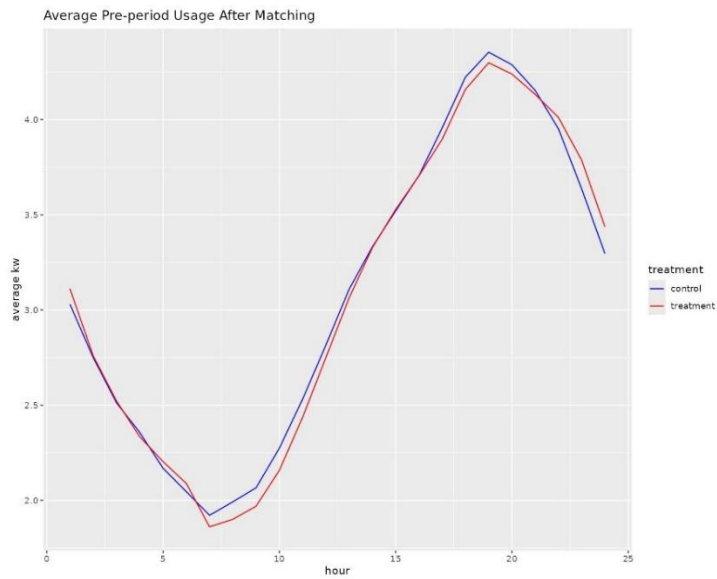


Figure 16-3, there is little difference in pre-period usage remaining after matching.

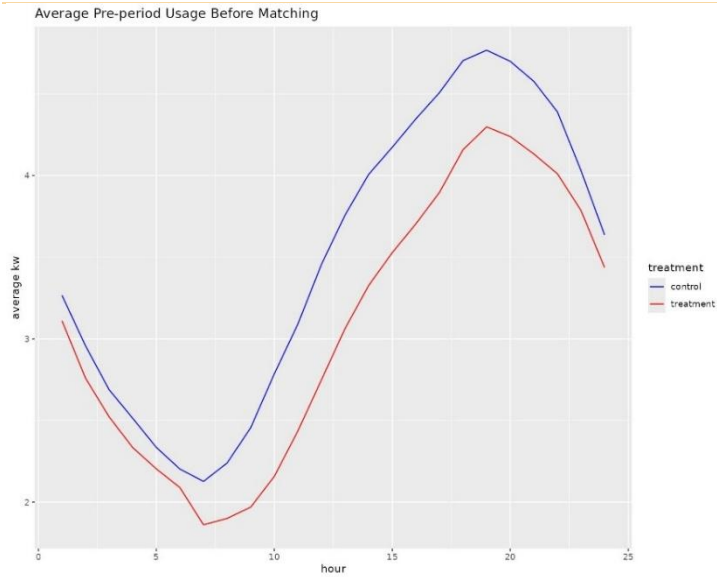


FIGURE 16-2 AVERAGE PRE-PERIOD USAGE BEFORE MATCHING

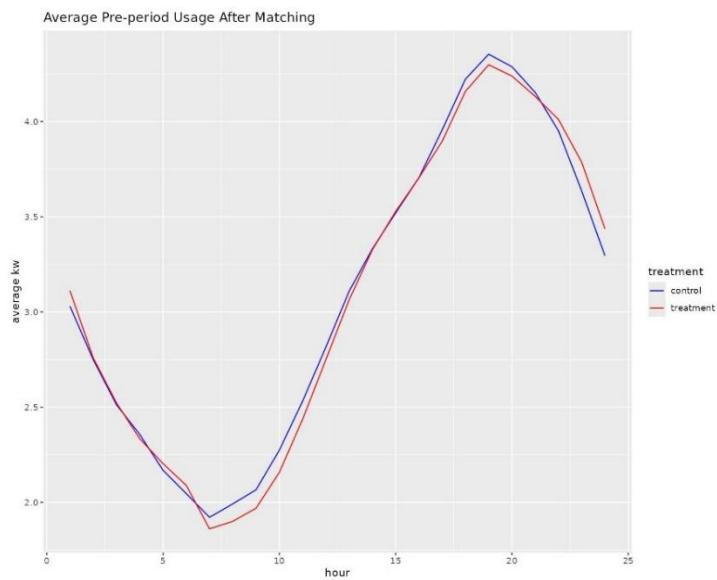


FIGURE 16-3 AVERAGE PRE-PERIOD USAGE AFTER MATCHING

16.4.2 Gross Impact Findings

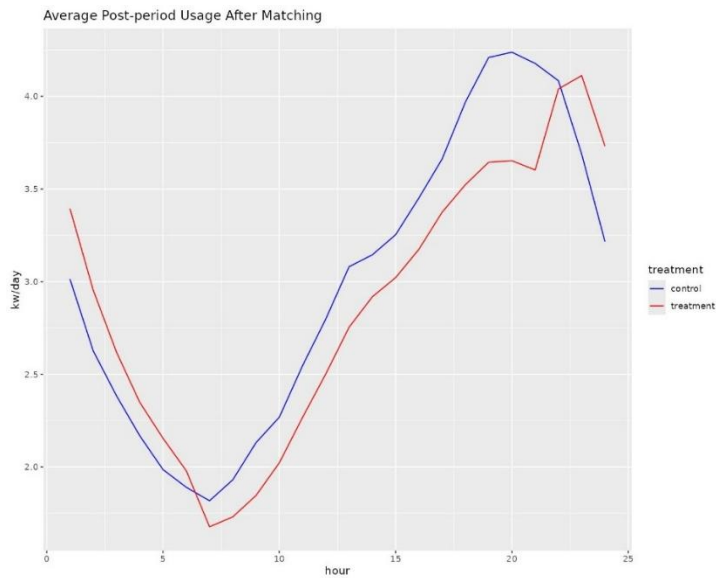


FIGURE 16-4 displays average post-period usage for the treatment and control groups after matching. The EV pilot required participants to charge their EV's during the off-peak hours from 9 PM to 6 AM on weekdays, and any time on weekends and holidays. The load shift is clearly visible during these hours, with increased usage between 9 PM and 6 AM, and decreased usage between 6 AM and 9 PM. As expected, the Evaluators found no statistically significant kWh savings and peak kW reductions were not a function of temperature (F) in the study post-period.

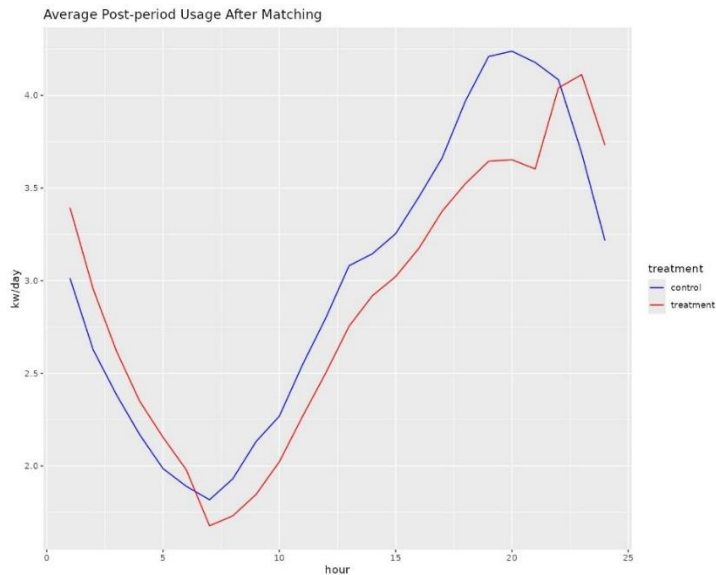


FIGURE 16-4 AVERAGE POST-PERIOD USAGE AFTER MATCHING

Table 16-9 provides average hourly kW reductions on weekdays in the post-period using the matched cohort. The largest kW reductions occur between 3 PM and 9 PM CDT and overlap with the peak period.

TABLE 16-9 PEAK kW REDUCTIONS BY HOUR, WEEKDAYS

Hour Ending (CDT)	Average Treatment Post-Period Usage (kW), After Matching	Average Control Post-Period Usage (kW), After Matching	% Change kW Usage	Absolute Change kW Usage
1	3.39	3.01	11.21%	0.38
2	2.95	2.63	11.09%	0.33
3	2.62	2.38	8.99%	0.24
4	2.35	2.17	7.69%	0.18
5	2.15	1.99	7.84%	0.17
6	1.98	1.89	4.50%	0.09
7	1.68	1.82	-8.39%	-0.14
8	1.73	1.93	-11.55%	-0.20
9	1.85	2.13	-15.45%	-0.29
10	2.02	2.27	-12.19%	-0.25
11	2.27	2.55	-12.30%	-0.28
12	2.50	2.80	-11.85%	-0.30
13	2.75	3.08	-11.86%	-0.33
14	2.92	3.14	-7.77%	-0.23
15	3.02	3.25	-7.66%	-0.23
16	3.17	3.45	-8.73%	-0.28
17	3.37	3.66	-8.52%	-0.29
18	3.52	3.97	-12.65%	-0.45
19	3.64	4.21	-15.52%	-0.57
20	3.65	4.24	-16.03%	-0.59
21	3.60	4.18	-15.96%	-0.57
22	4.04	4.08	-1.10%	-0.04
23	4.11	3.69	10.31%	0.42
24	3.73	3.22	13.79%	0.51

Using results from the matched control group, the Evaluators calculated the PY15 kW reduction. Results are shown below in the table below. The Evaluators utilized the same peak period hours used for demand response program DR events when calculating the peak kW reduction, namely, 3 PM to 7 PM CDT. The peak kW reductions are statistically significant at the 99.99% level.

TABLE 16-10 TOTAL GROSS EV PILOT DEMAND REDUCTIONS

Measure	Average kW Reduction per Participant per Unit	Average kW Reduction per Participant	Number of Electric Vehicles	Number of Participants	Total Program kW Reduction

EV Charging	0.390992	0.484782	398	364	155.61
Total	0.390992	0.484782	398	364	155.61

The overall verified kW reduction is 155.61 kW.

The Evaluators estimated an average reduction per participant of 0.484782 kW.

16.4.3 Net Impact Findings

For demand response programs, net savings equals gross savings.

TABLE 16-11 TOTAL EV PILOT NET DEMAND REDUCTION RESULTS

Gross kW Reduction	Net-to-Gross Ratio	Net Demand Reduction
155.61	100%	155.61

16.4.4 Non Energy Benefits Findings

There were no NEBs identified in this program.

16.4.5 Process Evaluation Findings

The Evaluators conducted a process evaluation of the BYOC program in PY15. Process activities included a database review, participant interviews, and staff and implementer interviews.

Evaluators conducted a total of 38 in-depth, one-on-one interviews with 38 EV owners who participated in the BYOC program in PY15. The interviews lasted approximately 45 minutes and took place between October 03 - 31, 2025.

TABLE 16-12 BYOC RESPONDENT DEMOGRAPHICS (N=38)

Housing		Ethnicity	
Single Family Home	84%	Caucasian / White	53%
Multi Family Home	13%	African American / Black	18%
Condo	3%	Asian	13%
		Hispanic / Latino	8%
Own	95%	Mixed / Multiple races	8%
Rent	5%		
Gender		Education	
Male	76%	Postgraduate degree	53%
Female	24%	College degree	37%
Age range	30-79	Some college	8%
Average age	50	High School or less	3%

16.4.5.1 Program Design and Implementation

The BYOC program is a residential EV load shifting pilot that encourages customers to schedule their home EV charging during off-peak hours (9:00 PM – 6:00 AM on weekdays, excluding holidays) using their vehicle’s built-in timer or compatible app. Participants earn a flat \$7 monthly incentive for meeting two requirements:

1. Charging exclusively off-peak.
2. Completing at least three Level 2 charging sessions per month.

Customers are allowed up to three schedule overrides each month. No incentives are awarded in months when either requirement is not met, but participants remain enrolled. Program implementation is managed by Sagewell, which handles all customer-facing activities, enrollment review, data analysis, and incentive processing.

The program relies exclusively on AMI data to verify participation and does not involve hardware installation, apps, or direct utility control. A passive load-shifting model is used, though Sagewell has proposed future expansion to telematics-based active control for non-AMI participants (e.g., multifamily and workplace chargers).

Program staff described the EV Pilot offering as a passive managed charging program focused on long-term demand response impacts by shifting EV load to off-peak hours. They emphasized the value of getting customers into the program early to establish consistent off-peak charging habits before widespread adoption increases grid stress. Staff clarified that no time-of-use (TOU) rates are currently in place, as the regulator has not moved forward with a TOU docket.

The primary barrier the program addresses is peak-hour electricity demand strain on the grid. The program overcomes this by providing financial incentives that make off-peak charging attractive while allowing three monthly exceptions for emergency daytime charging.

"It is essentially a rewards program for charging my electric vehicle at hours when the electrical demand is lower. And I get money back for that."
– EV owner, BYOC participant

Implementation involves minimal utility staff interaction. Participants enroll online through Entergy's website, submit screenshots of scheduled charging settings, and receive automated quarterly payments via Venmo, PayPal, or check. Participants described the enrollment process as straight-forward, easy and quick, taking as little as 10 minutes to complete the process.

"I feel like it was a real straightforward sign up and then I had to upload the invoice for the charger and the installation and then I think I had to send a screenshot of the scheduling piece on the charger itself. So, it was simple...15 minutes"
– EV Owner, BYOC Participant

Approval occurs within days to weeks, though communication about enrollment status varies. Some participants report unclear confirmation processes and didn’t know they were properly enrolled until they received their first incentive payment.

Quality assurance relies on smart meter monitoring to track charging patterns and kilowatt usage. However, some participants experienced monitoring issues, noting problems when charging at slower rates.

"I was purposely charging it at the slower rate because I thought that was better for my battery and it was fast enough for me. So for the first few months they said, 'well, you're not charging. I said yes, I am'... the meter was not able to detect that I was charging electric vehicle during those hours, even though I was." – EV Owner, BYOC Participant

16.4.5.1.1 Marketing and Outreach

Marketing and recruitment are managed jointly by Sagewell and Entergy. Outreach strategies include:

- The Energy Smart website
- Follow-up communication with customers receiving Entergy's EVSE (E-Tech) rebate
- Direct emails to likely EV owners identified via Sagewell's EV Finder tool, which uses AMI data to detect charging signatures

Sagewell updates the EV Finder quarterly and sends targeted recruitment emails to high-priority prospects, prioritizing customers charging at high rates (e.g., 7–11 kW) during peak hours. Additional marketing ideas under consideration include dealership outreach, trade ally engagement (e.g., electricians), and community events.

Participants consistently recommend increased advertising and strategic partnerships to improve program visibility, however, marketing may have been limited because the program is currently fully subscribed.

"I just think the biggest thing is they're not pushing the program. You don't see advertisement for it anywhere." – EV Owner, BYOC Participant

The program targets EV owners but lacks proactive outreach to this specific audience. Many participants found the program accidentally while seeking charger installation rebates.

"I was doing the research, and I came across a website out there that seems to kind of track national incentives." – EV Owner, BYOC Participant

Participants report little ongoing communication with Entergy beyond quarterly payment notifications. Effectiveness of marketing strategies is limited due to low awareness.

16.4.5.1.2 Participant Awareness and Motivation

Participants engage primarily through self-directed research while seeking EV incentives, motivated by financial benefits and environmental goals. Limited program awareness is the primary barrier, while technical and procedural barriers remain minimal due to the program's simple design and alignment with existing charging behaviors.

Participants typically discover the BYOC program through three main pathways: researching EV incentives online, receiving Entergy email communications, or finding it while applying for charger installation rebates. Many were actively seeking such programs due to prior knowledge from other states.

"I think it was on a Facebook post in the Louisiana EV Enthusiast ...And there were a few people discussing it and they were sharing the links to where you can go and get more information." – EV Owner, BYOC Participant

Primary motivations combine financial incentives with environmental consciousness. While the \$7 monthly payment is modest, participants enjoy the "free money" aspect. Those who associate the initial install rebate with the program say that was a large motivating factor.

"Well, the rebate, because I think we got like a \$250 rebate on the purchase of the charger, and then of course, the monthly incentive, the quarterly incentive."
– EV Owner, BYOC Participant

"What made it appealing was like, oh, wow, somebody's gonna give me money for paying for this." – EV Owner, BYOC Participant

Environmental factors also drive participation.

"It's more environmental than anything. Don't get me wrong, every dollar is a dollar these days, but the \$21 is not a huge incentive." – EV Owner, BYOC Participant

The program aligns well with existing charging habits, as most EV owners already charge at night for convenience.

Knowledge barriers are significant, with one participant describing the program as "quite buried" on the website. In combination with limited program awareness, there is also some skepticism about Entergy's reliability.

"I was a little skeptical because this Entergy, so I wasn't sure if it would work as they say it did, but everything seems fine." – EV Owner, BYOC Participant

16.4.5.1.3 Participation in Program Offerings

16.4.5.1.3.1 Participant Journey Overview

Customer participation follows a straightforward digital process:

1. Customers enroll through a short online application and submit a screenshot of their EV charging schedule set between 9:00 PM and 6:00 AM.
2. Sagewell verifies eligibility and account data with Entergy, and confirms the charging schedule.
3. Customers charge their EVs at home according to the set schedule.
4. AMI data is analyzed monthly to confirm off-peak compliance and minimum charging frequency.
5. If both requirements are met, a \$7 incentive is issued quarterly. If not, customers receive a notification with feedback.

16.4.5.1.3.2 Charging Patterns

Customers can override their charging schedule up to three times per month without penalty. Enrollment does not require a smart charger or mobile app; participation is verified passively via meter data.

Participation involves minimal ongoing effort with high compliance rates among engaged users. Technical monitoring challenges and workplace charging alternatives represent the primary factors affecting consistent participation and payment receipt. The program works best for participants with regular home charging patterns and predictable schedules.

Once initial enrollment is complete, participants set charging schedules through their vehicle or charger apps, plug in their vehicles, and receive automated quarterly payments.

"I don't think I did anything other than set the timer on my charger to just start charging it. I think I'm at 10:15 and then finish by 6am." – EV Owner, BYOC Participant

Patterns vary by vehicle type and driving habits. Plug-in hybrid owners need to charge more frequently due to smaller batteries whereas full EV owners typically charge less frequently but for longer durations. Some high-mileage drivers face challenges keeping their charges to just nights because of how frequently they need to charge.

"I probably have gotten it 50% of the months that I participated...I will go through almost a full battery in a day due to my work." – EV Owner, BYOC Participant

However, most participants are fine staying within the parameters of the program, with many never using their three-monthly exceptions for off-peak charging.

"I've maybe charged three or four times off peak in almost two years...Usually for me, if that happens, I've driven a long distance a day or two in a row where I can get the charge or I was away from home like that, I didn't get the charge. That's usually the only thing that would happen for me." – EV Owner, BYOC Program

Factors influencing uptake include existing charging infrastructure, predictable schedules, and home ownership. The program is better suited for single-family homeowners, particularly those with a driveway, for easy access to personal electrical outlets. Non-participation reasons include insufficient home charging due to workplace availability, technical monitoring issues, or simply not needing to charge enough to meet the program's minimum requirements.

"I honestly charge maybe once or twice a month...often I get like the notice saying I didn't qualify for that month." – EV Owner, BYOC Participant

"I often charge here at work, so I haven't really gotten many credits, but that's probably my own doing." – EV Owner, BYOC Participant

16.4.5.1.4 Participant Experience and Satisfaction

Sagewell provides phone and email support for customer onboarding and schedule troubleshooting. Participants who fail to meet program criteria are notified with an explanation and encouraged to adjust. Customers are not removed from the program for noncompliance unless they request to withdraw.

Participant satisfaction appears high based on retention and survey results. A 2024 participant survey yielded a Net Promoter Score of 62, indicating high satisfaction compared to typical utility benchmarks. As of May 2025, the program retained 98% of customers year over year and had 316 active participants (~30% of estimated grid-impacting EV owners in the ENO service territory).

Interviewees express high satisfaction with the program's simplicity and automated operation, though they desire improved communication transparency and recommend increased marketing outreach. The modest financial incentive is generally viewed as fair given the minimal effort required, though some question whether the amount adequately compensates for scheduling restrictions.

Participants report high satisfaction with the program's simplicity and ease of navigation. The enrollment process is consistently described as straightforward and user-friendly. When they did interact with Entergy staff, the experiences were positive.

*"It was pretty clear. I didn't have any issue regarding the application process."
– EV Owner, BYOC Participant*

"The gentleman who worked with me was really helpful... He talked to me over the phone, took my phone calls because I'm more of like a phone person than emailing back and forth." – EV Owner, BYOC Participant

Communication quality post-enrollment receives mixed reviews. Many did not receive initial confirmation that they were enrolled in the program. While payment notifications are generally clear and timely, participants want more transparency about program status and charging compliance, especially if they're expecting to receive the incentive but they don't.

*"I've had so many instances of Entergy claiming that I didn't do what they wanted, so I get no incentive... They say 'you didn't get the incentive because you didn't charge enough.' I charge. I charge at least twice a week... That's at least eight times a month... And yet there's no dashboard that tells you how you're doing or why any of this happens."
– EV Owner, BYOC Participant*

*"The actual functionality of the page where you manage your account, after you manage to find it and log in, is not very good. The actual consumption doesn't really update."
– EV Owner, BYOC Participant*

Most participants view the incentive as a small payment for small effort situation and are okay with that. Those that think of the \$7 monthly incentive as a means to offset the cost of buying and owning an electric vehicle are unhappy with the incentive amount. Those participants that have a hard time adapting to the schedule of the program or feel inconvenienced by it are also less satisfied with the \$7 monthly payment and recommend something closer to \$20/month.

"Seven dollar per month is not really a big amount for me to consider my conveniency versus the payout for it." – EV Owner, BYOC Participant

"I feel that the \$7 rebate that I'm getting back every month for following a very strict schedule of the off-peak hours and weekends is not an adequate reimbursement for that inconvenience." – EV Owner, BYOC Participant

Those charging primarily at home view the program favorably, while workplace chargers see limited benefit, but also limited effort on their part. In the end, overall satisfaction is high, with most participants rating likelihood to recommend at 5 out of 5.

*"Definitely a five. I mean, definitely extremely likely... my friend who also has a Tesla, I just told her, I was like, you need to look into it."
– EV Owner, BYOC Participant, when asked about recommending the program.*

16.5 Data Tracking Review

The Evaluators reviewed the tracking data and found no issues. AMI data was provided which allowed the Evaluators to estimate program impacts.

16.6 Key Findings and Recommendations

The following summarizes the key findings from the PY15 evaluation.

- Performance of EV Pilot: The EV Pilot attained 10% of its ex-post demand reduction (kW) target.
- Creation of Matched Control Group: The Evaluators successfully established a matched control group for the baseline counterfactual, enhancing the accuracy of the evaluation.
- Statistically Significant Peak kW Reductions: The EV Pilot demonstrated statistically significant peak kW reductions, achieving an average reduction of 0.48 kW per participant.
- Target Achievement Projection: The program did not meet its demand reduction target of 1,580 kW in PY15.
- Enrollment Challenges & Market Uncertainty: The program did not meet its PY15 enrollment goal with 364 participants.
- Participant Satisfaction & Compliance: Enrolled customers generally follow charging schedules and receive the full incentive, suggesting that the program is effective for those who do participate. However, limited awareness and unclear enrollment barriers hinder broader adoption.
- **The program is simple, low-friction, and well-aligned with existing charging habits, but awareness is limited and many participants discover it only by accident.** Enrollment is consistently described as quick

and straightforward, and the program aligns naturally with how most EV owners already charge—overnight, at home, using built-in scheduling tools. This makes participation easy and compliance high among those with predictable home charging patterns. However, awareness is low: many participants found the program only while researching charger rebates, browsing EV incentive websites, or through EV owner groups. Marketing is largely digital and passive, and participants repeatedly note that the program is “buried” on the website or not advertised.

- **Participants value the program’s ease and “free money” appeal, but communication gaps—especially around enrollment status and compliance—create confusion for some users.** Participants praise the program’s simplicity and automated operation, and retention is extremely high (98%). Yet communication after enrollment is inconsistent. Several participants did not know they were officially enrolled until receiving their first payment. Others were unsure why they did or did not qualify in a given month, citing unclear feedback, lack of a dashboard, or difficulty finding program information online. Monitoring issues—particularly for slow-rate charging—also contribute to confusion when participants believe they complied but do not receive the incentive.
- **Satisfaction is high overall, but perceptions of incentive adequacy vary depending on charging patterns and lifestyle fit.** Most participants view the \$7 monthly incentive as fair given the minimal effort required, and many recommend the program enthusiastically. However, participants who charge frequently, rely on workplace charging, or have unpredictable schedules find it harder to meet the requirements and are less satisfied with the incentive amount. Some suggest that the payment does not fully compensate for the inconvenience of adhering to a strict schedule, while others—who already charge off-peak—see it as easy supplemental income.

The Evaluators have the following recommendations after completing the PY15 evaluation.

- **Hourly Aggregation of Interval AMI Data:** Interval AMI data should undergo aggregation to hourly intervals based on the hour ending datetime. It is imperative that usage is not aggregated across more than one hour. For instance, data ending at 4 PM should exclusively represent usage from 3 PM to 4 PM, ensuring accurate measurement and analysis.
- **Procurement of Potential Control Customers:** For future program years, the procurement of potential control customers should follow the same methodology utilized in PY15. This includes sourcing control customers from various channels such as Sagewell’s EV Finder algorithm, individuals who enrolled after the program year commenced, and participants who initiated but did not complete the enrollment process. This approach ensures consistency and reliability in selecting control groups for evaluation purposes.
- **Adjust Demand Reduction Targets To Compliment Enrollment Targets:** In previous years, the Evaluators found that the program only achieved approximately 20% of its demand reduction target of 525 kW. The program has made significant progress to meet its enrollment goal this year, however, the significant increase to the demand savings target has caused the demand savings percentage to drop down to 10%. The Evaluators recommend adjusting demand reduction expectations to align with a more gradual adoption rate to help set achievable goals while ensuring steady program growth.
- **To expand participation, strengthen targeted outreach to EV owners—**such as clearer cross-promotion with charger rebates, dealership partnerships, or more visible placement on Entergy’s EV pages. Even

modest improvements in discoverability could help reach customers who are already well-positioned to participate without changing the program's simple design.

To support a smoother participant experience, consider reinforcing clarity around enrollment confirmation, compliance status, and how AMI monitoring works. Options might include a simple confirmation email, clearer monthly feedback when requirements are not met, or a basic online status page. These small improvements could reduce frustration without adding complexity to the passive program model.

To strengthen perceived value across diverse charging patterns, clarify the program's intent as a light-touch behavioral nudge rather than a high-value bill-offsetting incentive. Providing examples of typical participant profiles or explaining why the incentive is structured as it is, could help set expectations. Over time, the program may also consider whether different incentive tiers or telematics-based participation options could better accommodate households with varied charging needs.

17 LARGE C&I DEMAND RESPONSE

17.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend.

TABLE 17-1 PY15 LARGE C&I DR ENERGY SAVINGS (KWH)

Measure	<i>Ex Ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Savings (kWh)	NTG	<i>Ex Post</i> Net Savings (kWh)
DR Participation	191,063	92%	175,337	100%	175,337
Total	191,063	92%	175,337	100%	175,337

Sums may differ due to rounding.

TABLE 17-2 PY15 LARGE C&I DR DEMAND REDUCTIONS (KW)

Measure	<i>Ex Ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand (kW)	NTG	<i>Ex Post</i> Net Demand (kW)
DR Participation	16,042.60	82%	13,218.20	100%	13,218.20
Total	16,042.60	82%	13,218.20	100%	13,218.20

Sums may differ due to rounding.

TABLE 17-3 PY15 LARGE C&I DR LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
DR Participation	1	175,337	175,337
Total	1	175,337	175,337

Sums may differ due to rounding.

TABLE 17-4 PY15 LARGE C&I DR PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation	Incentive Spend (\$)
DR Participation	38	\$941,515
Total	38	\$941,515

Sums may differ due to rounding.

17.2 Program Description

The Large C&I Demand Response (Large C&I DR) program is designed to help reduce the strain on the electric grid during periods of peak demand. The automated program is free, flexible, and easy to use. The program provides scaled incentives based on the load provided (with seasonal payments in summer and winter). Customers nominate the load they will provide in collaboration with Honeywell (the program implementer) and

may provide the curtailment with automated controls or via manual curtailment of the proposed systems. Curtailed systems may include HVAC, lighting, industrial processes, or any other applicable end-use.

17.2.1 Program Delivery Channels and Expected Savings

Incentives are based on twice-yearly payments based on average demand reduction across all events during a performance period (\$50/kW for summer, \$10/kW for non-summer).

Motivation to participate varies from customer-to-customer, and program staff noted that they will tailor their sales pitch to meet this variety. Some customers are driven by the financial incentive, while others look at participation purely from a sustainability standpoint. However, program staff emphasized that lowering energy costs are not a main selling point, as it could just be one outcome of the program, not a main driver. Being able to return to in-person engagement has really helped the program this year and seen as an overall success. Additionally, being able to present to larger hospitals in the area, paving the way for enrollment for new program year, has also been a huge success.

The program did not hit the demand reduction target of 24,110 kW in PY15.

17.2.2 Timing of Projects

All projects occurred from June to August.

17.2.3 Trade Allies

There were no reported trade allies in this program.

17.2.4 Goal Achievement

The table below summarizes the programs' performance against goal.

TABLE 17-5 LARGE C&I DR PERFORMANCE TOWARDS GOAL

<i>Ex Post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex Post</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Savings (kW) Target	% to kW Target	<i>Ex Post</i> Gross Savings (kW)
0	NA	175,337	24,110.00	54.8%	13,218.20

17.3 EM&V Methodology

The Evaluators employed the following approach to complete impact evaluation activities for the program. The Evaluator followed the Calculated Baseline approach outlined in the Midcontinent Independent System Operator, Inc. (MISO) Business Practices Manual (BPM)¹⁸. The following impact evaluation steps were taken to determine the suitability of the MISO Calculated Baseline approach:

¹⁸ *Ibid.*

- Developed an Unadjusted Consumption (UC) Baseline, a Symmetric Multiplicative Adjustment (SMA) Baseline, and a Weather Sensitive Adjustment (WSA) Baseline for each program participant. Loads were calculated utilizing 15-minute AMI data.
- Determined days that will serve as proxy days for testing the suitability of the baseline approach. Proxy days represent days like demand response event days in terms of load shape and temperature profiles.
- Estimated bias (uncertainty) and error on proxy days for each model to assess baseline performance. Bias is assessed by examining the average percent error of the baseline predictions relative to the actual usage on proxy days. In a similar manner, error is assessed through various metrics such as Root Mean Squared Error (RRMSE) using baseline predictions and actual usage on proxy days.
- Assigned the model/baseline with the lowest bias to each customer.
- Assessed bias and error for the entire program population and customers with the largest nominated loads, with the goal of minimizing bias and error for the program overall.

17.3.1 Gross Impact

In the evaluation of demand response programs, energy savings are estimated by comparing a participant's load shape during a demand response event with a baseline load shape. This baseline load is assumed to be a good estimate of the counterfactual load—that is, the load that would have manifested had there not been an event called that day.

17.3.1.1 Data Sources

Data used for this evaluation includes program tracking data that identifies which customers participated in the program and contains data fields such as contract curtailment amount, hourly usage, hourly baseline estimates, 15-minute interval meter data (AMI) for each customer participating in the program, and a full schedule of DR program events, including the time of the event.

17.3.1.2 MISO Calculated Baseline Approach (Customer Baselines)

The following details the general requirements for the MISO Calculated Baseline Approach. The Evaluators developed Customer Baselines (CBLs) in accordance with this approach. For a demand resource, the Consumption Baseline is a profile of hourly demand based on an average sample of historical data which may be adjusted for factors that reflect specific, on-the-day conditions, such as temperature.

The default consumption baseline is designed as follows:

- Separate hourly demand profiles for non-holiday weekdays and for weekends/holidays
- The “weekday” hourly profile is based on the average of the ten (10), but not less than five (5), most recent weekdays that are not holidays or other non-standard “event” days
- The “weekend/holiday” hourly profile is based on the average of the four (4), but not less than two (2), most recent weekend days or holidays that are not “event” days
- An “event” day is one during which there was, for the resource in question, a real-time energy or ancillary services dispatch, or a scheduled outage
- The maximum look-back window is limited to 45 days
- If the 45-day window contains insufficient days to meet the minimum number of days described above, the profiles are constructed based on the available days within the 45-day window that qualify,

supplemented by the largest (MW) matching “event” day(s) values for that resource within that same window as necessary to obtain the minimum number of values.

Adjustment mechanisms to the default Consumption Baseline include:

- Symmetric Multiplicative Adjustment (SMA)
 - Adjusts each baseline hourly value (MW) during the event up or down by the ratio of
 - (a) the sum of hourly demands for the three hours beginning four hours prior to the event and
 - (b) the sum of those same three hourly baseline demands
 - The adjustment is limited to a change in any individual baseline hour of plus or minus 20 percent.
 - If multiple events occur during the same day, the SMA is calculated only for the first event, but applied to all events that day.
- Weather Sensitive Adjustment (WSA)
 - Adjusts each baseline hourly value (MW) up or down by a Weather Adjustment Factor
 - The Weather Adjustment Factor is determined by a mathematical relationship derived through a regression analysis that considers the DRR load and historical hourly temperature data.

17.3.1.3 Evaluators MISO Models

The following CBL models were developed for each customer in accordance with MISO protocols.

For a 10-of-10 (or 5-of-5) unadjusted baseline, the Evaluators examine the load data from the most recent ten (or five) non-event, non-holiday weekdays relative to the event day and calculate the mean demand usage values of the ten (or five) highest load days. This baseline is then adjusted for the SMA and WSA models utilizing the method described in Section 17.3.1.2.

TABLE 17-6 EVALUATORS’ MISO CBL MODELS

Model Type	Baseline Days	SMA	WSA
Unadjusted	10-of-10	No	No
SMA-Adjusted	10-of-10	Yes	No
WSA-Adjusted	10-of-10	No	Yes
Unadjusted	5-of-5	No	No
SMA-Adjusted	5-of-5	Yes	No
WSA-Adjusted	5-of-5	No	Yes

17.3.1.4 Baseline and Proxy Day Development

The Evaluators defined proxy days as the top four non-event, non-holiday, non-weekend days with the highest loads across all summer months. In addition, proxy days must display a maximum temperature of greater than or equal to the minimum temperature observed during normal curtailment hours during the events. The Evaluators used these defined proxy days to determine the ability of CBL models to predict actual usage for each customer.

17.3.2 Net Impact

In demand response programs, it is typically assumed that there are neither spillover nor free-ridership effects (customers are not expected to curtail without participating). Furthermore, participants are compensated only if they reduce their load during the peak demand window, the primary program goal. As such, the net-to-gross ratio for this program is assumed to be 100%.

17.4 Evaluation Findings

17.4.1 Gross Impact

Six events were called during the summer of 2025 between the hours of 1600 and 1900 CDT, as shown in the table below.

TABLE 17-7 EVENT DATES AND TIMES

Event Dates	Event Times (CDT)
06/12/2025	16:00-18:00
07/22/2025	17:00-19:00
07/23/2025	16:00-18:00
07/28/2025	17:00-19:00
07/29/2025	16:00-18:00
08/19/2025	17:00-19:00

17.4.1.1 Performance Versus Nomination Comparison

The Evaluator compared realized kW for each site with their nominated kW to summarize the extent to which participants have met their nominated load curtailments. The names of sites have been anonymized to protect customer confidentiality.

The ex post gross demand (kW) curtailment as a percentage of nominated load is 76%. Load nominations have consistently been higher than ex post gross demand (kW) on average each program year and the percentage of nominated load falls within a typical range for this kind of DR program.

TABLE 17-8 SITE LEVEL RESULTS

Site	Nominated kW	Ex Post Gross Demand (kW)	% of Nominated Load
Site 1	96	14.09	15%
Site 2	80	32.57	41%
Site 3	74	7.70	10%
Site 4	88	5.69	6%
Site 5	1,500	690.17	46%
Site 6	73	25.14	34%
Site 7	410	601.95	147%
Site 8	339	56.84	17%
Site 9	137	30.01	22%
Site 10	1,500	137.84	9%
Site 11	1,500	523.29	35%
Site 12	405	582.91	144%
Site 13	435	366.57	84%
Site 14	N/A	512.60	N/A
Site 15	550	382.54	70%
Site 16	300	262.45	87%
Site 17	255	143.22	56%
Site 18	56	49.10	88%
Site 19	260	222.50	86%
Site 20	191	35.94	19%
Site 21	87	7.22	8%
Site 22	15	20.80	139%
Site 23	15	5.43	36%
Site 24	89	17.25	19%
Site 25	248	14.39	6%
Site 26	74	32.32	44%
Site 27	10	6.57	66%
Site 28	700	248.06	35%
Site 29	370	2.86	1%
Site 30	7,500	8,144.83	109%
Site 31	10	5.04	50%
Site 32	5	6.85	137%
Site 33	5	4.72	94%
Site 34	5	7.09	142%
Site 35	5	0.79	16%
Site 36	5	7.04	141%
Site 37	5	0.20	4%
Site 38	5	3.60	72%
Total	17,402.00	13,218.20	76%

17.4.1.2 Load Shapes and Model Performance

The figures below are average load shapes for all sites on proxy and event days and depict actual kW and baseline kW. While the figures show that baseline kW is not an exact match for actual kW during the hours of curtailment, the differences are expected to average out, with some days over-estimating the baseline and other days under-estimating the baseline. In addition, the Evaluators determined that the site with the largest usage has erratic loads that are not easily predicted using the agreed-upon MISO models, which depend on either weather or prior usage patterns.

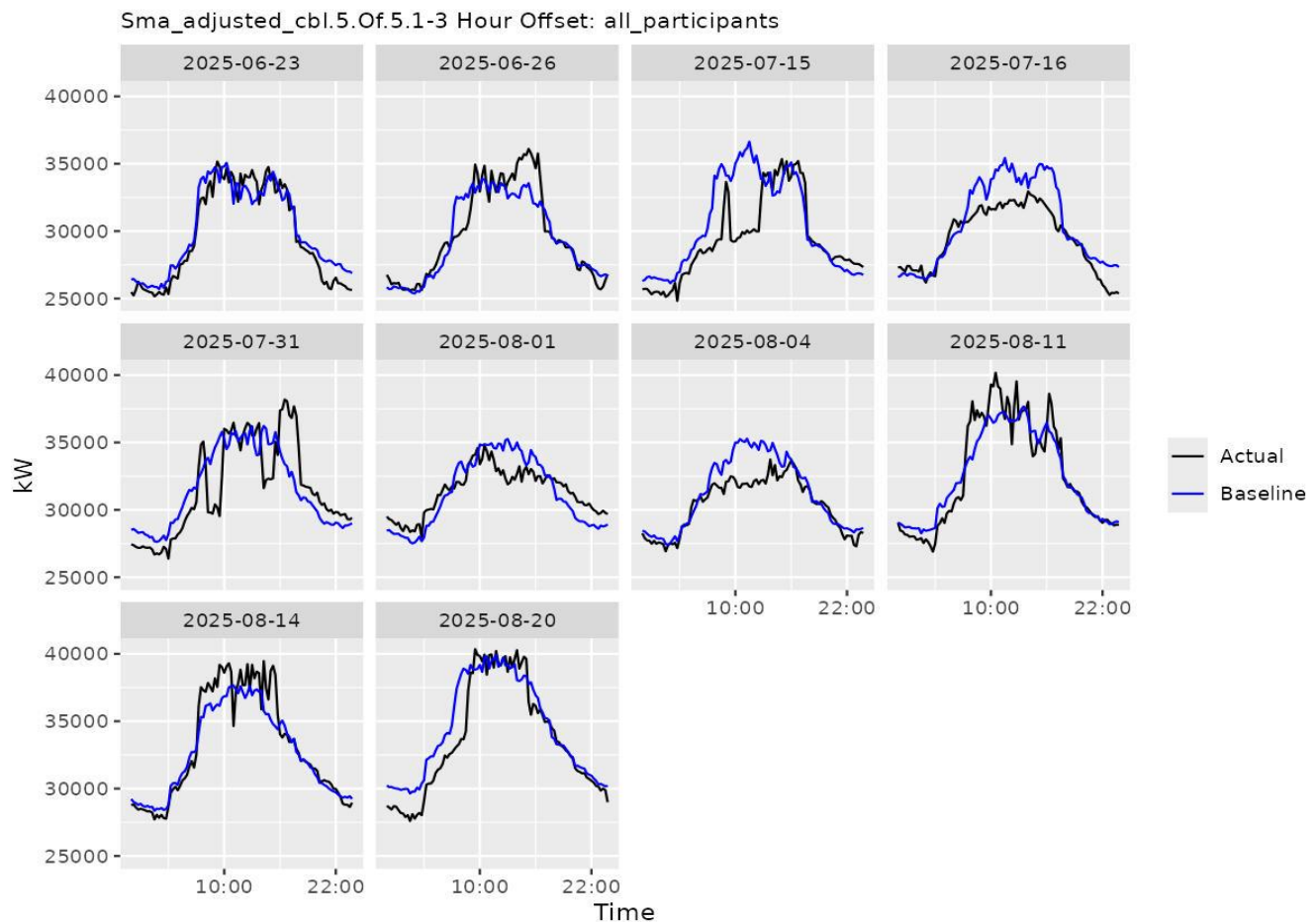


FIGURE 17-1 PROXY DAY LOAD SHAPES

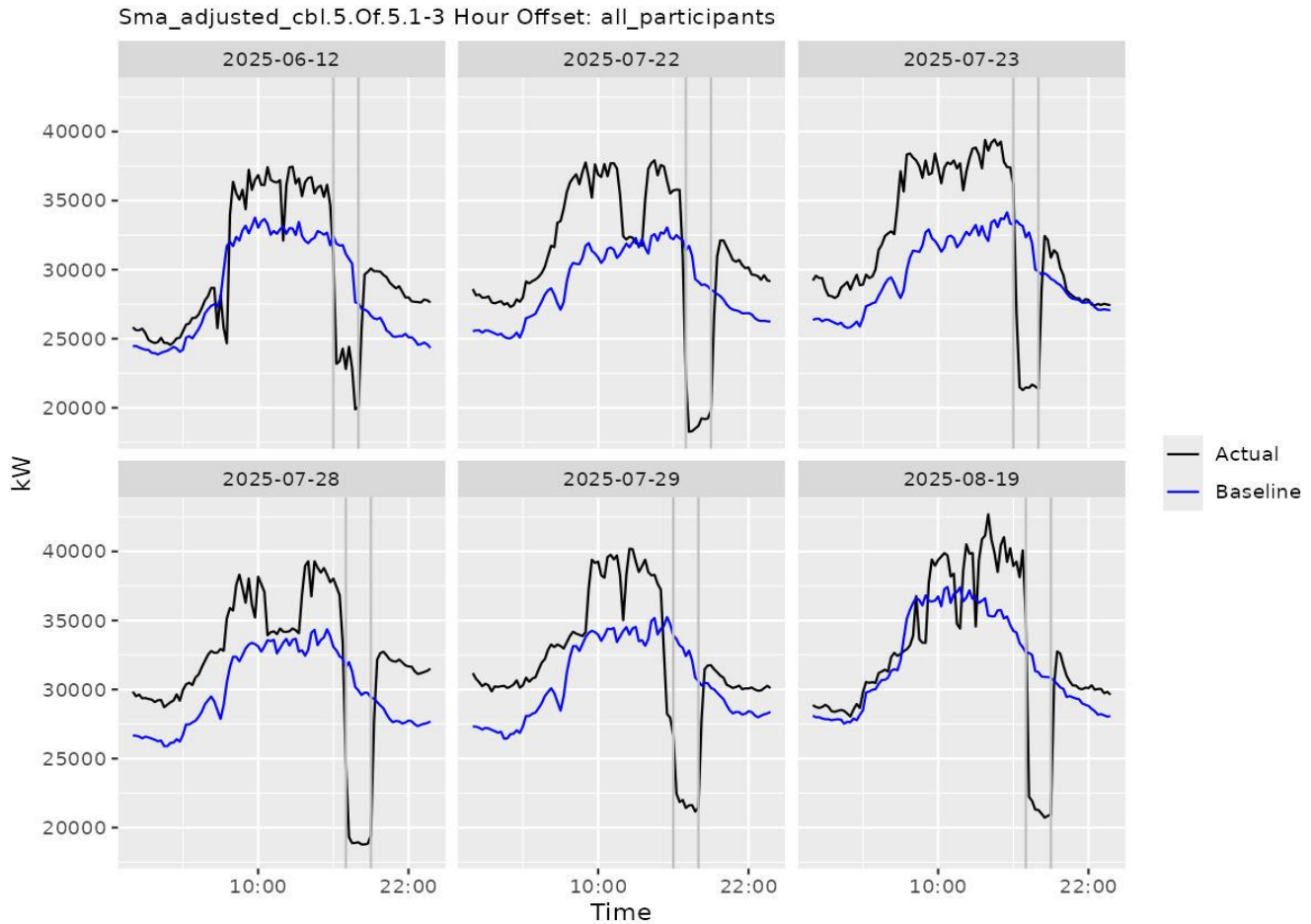


FIGURE 17-2 EVENT DAY LOAD SHAPES

The Evaluators estimated bias and error for the Evaluators’ MISO models across all sites and when applied on a site-specific basis and selecting for the model with the lowest bias (shown as the “SMA Adjusted CBL 5-of-5”). In addition, the Evaluator estimated and verified Honeywell’s *Ex Ante* model for all sites. As shown in the table below, the Evaluator’s baseline model performed the best by having the lowest absolute bias. The Evaluator determined that the method of additive adjustment for Honeywell’s CBL model does not match the approved adjustment factors in the MISO protocols which only allow for multiplicative or weather-sensitive adjustments¹⁹.

¹⁹ Per MISO, the offset factor must also begin three hours prior to the event start time, whereas Honeywell’s utilizes a one hour offset factor beginning two hours prior to the event start time.

TABLE 17-9 MODEL FIT

Model	Follows MISO Protocols	RRMSE	RMSE	Bias	Best Fit Model (Lowest Absolute Bias)
WSA Adjusted CBL 5-of-5	X	0.028	13.166	0.06%	X
Mixed Model CBL (site-specific)	X	0.019	8.959	-0.55%	
SMA Adjusted CBL 5-of-5	X	0.016	7.413	-0.64%	
WSA Adjusted CBL 10-of-10	X	0.032	14.890	-0.76%	
SMA Adjusted CBL 10-of-10	X	0.019	8.946	-0.91%	
Honeywell CBL 10-of-10 Additive Adjustment (2-Hour Offset)	X	0.035	16.339	1.83%	
Unadjusted CBL 5-of-5		0.043	20.360	-3.78%	
Unadjusted CBL 10-of-10	X	0.049	23.176	-4.40%	

The table below shows the expected savings, verified savings and realization rate for the program. The realization rate of kWh is 92% because the *ex-ante* Honeywell baselines had large positive bias on proxy days and the Honeywell baselines were higher than any of the *ex post* MISO models.

TABLE 17-10 VERIFIED GROSS IMPACTS

Measure	Expected kWh	Expected kW	Verified Gross kWh	Verified Gross kW	Realization Rate kWh	kW Realization Rate
DR Participation	191,063	16,042.60	175,337	13,218.20	92%	82%

17.4.2 Net Impact

The NTG is assumed to be 100% for demand response programs.

Program results can be found in tables in Section 17.1.

17.4.3 Process Findings

The Evaluators conducted a process evaluation of the Large C&I Demand Response program in PY15. Process activities included a database review, participant interviews, and staff and implementer interviews.

ENO provided the Evaluators with six customer contacts to interview. Only one responded to outreach attempts, therefore findings are not representative of the larger customer base.

17.4.3.1 Program Description and Implementation

The Large C&I DR program offers financial incentives to commercial and industrial customers who reduce electric load during peak demand events through automated demand response. The program operates year-round in two seasons:

- Summer Season: May 1 – September 30
- Non-Summer Season: October 1 – April 30

All enrolled participants receive at least 24 hours' notice of upcoming events. The majority participate via automated curtailment strategies—customized control system programming developed during onboarding in

coordination with trade allies or in-house contractors. The curtailment plan defines what equipment is adjusted and how, allowing for automatic load reductions during events without customer intervention.

Program implementation is led by Honeywell, with enrollment support from trade allies and key account representatives. The 2025 program year (PY15) target is to have 24.11 MW of curtailable load enrolled across seasons. Participants are paid only based on actual performance during DR events—there are no fixed capacity payments.

Key barriers addressed by the program include lack of energy consumption visibility, inefficient equipment operation, and absence of systematic energy management practices. The program overcomes these barriers through installation of monitoring equipment, automated control systems, and providing rebates for energy-efficient equipment upgrades.

"When it's really hot and they text and they said we are activating ADRM this evening at 4pm until 7... It automatically gets into the Johnson system and raises everything where it's supposed to be." – Participant, Large C&I Demand Response

Quality assurance is maintained through continuous monitoring systems that track consumption patterns and alert both participants and program staff to unusual activity.

"The men installed two monitors one on each of our main utility features coming into the building... So if they see something weird like coming up and down, up and down, ... they check it out." – Participant, Large C&I Demand Response

The program also provides technical support and allows participants to opt out of events when necessary, ensuring operational flexibility while maintaining grid reliability objectives.

17.4.3.2 Marketing and Outreach

Outreach is driven by one-on-one recruitment, industry partnerships, and repeat relationship-building over multiple years. Implementers noted that C&I enrollment is time-intensive and often takes years of outreach before commitment. Outreach strategies include:

- Direct customer engagement by Honeywell staff
- Support from Entergy's Key Account Representatives
- Trade ally referrals (e.g., controls contractors, energy managers)
- Vertical-targeted webinars and customer case studies
- Peer outreach through networks (e.g., IFMA, AEE, IREM)

Outreach success is dependent on understanding sector-specific barriers and building trust with facility operators and decision-makers.

17.4.3.3 Trade Ally Role and Involvement

Trade allies play an important role in implementing and enabling participation. Their responsibilities include:

- Recruiting eligible customers
- Programming building automation systems for DR events

- Providing follow-up adjustments or partial participation configurations
- Supporting custom curtailment strategies

Trade allies are paid for their technical scope of work, not for recruitment itself. The program maintains preferred vendor relationships and coordinates installation with either trade allies or customer-selected contractors.

17.4.3.4 Participant Awareness and Motivation

Participants are motivated by:

- Direct financial incentives tied to energy reduction performance
- Maintaining control over operations, with flexible participation options
- No-cost, turnkey installation support
- Positive peer case studies from local businesses and institutions

Customer awareness often originates from Entergy relationships or direct outreach from Honeywell. Decision timelines vary widely by sector, with large institutions taking years to onboard.

The interviewed participant learned about the Large C&I Demand Response Energy Smart program primarily through professional networking and industry connections rather than traditional marketing channels. In this case, through an engineering organization meeting in New Orleans where they connected with program representatives while actively seeking energy efficiency solutions. Their motivation for participation was multifaceted, driven primarily by the need to establish energy consumption baselines, reduce utility costs, and gain operational control over building systems.

"The main motivation for our savings in a program... Well, I mean, to save money on utilities and have a pretty consistent consumption. Reduce our consumption and it affords our accounting department and our engineering department to come up with a more leveled budget." – Participant, Large C&I Demand Response

Financial incentives are important motivators, such as equipment rebates, annual participation incentives, and maintenance rebates. The program's appeal goes beyond immediate cost savings to include operational benefits such as real-time monitoring capabilities and automated system control.

"So we're saving money on utilities and we're getting a rebate. So that's pretty nice to me." – Participant, Large C&I Demand Response

Barriers to participation are minimal for this participant, largely due to their technical expertise and decision-making authority. The program's clear communication and upfront explanation of benefits reduced knowledge barriers.

*"The guys pretty much spelled it out. We had a couple meetings and [they] laid everything out on the table, and it was way up front."
– Participant, Large C&I Demand Response*

17.4.3.5 Participation in Program Offerings

17.4.3.5.1 Participant Journey Overview

Participation in the Large C&I DR program involves collaborative setup, with minimal ongoing intervention from the customer:

1. Customers are recruited via direct outreach, referrals, or Key Account Reps.
2. A curtailment plan is developed with the implementer and/or trade ally.
3. Automation is programmed into the facility's control system or through an alternate load-shedding solution.
4. Customers are enrolled for both summer and non-summer seasons.
5. For each DR event, customers receive notification 24+ hours in advance via email, text, or phone.
6. During the event, automated controls adjust HVAC, lighting, or process loads per the curtailment plan.
7. Event performance is reviewed post-event and seasonally; payments are issued based on verified kW reductions.

Customers may override participation at the facility or system level, including partial opt-outs (e.g., a school excluding an auditorium).

17.4.3.5.2 System Activation

The participation process begins with system installation and integration, followed by ongoing automated participation in demand response events and voluntary manual activation during appropriate conditions.

"I activate it myself during the peak times in the summer, sometimes all day because like in summer all we have some school in the morning and some camp and they on the first floor so they stay cool anyway." – Participant, Large C&I Demand Response

Factors influencing high uptake and usage include the automated nature of the system, which requires minimal ongoing participant intervention, and the flexibility to opt out when necessary. The real-time monitoring system serves as both a participation tool and a troubleshooting resource, encouraging continued engagement through visible energy consumption data.

The system's reliability and integration with existing building automation infrastructure prevent non-operability issues. The participant's ability to manually activate demand response modes during appropriate conditions shows sophisticated usage patterns that maximize program benefits. Multiple rebate opportunities, including

equipment installation, maintenance services, and annual participation incentives, create ongoing engagement touchpoints throughout the program relationship.

17.4.3.6 Participant Experience and Satisfaction

According to program staff, customers report positive experiences with the turnkey setup process. Hardware installation is typically managed by Honeywell or trade allies. There is no cost for the participant. Satisfaction is supported by:

- Clear expectations for incentives and participation
- Technical support from implementer and trade allies
- Option to override participation as needed
- Post-event check-ins and performance transparency

The implementer provides customer-level and program-wide performance data to Entergy after each event. Pulse meters are used as primary verification for some sites, with utility AMI data used as backup when needed.

The interviewed participant was satisfied with the Large C&I Demand Response Energy Smart program across all program dimensions. Navigation of the program process was experienced as streamlined and user-friendly, with clear initial explanations and straightforward ongoing participation requirements. Communication quality was regarded as excellent, with timely text message notifications for demand response events and responsive technical support when issues arise. The participant thought that they received adequate advance notice for events, typically a day in advance, and appreciates the flexibility to opt out when necessary.

The participant reported that program staff actively monitor their energy use and contact them when unusual consumption patterns occur. They reported receiving value from the program through cost savings, operational improvements, and professional recognition. The participant reported achieving cost savings, receiving multiple rebates, and earning EPA ENERGY STAR Building certification.

"Oh, I'm excellent. It's excellent system and I'm very satisfied, extremely satisfied, I'll tell you that." – Participant, Large C&I Demand Response

Overall, staff interactions are consistently positive, with knowledgeable representatives who provide appropriate referrals when needed. The participant would recommend the program to colleagues and plans to continue participation indefinitely. No significant suggestions for improvement were offered, indicating the program meets or exceeds participant expectations.

17.5 Data Tracking Review

The following points summarize key observations from the review of the AMI data:

- Time Discrepancies: Evaluators observed that the recorded timestamps for a subset of sites were captured in different time zones, leading to inconsistencies.

- **Missing Site Information:** Certain sites contained only partial data for the event dates, while others had gaps in their recorded data, further affecting the completeness and reliability of the analysis.
- **Incomplete Data:** Certain sites contained only partial data for the event dates, while others have gaps in their recorded data, further impacting the completeness and reliability of the analysis.

To enhance data tracking and consistency, evaluators recommend implementing a standardized procedure that ensures data extraction for all sites within the same time frame, time zone, usage metrics, baseline values, and unit of measurement for each program year.

17.6 Findings and Recommendations

Findings:

- **Program operations appear well designed and effectively implemented, though conclusions about participant experience are limited by very low interview response rates.** The program's automated curtailment strategies, turnkey installation, and technical support structure function smoothly based on available data. The interviewed participant reported clear communication, reliable system performance, and high satisfaction with both financial and operational benefits.
- **Enrollment and engagement rely heavily on relationship-based outreach and technical facilitation, with trade allies and Key Account Representatives playing central roles.** Recruitment is driven by direct engagement, industry networks, and long-term relationship-building rather than broad marketing. Trade allies and implementers support enrollment, system programming, and ongoing adjustments, reducing barriers for technically capable customers. The interviewed participant learned about the program through professional networking and cited clear explanations and turnkey support as key motivators. While this model works well for some customers, it may limit reach to organizations without existing industry connections or technical expertise.

Recommendations:

The Evaluators do not have any additional recommendations.

18 SMALL C&I SOLUTIONS

18.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable.

Additionally, the tables above represent evaluation findings for each measure, whereas the analysis described in this chapter summarizes the findings of the evaluation by type (e.g., traditional and Small Business Direct Install) and by stratum.

TABLE 18-1 PY15 SMALL C&I SOLUTIONS ENERGY SAVINGS (kWh)

Measure	<i>Ex Ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Savings (kWh)	NTG	<i>Ex Post</i> Net Savings (kWh)
LED fixture	1,185,563	100.10%	1,186,690	83.1%	985,923
AC tune-up	604,580	101.45%	613,349	83.1%	509,581
Coil Cleaning	589,300	98.37%	579,669	83.1%	481,599
LED linear	577,980	100.37%	580,129	83.1%	481,981
BAS	258,186	102.26%	264,026	83.1%	219,357
Weather Stripping	249,864	96.47%	241,037	83.1%	200,258
VFD	163,043	100.12%	163,246	83.1%	135,628
Chiller	151,647	104.50%	158,468	83.1%	131,658
HVAC	128,323	99.34%	127,477	83.1%	105,910
Smart Thermostat	104,806	100.83%	105,676	83.1%	87,797
Interior LPD	100,981	104.50%	105,523	83.1%	87,670
Door Gasket	99,548	101.34%	100,884	83.1%	83,816
Chiller Tune-Up	45,566	91.36%	41,628	83.1%	34,585
Night Cover	32,168	100.56%	32,348	83.1%	26,875
Insulation	19,580	91.36%	17,888	83.1%	14,862
Door Closer	16,250	102.83%	16,710	83.1%	13,883
Strip Curtains	12,234	103.60%	12,675	83.1%	10,531
Kitchen DCV	9,690	91.36%	8,853	83.1%	7,355
Occupancy Sensor	8,104	104.84%	8,497	83.1%	7,059
Dishwasher	7,622	91.36%	6,964	83.1%	5,786
Duct Sealing	5,733	105.31%	6,037	83.1%	5,016
LED lamp	5,545	105.32%	5,840	83.1%	4,852
Refrigeration Door	3,903	91.35%	3,565	83.1%	2,962
Window	3,860	91.36%	3,526	83.1%	2,929
APS	3,121	102.85%	3,210	83.1%	2,667
Exterior LPD	1,663	104.52%	1,738	83.1%	1,444
Window Film	1,580	104.96%	1,658	83.1%	1,377
Assessment (no savings)	0	N/A	0	83.1%	0
TA Bonus (no savings)	0	N/A	0	83.1%	0
Total	4,390,439	100.16%	4,397,311	83.1%	3,653,363

Sums may differ due to rounding.

TABLE 18-2 PY15 SMALL C&I SOLUTIONS DEMAND REDUCTIONS (kW)

Measure	<i>Ex Ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand (kW)	NTG	<i>Ex Post</i> Net Demand (kW)
LED fixture	149.50	100.04%	149.56	83.1%	124.26
AC tune-up	225.16	106.89%	240.68	83.1%	199.96
Coil Cleaning	205.76	99.39%	204.52	83.1%	169.92
LED linear	127.16	100.47%	127.76	83.1%	106.15
BAS	0.00	N/A	0.00	83.1%	0.00
Weather Stripping	168.55	94.26%	158.88	83.1%	132.00
VFD	2.59	93.82%	2.43	83.1%	2.02
Chiller	25.87	100.75%	26.06	83.1%	21.65
HVAC	10.42	97.04%	10.11	83.1%	8.40
Smart Thermostat	0.00	N/A	0.00	83.1%	0.00
Interior LPD	18.11	100.75%	18.24	83.1%	15.15
Door Gasket	11.30	102.62%	11.59	83.1%	9.63
Chiller Tune-Up	11.32	93.82%	10.62	83.1%	8.82
Night Cover	0.00	N/A	0.00	83.1%	0.00
Insulation	1.86	93.82%	1.74	83.1%	1.45
Door Closer	2.23	103.72%	2.31	83.1%	1.92
Strip Curtains	1.51	107.46%	1.63	83.1%	1.35
Kitchen DCV	1.27	93.82%	1.19	83.1%	0.99
Occupancy Sensor	0.65	121.14%	0.78	83.1%	0.65
Dishwasher	0.97	93.82%	0.91	83.1%	0.76
Duct Sealing	4.68	105.90%	4.96	83.1%	4.12
LED lamp	1.33	105.90%	1.41	83.1%	1.17
Refrigeration Door	0.44	93.82%	0.41	83.1%	0.34
Window	0.25	93.82%	0.23	83.1%	0.19
APS	0.00	N/A	0.00	83.1%	0.00
Exterior LPD	0.00	N/A	0.00	83.1%	0.00
Window Film	1.58	125.00%	1.98	83.1%	1.64
Assessment (no savings)	0.00	N/A	0.00	83.1%	0.00
TA Bonus (no savings)	0.00	N/A	0.00	83.1%	0.00
Total	972.49	100.57%	978.01	83.1%	812.55

Sums may differ due to rounding.

TABLE 18-3 PY15 SMALL C&I SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
LED fixture	15	17,800,350	14,788,844
AC tune-up	5	3,066,745	2,547,906
Coil Cleaning	3	1,739,007	1,444,798
LED linear	15	8,701,935	7,229,721
BAS	15	3,960,390	3,290,362
Weather Stripping	4	2,651,407	2,202,836

VFD	15	2,448,690	2,034,415
Chiller	20	3,169,360	2,633,160
HVAC	15	1,912,155	1,588,652
Smart Thermostat	11	1,162,436	965,772
Interior LPD	15	1,582,845	1,315,055
Door Gasket	4	403,536	335,265
Chiller Tune-Up	3	124,884	103,756
Night Cover	5	161,740	134,376
Insulation	20	357,760	297,233
Door Closer	8	133,680	111,064
Strip Curtains	5	63,375	52,653
Kitchen DCV	15	132,795	110,328
Occupancy Sensor	8	67,976	56,476
Dishwasher	11	69,640	57,858
Duct Sealing	18	108,666	90,282
LED lamp	15	87,600	72,780
Refrigeration Door	15	53,475	44,428
Window	20	70,520	58,589
APS	10	32,100	26,669
Exterior LPD	15	26,070	21,659
Window Film	10	16,580	13,775
Assessment (no savings)	1	0	0
TA Bonus (no savings)	1	0	0
Total	10.95	50,105,717	41,628,712

Sums may differ due to rounding.

TABLE 18-4 PY15 SMALL C&I SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
LED fixture	995	\$148,563
AC tune-up	154	\$35,950
Coil Cleaning	1,366	\$88,395
LED linear	6,529	\$119,963
BAS	3	\$38,728
Weather Stripping	872	\$37,480
VFD	13	\$24,456
Chiller	257	\$13,190
HVAC	226	\$16,457
Smart Thermostat	223	\$37,915
Interior LPD	19,589	\$19,589
Door Gasket	1,679	\$13,990
Chiller Tune-Up	30	\$450
Night Cover	222	\$4,900
Insulation	1	\$2,937
Door Closer	10	\$1,531

Strip Curtains	244	\$1,641
Kitchen DCV	2	\$1,200
Occupancy Sensor	101	\$5,280
Dishwasher	1	\$600
Duct Sealing	1,170	\$819
LED lamp	56	\$527
Refrigeration Door	5	\$475
Window	1,241	\$621
APS	51	\$911
Exterior LPD	385	\$385
Window Film	313	\$157
Assessment (no savings)	59	\$9,440
TA Bonus (no savings)	1	\$332
Total	35,797	\$626,881

Sums may differ due to rounding.

18.2 Program Description

The Small C&I Solutions program provides higher incentives to small business owners to help overcome the first-cost barrier that small businesses face in adopting energy efficiency improvements. By offering enhanced financial incentives, the program generates significant cost-effective energy savings for small businesses using added market-segmented strategies that encourage the adoption of diverse efficiency measures in target sub-sectors.

The incentives provided are summarized in the table below.

TABLE 18-5 SUMMARY OF OFFERING INCENTIVES

Measure	Incentive
Prescriptive	\$ per unit (varies)
Custom Lighting	\$0.15 per kWh Saved
Custom Non-Lighting	\$0.15 per kWh Saved

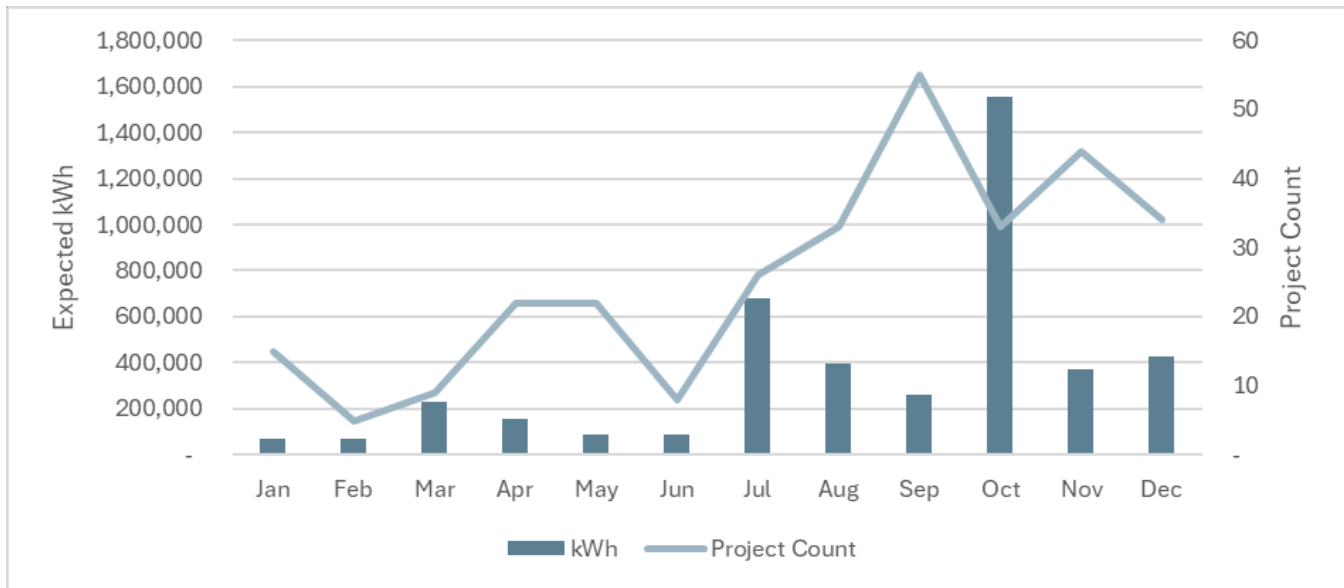
The offering is designed to equip small business owners with practical energy efficiency information and to build awareness of both the energy and non-energy benefits of adopting efficient technologies. By providing clear guidance, the program helps small businesses make informed investments and overcome the barrier of high upfront costs. It also introduces participants to the latest energy-efficient technologies available to them.

A dedicated network of trade allies has been developed through the offering to work specifically with small business customers. These trade allies receive tools and training that enable them to quantify energy savings and available incentives, helping customers better understand the value of energy efficiency upgrades.

18.2.1 Timing of Projects

A total of 294 projects were completed in PY15. The figure below shows the contribution to savings by offering as part of the overall expected savings.

Expected energy savings and the month in which the project was closed out are shown in the figures below.



Four projects which were initiated during PY14 were finalized during PY15.

FIGURE 18-1 SMALL C&I SOLUTIONS MONTHLY PROJECT COMPLETION

Thirty five percent of expected savings had a completion date listed as October 2025. Nine project close outs happened in 2026 (final invoices, payments, etc.) but all installation work was completed by December 31, 2025.

18.2.2 Trade Allies

In PY15, the program saw projects completed by 36 different trade allies. The table below shows trade ally activity. Trade allies 16-32 all completed a single project each and are grouped together.

TABLE 18-6 SMALL C&I SOLUTIONS TRADE ALLY ACTIVITY

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	427,369	80	9.7%
Trade Ally 2	592,119	65	13.5%
Trade Ally 3	589,300	42	13.4%
Trade Ally 4	89,512	23	2.0%
Trade Ally 5	93,384	20	2.1%
Trade Ally 6	157,067	16	3.6%
Trade Ally 7	47,250	12	1.1%
Trade Ally 8	6,673	7	0.2%
Trade Ally 9	7,498	5	0.2%
Trade Ally 10	1,220,652	3	27.8%
Trade Ally 11	7,826	3	0.2%
Trade Ally 12	9,333	3	0.2%
Trade Ally 13	89,498	2	2.0%
Trade Ally 14	156,094	2	3.6%

Trade Ally 15	25,030	2	0.6%
Trade Ally 16-32	871,834	21	19.9%

TABLE 18-7 SMALL C&I SOLUTIONS TRADITIONAL PROJECTS

Measure	Count of Projects Including the Measure	Ex Ante Gross Savings (kWh)	Ex Post Gross Savings (kWh)	Realization Rate (kWh)	Ex Ante Gross Demand (kW)	Ex Post Gross Demand (kW)	Realization Rate (kW)
LED fixture	4	1,185,563	1,186,690	100.1%	149.50	149.56	100.0%
AC tune-up	126	604,580	613,349	101.5%	225.16	240.68	106.9%
Coil Cleaning	41	589,300	579,669	98.4%	205.76	204.52	99.4%
BAS	2	258,186	264,026	102.3%	0.00	0.00	N/A
LED linear	42	251,218	247,157	98.4%	52.17	51.10	97.9%
Weather Stripping	5	249,864	241,037	96.5%	168.55	158.88	94.3%
VFD	4	163,043	163,246	100.1%	2.59	2.43	93.8%
Chiller	2	151,647	158,468	104.5%	25.87	26.06	100.7%
HVAC	6	128,323	127,477	99.3%	10.42	10.11	97.0%
Interior LPD	0	100,981	105,523	104.5%	18.11	18.24	100.7%
Chiller Tune-Up	0	45,566	41,628	91.4%	11.32	10.62	93.8%
Door Gasket	14	44,735	46,806	104.6%	5.06	5.14	101.6%
Smart Thermostat	43	20,772	19,101	92.0%	0.00	0.00	N/A
Insulation	0	19,580	17,888	91.4%	1.86	1.74	93.8%
Night Cover	3	18,837	19,684	104.5%	0.00	0.00	N/A
Kitchen DCV	0	9,690	8,853	91.4%	1.27	1.19	93.8%
Door Closer	6	9,228	9,643	104.5%	1.24	1.25	100.7%
Occupancy Sensor	7	8,104	8,497	104.8%	0.65	0.78	121.1%
Dishwasher	0	7,622	6,964	91.4%	0.97	0.91	93.8%
Duct Sealing	0	5,733	6,037	105.3%	4.68	4.96	105.9%
Strip Curtains	5	5,364	5,605	104.5%	0.57	0.57	100.7%
Refrigeration Door	0	3,903	3,565	91.4%	0.44	0.41	93.8%
Window	0	3,860	3,526	91.4%	0.25	0.23	93.8%
Exterior LPD	0	1,663	1,738	104.5%	0.00	0.00	N/A
Window Film	0	1,580	1,658	105.0%	1.58	1.98	125.0%
LED lamp	2	777	819	105.4%	0.00	0.00	N/A
Assessment (no savings)	58	0	0	N/A	0.00	0.00	N/A
Total	370	3,889,719	3,888,654	100.0%	888.00	891.37	100.4%

TABLE 18-8 SMALL C&I SOLUTIONS SBDI PROJECTS

Measure	Count of Projects Including the Measure	Ex Ante Gross Savings (kWh)	Ex Post Gross Savings (kWh)	Realization Rate (kWh)	Ex Ante Gross Demand (kW)	Ex Post Gross Demand (kW)	Realization Rate (kW)
LED linear	42	326,761	332,972	101.9%	74.98	76.66	102.2%
Smart Thermostat	43	84,034	86,575	103.0%	0.00	0.00	N/A
Door Gasket	14	54,813	54,078	98.7%	6.24	6.45	103.5%
Night Cover	3	13,331	12,664	95.0%	0.00	0.00	N/A
Door Closer	6	7,022	7,067	100.6%	0.99	1.07	107.4%
Strip Curtains	5	6,870	7,070	102.9%	0.95	1.06	111.5%
LED lamp	2	4,768	5,021	105.3%	1.33	1.41	105.9%
APS	10	3,121	3,210	102.8%	0.00	0.00	N/A
Assessment (no savings)	58	0	0	N/A	0.00	0.00	N/A
TA Bonus (no savings)	0	0	0	N/A	0.00	0.00	N/A
Total	183	500,720	508,657	101.6%	84.49	86.65	102.6%

18.2.3 Goal Achievement

The total verified savings and percentage of goals for the program are summarized in the table below.

TABLE 18-9 SMALL C&I SOLUTIONS SUMMARY OF GOAL ACHIEVEMENT

<i>Ex post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex post</i> Gross Energy Savings (kWh)	<i>Ex post</i> Gross Savings (kW) Target	% to kW Target	<i>Ex post</i> Gross Savings (kW)
6,032,088	72.90%	4,397,311	356.91	274.02%	978.01

18.3 EM&V Methodology

Evaluation of the offering requires the following:

- Stratified Random Sampling (as detailed in section Stratified Sampling by selecting large saving sites with certainty).
- The Evaluators conducted six site visits for the Small C&I solutions Program.
- Where custom project hours were used, publicly-available facility hours or phone calls were made to project contacts to verify schedules.
- Gross savings were estimated using proven techniques, including engineering calculations using industry standards and verification of computer simulations developed by program trade allies to determine energy savings.
- Interviewing of program participants and trade allies.

18.3.1 Sample Design

Sampling for evaluation of the program was developed using the Stratified Random Sampling procedure detailed in section Stratified Sampling. This procedure provides 90% confidence and +/- 10% precision with a significantly reduced sample than simple random sampling would require by selecting the highest saving facilities with certainty, thereby minimizing the variance that non-sampled sites can contribute to the overall results.

The participant population for the offering was divided into four strata. The strata boundaries, sample frames and sample statistics are in Table 18-10 below.

TABLE 18-10 PROGRAM SAMPLE DESIGN

	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Stratum 5	Totals
Strata boundaries (kWh)	< 3,000	3,001 - 12,000	12,001 - 60,000	60,001 - 200,000	> 200,001	
Number of projects	139	112	43	11	1	306
Total kWh savings	202,038	633,094	1,170,748	1,232,107	1,152,452	4,390,439
Average kWh Savings	1,454	5,653	27,227	112,010	1,152,452	14,348
Standard deviation of kWh savings	852	2,270	12,124	28,512	N/A	69,090
Coefficient of variation	0.586	0.402	0.445	0.284	0.000	4.82
Final design sample	5	4	6	5	1	21

TABLE 18-11 EXPECTED SAVINGS FOR SAMPLED/NON-SAMPLED PROJECTS BY STRATUM

Stratum	Sample Expected Savings	Total Expected Savings
1	5,630	202,038
2	17,792	633,094
3	220,672	1,170,748
4	567,085	1,232,107
5	1,152,452	1,152,452
Total	1,963,631	4,390,439

The achieved sampling precision was $\pm 9.59\%$ at 90% confidence.

To determine gross realization rates, the Evaluators performed a literature review to determine ISRs. The tables below show the literature review results per measure.

18.3.2 Site Visits

To approach the impact evaluation, data was collected through review of program materials and on-site inspections were performed to inform savings calculations. Based on data provided by staff, sample designs were developed for the impact evaluation.

The on-site inspection was used to help verify installations and to determine any changes to the operating parameters since the measures were first installed.

18.3.3 Measure-Specific Methodology

Lighting projects made up 17.5% of total expected savings. Projects were analyzed using the prescriptive methods described in the NO TRM V8.0, Section 2.6.1 and 2, Lighting Efficiency and Lighting Controls. Specific algorithms for lighting savings and an explanation of deemed inputs are below.

18.3.3.1 Lighting Savings Calculations

$$kWh_{savings} = \sum \left(\left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{pre} - \left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{post} \right) \times AOH \times IEF_E$$

$$kW_{savings} = \sum \left(\left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{pre} - \left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{post} \right) \times CF \times IEF_D$$

Where:

Nfixt(i), pre = Pre-retrofit number of fixtures of type i

Nfixt(i), post = Post-retrofit number of fixtures of type i

Wfixt(i), pre = Rated wattage of pre-retrofit fixtures of type i (Volume 3, Appendices)

Wfixt(i), post = Rated wattage of post-retrofit fixtures of type i (Volume 3, Appendices)

CF = Peak demand coincidence factor (TRM Table 2-138)

AOH = Annual operating hours for specified space type (Table 2-138)

IEFD = Interactive effects factor for demand savings (Table 2-139)

IEFE = Interactive effects factor for energy savings (Table 2-139)

18.3.3.2 Air Conditioner Tune-Up Savings Calculations

Air Conditioner Coil Cleanings, a portion of the complete 'Air Conditioner Tune-Up' measure, made up 14.2% of total expected savings. These projects were analyzed using the prescriptive methods described in the NO TRM V8.0, section 2.3.5, Commercial Air Conditioner and Heat Pump Tune-Up. This section provides multiple methods to calculate savings, including a typical engineering algorithm and primary data, or a component-based deemed method when primary data is unavailable or unreliable.

Primary data used in savings calculations was collected by trade allies before and after tune-up service and included voltage, amperage, Δtemp and other data points used to calculate pre and post tune-up EER values. Once calculated, these values were reviewed using the following criteria to determine which method verified savings would be calculated using:

- Post EER values used in savings calculations may not exceed the AHRI EER or EER2 specification (Equation 18-1 may still be used, however the post EER value may not exceed the AHRI EER or EER2 specification).
- When calculated Pre EER values exceed the AHRI EER or EER2 specification, the savings calculation should default to Component Savings, shown below in Equation 18-2.
- Pre EER values used in savings calculations must be equal to five (5)²⁰ or greater.

This process is discussed in detail in a supplementary memo on the topic, attached in

²⁰ It is the professional opinion of the Qualus that an EER value lower than five (5) is indicative of potential damage or other inefficiency in the system which cannot be remedied with evaporator coil and/or condenser coil cleaning

Engineering algorithm with primary data method:

EQUATION 18-1 ENGINEERING ALGORITHM SAVINGS

$$kWh_{savings,cooling} = CAP_c \times \frac{1}{1000} \times EFLH_c \times \left(\frac{1}{EER_{pre}} - \frac{1}{EER_{post}} \right)$$

Where:

EER pre and post are calculated from primary data

Component method:

EQUATION 18-2 COMPONENT SAVINGS

$$kWh_{savings,C} = \frac{\frac{CAP_C}{1,000}}{EER_{AHRI}} \times EFLH_c \times \%Savings$$

Where:

EER is specified by AHRI rating, or default EER from TRM

% Savings is based on tune-up component

Tune-Up Component	% Savings
Condenser Cleaning	6.10%
Evaporator Cleaning	0.22%

18.4 Evaluation Findings

18.4.1 Gross Impact Findings

18.4.1.1 Traditional Project Realization

The Evaluators reviewed all project documentation, including invoices, spec sheets and site photos to verify the installation of the equipment. Energy and demand reduction calculations were reviewed to verify that they were consistent with the NO TRM and that all inputs were appropriate. Changes and corrections between *ex ante* and *ex post* savings estimates were documented and realization rates based on verified savings were developed for each site. The realization rates for sites within each stratum were then applied to the non-sampled sites within their respective stratum.

TABLE 18-12 EXPECTED AND VERIFIED SAVINGS BY SAMPLED PROJECT

Project ID(s)	Facility Type	Ex Ante Gross Energy (kWh)	Ex Post Gross Energy (kWh)	Realization Rate
196291-2025-D6H8	Small Office	245	245	100.0%
205173-2025-L5B2	Retail: Excluding Malls & Strip Centers	490	490	100.0%
196882-2025-M4J2	Retail: Excluding Malls & Strip Centers	944	944	100.0%
192632-2025-K8W7	Food Sales: Non 24-hour Supermarket/ Retail	1,368	1,368	100.0%
196282-2025-V7H7	Religious or Faith-Based	2,583	2,861	110.8%
192627-2025-Z3Z1	Food Sales: Non 24-hour Supermarket/ Retail	3,225	3,225	100.0%
206278-2025-Y1F3	Religious or Faith-Based	3,494	2,833	81.1%
192630-2025-L7R7	Gas Station	4,499	4,499	100.0%

226935-2025-C4F5	Retail: Strip Mall	4,963	4,963	100.0%
193895-2025-N7X5	Food Sales: Non 24-hour Supermarket/ Retail	5,219	5,799	111.1%
196290-2025-F1S1	Food Service: Fast Food	5,854	6,504	111.1%
CIP_1266	Retail: Strip Mall	21,278	20,300	95.4%
CIP_1284	Education: K-12	30,062	51,202	170.3%
CIP_1268	Lodging (Hotel/Motel/Dorm): Common Areas	45,566	43,881	96.3%
CIP_1310	Education: K-12	47,564	5,228	11.0%
CIP_1288	Education: K-12	56,634	59,827	105.6%
CIP_1229	Food Sales: Non 24-hour Supermarket/ Retail	70,919	78,983	111.4%
CIP_1215	Retail: Strip Mall	88,598	64,033	72.3%
CIP_1467	Education: K-12	114,049	132,798	116.4%
207148-2025-Z4T5	Retail: Excluding Malls & Strip Centers	127,671	140,502	110.1%
CIP_1248	Retail: Excluding Malls & Strip Centers	165,848	151,710	91.5%
CIP_1348	Parking Structure	1,152,452	1,152,452	100.0%
Total		1,953,525	1,934,647	99.0%

TABLE 18-13 SUMMARY OF KWH SAVINGS BY SAMPLE STRATUM

Stratum	Sample <i>Ex Ante</i> Gross Energy Savings (kWh)	Sample <i>Ex Post</i> Gross Energy Savings (kWh)	Stratum Realization Rate
1	5,630	5,908	104.9%
2	27,254	28,702	105.3%
3	201,105	183,725	91.4%
4	567,085	592,591	104.5%
5	1,152,452	1,152,452	100.0%
Total	1,953,526	1,963,378	100.5%

18.4.1.2 Causes of Variance in Realization

Some sampled projects used annual hours of lighting operation and peak CF that were not correct for the space type. Verified savings calculations reflect hours of use and peak CF specific to the type of space the lamps were installed in, resulting in slightly different verified savings estimates. The largest cause of variance in realization rate was in baseline fixture wattages used in the ex-ante analysis. The *ex ante* estimates were calculated using an average wattage range that was on average higher than the wattages of the actual baseline equipment which is what was used in the *ex post* analysis. The table below shows projects with a realization rate that is $\pm 10\%$ from 100% and the cause of the variance in savings.

TABLE 18-14 CAUSES OF VARIANCE IN PROJECT SAVINGS

Project ID(s)	Expected kWh Savings	Verified kWh Savings	Realization Rate	Cause(s) of Variance in Savings
CIP_1310	47,564	5,852	12.3%	Program documents included primary efficiency data taken by the TA before and after the service, however it produced nonsensical results. Verified savings calculations were carried out using 'component' methodology, resulting in significantly lower savings than claimed.

CIP_1248	165,848	151,710	91.5%	Expected savings calculations for interior LPD measures were carried out using the space-by-space method, but applied facility-level hours to all spaces. Verified calculations applied space-specific AOH, resulting in slightly higher savings. Expected savings calculations for HVAC measures were carried out using SEER values instead of EER values, as specified in the TRM. This resulted in lower savings

18.4.1.3 Overall kWh Savings and kW Demand Realization

Using the realization rates presented in Table 18-13 and Table 18-14, the Evaluators extrapolated results from sampled sites to non-sampled sites in developing offering-level savings estimates. Table 18-15 presents results by stratum.

TABLE 18-15 REALIZATION BY STRATUM

Strat.	# Sites	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	RR kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	RR kW
1	127	202,038	212,014	104.94%	60.98	76.23	125.00%
2	117	697,752	734,823	105.31%	216.26	229.01	105.90%
3	38	1,106,090	1,010,499	91.36%	383.67	359.97	93.82%
4	11	1,232,107	1,287,524	104.50%	165.41	166.64	100.75%
5	1	1,152,452	1,152,452	100.00%	146.18	146.18	0.00%
Total	294	4,390,439	4,397,312	100.16%	972.50	978.02	100.57%

The overall verified energy savings is 4,397,312 kWh and the peak demand reduction is 978.02 kW resulting in realization rates of 100.16% and 100.57%, respectively.

18.4.1.4 Avoided Replacement Cost

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarize the ARC by measure in Small C&I Solutions.

Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 18-16 SUMMARY OF ARC FOR SMALL C&I SOLUTIONS

Measure	Ex Post Gross ARCs (\$)
LED fixture	\$121,278
AC tune-up	\$0
Coil Cleaning	\$0
BAS	\$0
LED linear	\$21,219
Weather Stripping	\$0
VFD	\$0
Chiller	\$0
HVAC	\$0
Interior LPD	\$63,666

Chiller Tune-Up	\$0
Door Gasket	\$0
Smart Thermostat	\$0
Insulation	\$0
Night Cover	\$0
Kitchen DCV	\$0
Door Closer	\$0
Occupancy Sensor	\$0
Dishwasher	\$0
Duct Sealing	\$0
Strip Curtains	\$0
Refrigeration Door	\$0
Window	\$0
Exterior LPD	\$55,186
Window Film	\$0
LED lamp	\$492
Assessment (no savings)	\$0
Total	\$261,840

Sums may differ due to rounding.

18.4.2 Net Impact Findings

We calculated a net-to-gross ratio using the PY15 interview data and applied that score to the 12 individuals included in the sample. Based on this approach, the NTG ratio is 62.9%. However, because the sample size is small, we also developed a weighted NTG estimate using results from PY12, PY13, and PY15 (no PY14 data were available). The resulting weighted NTG ratio is 83.1%.

18.4.2.1 Net Savings Results

Net savings by measure can be found in Section 16.1 Summary.

18.4.2.2 Program Activity

In PY15, the offering had expected energy savings of 4,390,439 kWh and an expected peak demand reduction of 972.50 kW. The expected savings are the result of two distinct delivery channels within the program, traditional retrofits (traditional), through Small Business Direct Install (SBDI). The count of participants and the expected savings from each channel is found in the table below.

TABLE 18-17 SMALL C&I SOLUTIONS SAVINGS EXPECTATION BY DELIVERY CHANNEL

Count of Project Components	Ex Ante Gross Energy Savings (kWh)	Ex Ante Gross Demand Reductions (kW)
294	4,390,439	972.50

TABLE 18-18 SMALL C&I SOLUTIONS SAVINGS EXPECTATION BY MEASURE TYPE

Project Component	Count of Measures	Ex Ante Gross Energy Savings (kWh)	Expected kW Savings	Percentage of Savings Contribution
LED fixture	995	1,185,563	149.5	27.00%
AC tune-up	1497	1,185,538	428	27.00%
BAS	3	258,186	0	5.90%

LED linear	6529	577,980	127.2	13.20%
Weather Stripping	872	249,864	168.5	5.70%
VFD	13	163,043	2.6	3.70%
Chiller	257	151,647	25.9	3.50%
HVAC	249	136,665	13.4	3.10%
Interior LPD	19589	100,981	18.1	2.30%
Chiller Tune-Up	30	45,566	11.3	1.00%
Door Gasket	1679	99,548	11.3	2.30%
Smart Thermostat	223	104,806	0	2.40%
Insulation	1	19,580	1.9	0.40%
Night Cover	222	32,168	0	0.70%
Kitchen DCV	2	9,690	1.3	0.20%
Door Closer	10	16,250	2.2	0.40%
Occupancy Sensor	101	8,104	0.6	0.20%
Dishwasher	1	7,622	1	0.20%
Duct Sealing	1170	5,733	4.7	0.10%
Strip Curtains	244	12,234	1.5	0.30%
Refrigeration Door	5	3,903	0.4	0.10%
Window	1241	3,860	0.2	0.10%
Exterior LPD	385	1,663	0	0.00%
Window Film	313	1,580	1.6	0.00%
LED lamp	56	5,545	1.3	0.10%
APS	51	3,121	0	0.10%
Assessment (no savings)	59	0	0	0.00%
Total	35796	4,390,439	972.49	100%

TABLE 18-19 SMALL C&I SOLUTIONS PARTICIPATION SUMMARY COMPARISON

Project Year	# Projects	Ex Ante Gross kWh	kWh per Project
PY15	294	4,390,439	14,933
PY14	361	4,570,580	12,661
PY13	291	2,486,454	8,544
PY12	281	4,249,756	17,964

Twelve of the 306 total projects were assessments and did not result in savings claims. These projects are not included in the table above.

18.4.3 Process Findings

The Evaluators conducted a process evaluation of the Small C&I Solutions program in PY15. Process activities included a database review, participant and near-participant interviews, and staff and implementer interviews.

Evaluators completed 15 in-depth, one-on-one interviews with small business owners and managers classified as “participants,” and 10 classified as “near-participants” in the program. Two respondents from the latter group had both successful program experiences and instances where they later “dropped out.” Each interview lasted approximately 45 minutes.

TABLE 18-20 SMALL C&I PARTICIPANT FIRMOGRAPHICS (N=15)

Program	Respondent Title	Business Description	Employees
Small Commercial & Industrial Solutions	Director of Facility	Religious or Faith-Based	100+
	Grant and Program Manager	Retail: Excluding Malls & Strip Centers	1-10
	Manager	Grocery Store	26-50
	Owner	Retail: Excluding Malls & Strip Centers	11-25
	Executive Director	Education: K-12	100+
	Facility Engineer	Pet Care	26-50
	Building Manager	Retail: Excluding Malls & Strip Centers	1-10
	Branch Manager	Retail: Strip Shopping & Non-enclosed Mall	1-10
	Owner	Retail: Excluding Malls & Strip Centers	1-10
	Pastor	Church	51-100
	Property Manager	Condo Association	1-10
	General Manager	Restaurant	11-25
	Owner	Packaging Store	Prefer not to answer
	Project Manager	Church	1-10
	General Manager	Hotel	26-50

TABLE 18-21 SMALL C&I NEAR PARTICIPANT FIRMOGRAPHICS (N=10)

Program	Respondent Title	Business Description	Employees
Small Commercial & Industrial Solutions "Dropouts"	Owner	Convenience Store	1-10
	Owner / COO	Construction	1-10
	Owner	Dance Studio	26-50
	Director	Book Store	1-10
	Owner	Deli	Prefer not to answer
	President	Church	1-10
	Owner	Hair salon	1-10
	General Manager	Restaurant	11-25
	CEO	Restaurant Supplier	1-10
	Owner	Restaurant	1-10

18.4.3.1 Program Design and Implementation

The Small Business offering provides no-cost energy assessments and direct install measures to eligible small commercial customers. Eligibility is based on the customer's account usage and requires demand under 100 kW to participate. The program is delivered through a partnership between the implementer and Legacy Professional Services, a subcontractor responsible for conducting the assessments and installations.

The program also serves as a lead generation channel for additional energy-saving opportunities by referring interested customers to trade allies for follow-up services. For example, when the program emails participants about scheduling an A/C tune-up, it forwards the contact information of respondents to its trade ally network for direct outreach. This structure aims to address barriers commonly experienced by small businesses, including low awareness, limited capital, and limited bandwidth to manage projects.

"It saved me time because I was gonna have to do all the cleaning anyway...They'll send someone in here that's another set of eyes that would probably find stuff that I didn't find wrong." – Project Manager, Church, Small C&I Solutions Participant

The program offers various measures including LED lighting upgrades, smart thermostats, HVAC tune-ups, and building envelope improvements through direct install and custom incentive pathways. Program staff noted that commercial A/C tune-ups have become a more prominent source of savings in the commercial portfolio overall, with increased use beginning in PY14 and continuing through PY15.

18.4.3.2 Marketing and Outreach

Outreach for the small business offering has evolved from in-person canvassing to a more scalable digital model. Target audiences include small commercial businesses, churches, schools, and other organizations, though message tailoring appears minimal with generic communications sent broadly. The primary marketing strategies include:

- Email campaigns with clear calls to action (e.g., "Sign up for your energy assessment")
- Web forms hosted on the Energy Smart website
- Follow-up email blasts targeting customers who previously participated in assessments

These communications often invite participants to express interest in assessments or specific energy-saving upgrades, allowing the program to generate leads and schedule follow-ups based on customer responses. However, customers shared that they frequently learned about the program through interactions and informal referrals rather than through deliberate promotional campaigns.

*"One of the employees for Entergy came in the store as a regular and just inquired about it... Came with a pamphlet and said, hey, what you think about this?"
– Manager, Retail, Small C&I Solutions Participant*

Numerous participants suggested improving program outreach. They recommended to advertise the program more, such as mailing out information with their bills or printing it on the bills themselves.

18.4.3.3 Trade Ally Role and Involvement

Legacy performs the assessments and DI installations. After the assessment, potential follow-up measures are referred to trade allies. Trade ally participation is contingent on responsiveness and reliability—those who do not respond to leads within 1–2 business days are deprioritized.

The program also uses leads as an onboarding tool for new trade allies, including walkthroughs and coaching to support participation. Assignments are matched based on trade ally specialties and project scope.

Contractors have multiple responsibilities including conducting assessments, performing installations, and handling incentive applications. Some contractors also conduct outreach activities and perform work on the spot.

"The contractor actually did all the upfront work... he actually applied for it and he did all the footwork." – Owner, Convenience Store, Dropout & Program Completion

Contractor strengths include technical expertise and program familiarity. When the contractors exhibit comprehensive service and professionalism, businesses like and appreciate it.

However, many experienced significant challenges in contractor engagement, expertise and quality control issues.

"I was hoping I'd get a seasoned vet, but I got a new person and there was quite a few things that was done that. For instance, I want to say he forgot to turn on the AC back one of them." – Facility Engineer, Pet Care, Small C&I Solutions Participant

"I think he was missing some things. He just wasn't sure. I think it was new to him... I don't think he had a book or some guides for him to follow." – Owner, Restaurant, Dropout

18.4.3.4 Participant Motivation and Barriers

The primary reason for engaging with the program is to save money. Small business owners want to cut their electric bills and avoid paying full price for new equipment. Getting free lights, thermostats, or other equipment is very appealing when budgets are tight. Some businesses also like that their buildings will work better and be more comfortable. A few care about helping the environment but saving money is the biggest draw.

*"Any way to cut down on waste and make the building and more efficient."
– Director, Book Store, Dropout*

"Anything that we can get done for the church that is not going to cost the church anything because we are struggling church." – President, Church, Dropout

"We're always looking for different ideas and ways if they're gonna help get it cooler and help be more efficient and save money at the same time. It makes sense."

– Manager, Retail, Small C&I Solutions Participant

Financial constraints create major obstacles when participants discover that the programs require upfront costs or partial payments. Knowledge gaps about program requirements and available services create confusion, with many participants unclear about what upgrades qualify or how much financial assistance they can receive.

"Frankly, when I went to the website, I just found it confusing and hard to navigate and difficult to find the information that I was specifically looking for."

– Project Manager, Church, Small C&I Solutions Participant

The news of upfront costs is enough to turn a business away entirely. Even with a potential rebate, some businesses aren't interested in spending the money.

"I thought it was some kind of a grant designed particularly to help small businesses... but there were some costs involved in participating in the program when initially it came across as this was free."

– Director, Book Store, Dropout

"The guy came back with a cost of almost \$2,000 to change my gasket... I'm not going to spend that kind of money."

– Owner, Convenience Store, Dropout & Previous Completion

However, the biggest cause of participant dropout is poor communication. Whether it be from the Energy Smart representative or the contractor working directly with the business, these business owners are not receiving follow ups after assessments, leaving them confused and frustrated.

"Someone came to the space to look at like the different ways that we could be more energy efficient... And then they said they'd get back to me and I never heard anything again."

– Owner, Dance Studio, Dropout

"The guy came, we talked about the lights, we talked about the doors, talked about the windows and nothing happened. Wasn't any follow up from his part."

– President, Church, Dropout

"He only told me what were some of the things to be changed, but nothing was done, and he didn't give me a report... I haven't heard from anybody in a while."

– Owner, Restaurant, Dropout

18.4.3.5 Participation in Program Offerings

18.4.3.5.1 Participant Journey Overview

The journey for small business participants generally includes the following steps:

1. Customers sign up for an energy assessment through an email or web form.
2. Legacy contacts the customer to schedule the on-site assessment.
3. During the assessment, DI measures are installed, and additional opportunities are identified.
4. Assessment findings are shared with the implementer team, who assign follow-up leads to eligible trade allies.
5. Trade allies contact customers to scope and quote follow-up measures.
6. Projects are completed by the trade allies, with support from the program team as needed.

18.4.3.6 Participant Experience and Satisfaction

Participant satisfaction with Small C&I Solutions Energy Smart Program varies dramatically based on project completion. Participants with successful previous completions rate the program higher (most rate their experience between an 8-10 out of 10), while those experiencing communication failures and incomplete projects express frustration and recommend substantial process improvements.

Navigation of the program process proves challenging for many participants due to unclear procedures and inconsistent communication.

"I think they need to have someone go out physically as well as have a checklist or give some numbers that the person can reach, get in contact with the person who came out."

– Owner, Restaurant, Dropout

Communication quality represents a major weakness, with many participants reporting poor responsiveness. However, when communication functions properly, participants appreciate the responsiveness. Those who finish their projects think the program offers great value, especially regarding cost savings.

*"Our bill was an average about 150, close to \$200 less."
– Owner, Convenience Store, Dropout & Previous Completion*

Conversely, incomplete participants perceive minimal value and feel like it was a waste of time.

"Zero right now [on likeliness to recommend], but if they followed through on it, I would recommend it to people." – Owner, Dance Studio, Dropout

Overall satisfaction depends completely on whether projects get finished. Businesses who have experienced complete work rate the program very highly - often 9 or 10 out of 10. Businesses whose projects fall through rate it very low and wouldn't recommend it to others. Most everyone wants better follow-up, clearer cost information upfront, and someone specific they can call when they have questions.

18.5 Data Tracking Review

The Evaluators reviewed the tracking data provided from program implementers. Information included for the Small Commercial program was:

- Project Information: Program name, project name, project unique ID, service address, account number associated with savings, trade ally and associated trade ally contact
- Measure Specific Information: Measure name/description, quantity, kWh savings, kW reduction, incentive, install cost, equipment cost, measure type (prescriptive/custom), end use type and install date
- Facility Information: Site address, building type and primary heating and cooling types.
- Participant Information: Primary contact name, email address and phone number

Tracking data for five line items from five projects did not include a description of the measure, instead listing 'Energy Efficient Equipment Replacing Inefficient Equipment.' The implementors provided a supplemental dataset which included descriptions of the unknown measures.

18.6 Key Findings & Recommendations

Findings:

- **Program value is highly dependent on execution quality, with inconsistent communication and contractor performance driving most negative experiences and dropouts.** Participants who receive timely follow-up, clear cost information, and competent contractor work report strong satisfaction and meaningful bill savings. However, many others experience stalled projects, unclear next steps, or no follow-up after assessments. These breakdowns—often occurring between assessment and contractor engagement—lead to confusion, mistrust, and high dropout rates. Contractor variability further contributes to uneven outcomes, with some businesses reporting missed issues, incorrect installations, or lack of professionalism. As a result, satisfaction diverges sharply based on whether projects reach completion.
- **Outreach and customer understanding remain uneven, with generic marketing, unclear cost expectations, and reliance on referrals limiting program reach and clarity.** Most participants learn

about the program through emails, web forms, or informal referrals. Communications are broad and not tailored to business type, and outreach timing appears inconsistent. Many small businesses enter the process expecting free upgrades, only to later encounter partial costs or unclear eligibility, creating frustration and disengagement. Near-participants frequently cite website confusion, unclear program requirements, and difficulty coordinating schedules or landlord approvals. These gaps suggest that awareness is widespread but understanding of the offering is not.

Recommendations:

- **To reduce dropouts and improve satisfaction, strengthen communication checkpoints and contractor quality assurance throughout the assessment-to-installation process.** Simple, structured follow-up—such as confirming assessment results, providing clear next steps, and ensuring trade allies contact customers within a defined timeframe—could address the most common failure points. Additional contractor oversight, standardized checklists, or clearer escalation pathways may help reduce quality issues and ensure participants receive consistent service regardless of contractor assignment.
- **To improve clarity and set accurate expectations, refine outreach materials and cost communication, with more tailored messaging for different business types.** Providing clearer explanations of which measures are free, which may require co-pays, and how rebates work could reduce confusion and build trust. More targeted outreach—such as sector-specific examples, simplified website navigation, or bill-insert messaging—may help businesses better understand the offering before opting in. These adjustments could support more informed participation and reduce the mismatch between initial expectations and actual program requirements.

19 LARGE C&I SOLUTIONS

19.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable.

Additionally, the tables above represent evaluation findings for each measure, whereas the analysis described in this chapter summarizes the findings of the evaluation stratum.

FIGURE 19-1 PY15 LARGE C&I SOLUTIONS ENERGY SAVINGS (KWH)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
BAS	9,196,590	95.68%	8,799,228	98.4%	8,654,971
AC tune-up	139,253	130.82%	182,173	98.4%	179,186
Coil Cleaning	4,766,450	100.07%	4,769,584	98.4%	4,691,390
LED fixture	3,441,609	96.12%	3,307,986	98.4%	3,253,754
Commissioning	2,883,252	109.92%	3,169,185	98.4%	3,117,228
VFD	2,670,540	90.10%	2,406,040	98.4%	2,366,595
LED linear	2,338,744	92.76%	2,169,351	98.4%	2,133,786
Chiller Tune-Up	2,239,148	105.17%	2,354,882	98.4%	2,316,275
Chiller	2,527,001	90.19%	2,279,033	98.4%	2,241,670
Brush Seals	1,299,037	91.90%	1,193,876	98.4%	1,174,303
Insulation	531,922	98.09%	521,746	98.4%	513,192
HVAC	306,443	91.23%	279,567	98.4%	274,984
Cool Roof	397,019	88.65%	351,976	98.4%	346,206
Kitchen DCV	171,998	92.74%	159,514	98.4%	156,899
Compressed Air	164,676	85.52%	140,823	98.4%	138,514
Ash Controller	164,154	110.79%	181,859	98.4%	178,878
Motor	148,824	102.62%	152,721	98.4%	150,217
Interior LPD	62,211	102.62%	63,840	98.4%	62,793
Controls	60,094	102.62%	61,667	98.4%	60,656
Night Cover	21,156	130.82%	27,676	98.4%	27,222
Door Gasket	20,478	130.82%	26,788	98.4%	26,349
LED lamp	18,986	130.82%	24,838	98.4%	24,431
Strip Curtains	15,894	130.82%	20,793	98.4%	20,452
Ice Maker	11,745	130.82%	15,365	98.4%	15,113
Screw Led	9,945	130.82%	13,010	98.4%	12,797
Grem	9,940	101.69%	10,108	98.4%	9,942
Occupancy Sensor	5,844	130.82%	7,645	98.4%	7,520
Oven	3,975	130.82%	5,200	98.4%	5,115
Door Closer	1,886	130.81%	2,467	98.4%	2,427
Smart Thermostat	472	130.90%	618	98.4%	608

Total	33,629,284	97.24%	32,699,559	98.4%	32,163,472

Sums may differ due to rounding.

TABLE 19-1 PY15 LARGE C&I SOLUTIONS DEMAND REDUCTIONS (kW)

Measure	Ex Ante Gross Demand (kW)	RR (kW)	Ex Post Gross Demand (kW)	NTG	Ex Post Net Demand (kW)
BAS	223.90	100.65%	225.34	98.4%	221.65
AC tune-up	72.92	150.02%	109.40	98.4%	107.60
Coil Cleaning	1734.10	183.12%	3175.47	98.4%	3123.41
LED fixture	342.68	139.33%	477.44	98.4%	469.61
Commissioning	0.00	N/A	0.00	98.4%	0.00
VFD	10.25	171.31%	17.56	98.4%	17.27
LED linear	408.94	162.90%	666.16	98.4%	655.24
Chiller Tune-Up	1078.10	176.06%	1898.12	98.4%	1867.00
Chiller	394.95	178.38%	704.52	98.4%	692.97
Brush Seals	143.61	164.46%	236.18	98.4%	232.30
Insulation	107.93	186.95%	201.78	98.4%	198.47
HVAC	6.42	146.59%	9.41	98.4%	9.25
Cool Roof	20.51	167.57%	34.36	98.4%	33.80
Kitchen DCV	22.51	183.96%	41.40	98.4%	40.73
Compressed Air	18.80	172.24%	32.38	98.4%	31.85
Ash Controller	3.37	185.52%	6.25	98.4%	6.14
Motor	26.11	199.99%	52.22	98.4%	51.36
Interior LPD	13.21	199.99%	26.42	98.4%	25.99
Controls	0.00	N/A	0.00	98.4%	0.00
Night Cover	0.00	N/A	0.00	98.4%	0.00
Door Gasket	2.41	150.02%	3.61	98.4%	3.55
LED lamp	0.00	N/A	0.00	98.4%	0.00
Strip Curtains	1.69	150.02%	2.54	98.4%	2.50
Ice Maker	1.26	150.02%	1.89	98.4%	1.86
Screw Led	2.29	150.02%	3.44	98.4%	3.38
Grem	0.00	N/A	0.00	98.4%	0.00
Occupancy Sensor	0.41	150.02%	0.61	98.4%	0.60
Oven	0.76	150.02%	1.14	98.4%	1.12
Door Closer	0.27	150.02%	0.41	98.4%	0.40
Smart Thermostat	0.00	N/A	0.00	98.4%	0.00
Total	4,637.38	170.96%	7,928.05	98.4%	7,798.07

Sums may differ due to rounding.

TABLE 19-2 PY15 LARGE C&I SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
BAS	15	131,988,420	129,824,560
AC tune-up	3	546,519	537,559
Coil Cleaning	3	14,308,752	14,074,170
LED fixture	15	49,619,790	48,806,307
Commissioning	5	15,845,925	15,586,142
VFD	15	36,090,600	35,498,919
LED linear	15	32,540,265	32,006,790
Chiller Tune-Up	3	7,064,646	6,948,826
Chiller	20	45,580,660	44,833,396
Brush Seals	4	4,775,504	4,697,213
Insulation	20	10,434,920	10,263,847
HVAC	15	4,193,505	4,124,755
Cool Roof	15	5,279,640	5,193,084
Kitchen DCV	15	2,392,710	2,353,483
Compressed Air	3	422,469	415,543
Ash Controller	12	2,182,308	2,146,531
Motor	15	2,290,815	2,253,259
Interior LPD	15	957,600	941,901
Controls	8	493,336	485,248
Night Cover	5	138,380	136,111
Door Gasket	4	107,152	105,395
LED lamp	15	372,570	366,462
Strip Curtains	5	103,965	102,261
Ice Maker	10	153,650	151,131
Screw Led	1	13,010	12,797
Grem	8	80,864	79,538
Occupancy Sensor	8	61,160	60,157
Oven	12	62,400	61,377
Door Closer	8	19,736	19,412
Smart Thermostat	11	6,798	6,687
Total	11.26	368,128,069	362,092,861

Sums may differ due to rounding.

TABLE 19-3 PY15 LARGE C&I SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)
BAS	25	\$790,759
AC tune-up	48	\$12,600
Coil Cleaning	16,407	\$736,849
LED fixture	3,542	\$422,385
Commissioning	46	\$388,511
VFD	18	\$486,700
LED linear	23,622	\$266,519
Chiller Tune-Up	38,572	\$385,770
Chiller	4,443	\$332,709
Brush Seals	2,799	\$194,028
Insulation	4	\$79,788
HVAC	484	\$38,720
Cool Roof	5	\$59,553
Kitchen DCV	36	\$21,300
Compressed Air	1	\$24,701
Ash Controller	259	\$9,065
Motor	424	\$22,324
Interior LPD	15,897	\$15,897
Controls	1	\$9,014
Night Cover	146	\$2,920
Door Gasket	653	\$2,808
LED lamp	7	\$2,170
Strip Curtains	352	\$1,916
Ice Maker	2	\$1,762
Screw Led	70	\$700
Grem	28	\$1,260
Occupancy Sensor	56	\$2,688
Oven	2	\$460
Door Closer	2	\$283
Smart Thermostat	1	\$150
Total	107,951	\$4,314,307

Sums may differ due to rounding.

19.2 Program Description

Large Commercial & Industrial Solutions (Large C&I Solutions) program provides financial incentives and technical service to non-residential customers whose average monthly peak demand exceeds 100 kW to implement energy-savings measures. The program is designed to help this customer segment overcome barriers in energy improvement, such as higher initial cost of efficient equipment and a lack of technical knowledge or resources.

The incentives provided are summarized below in the table below.

TABLE 19-4 LARGE C&I SOLUTIONS SUMMARY OF OFFERING INCENTIVES

Measure	Incentive
Prescriptive	Various based on \$ per unit
Custom Lighting	\$0.10 per kWh Saved
Custom Non-Lighting	\$0.12 per kWh Saved
Commissioning	\$0.04-\$0.07/kWh Saved

19.2.1 Expected Savings

Below, Figure 19-2 shows expected savings by measure type across the PY15 program. The 'Percent Contribution' shows the relative kWh contribution to PY15 program total by measure.

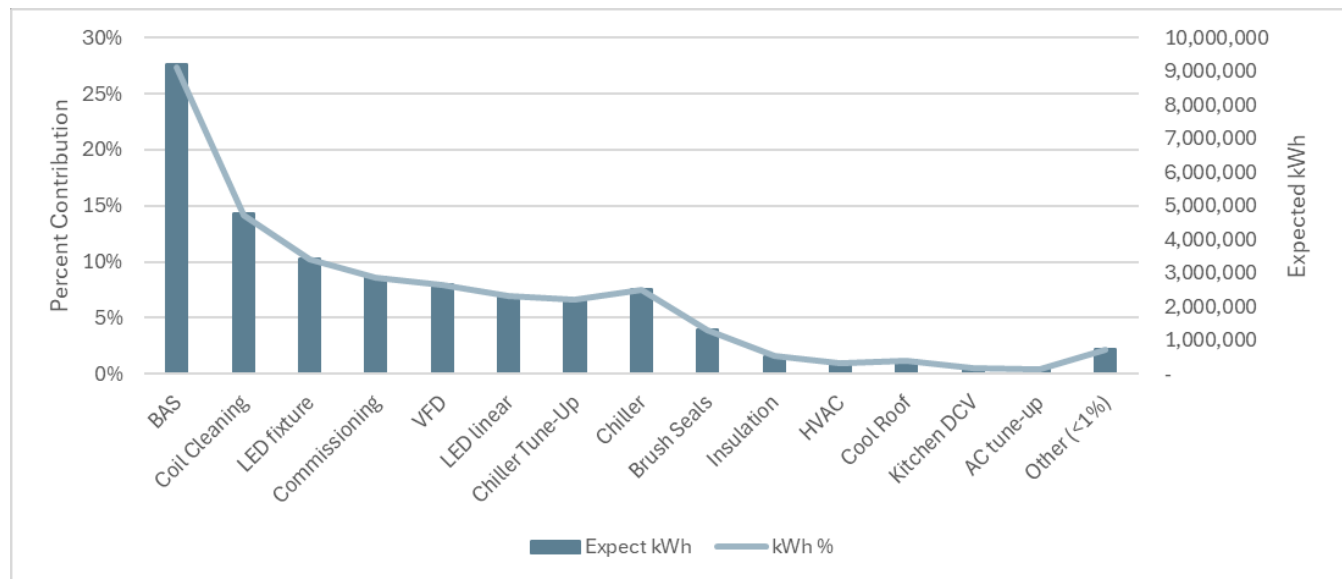


FIGURE 19-2 SAVINGS BY PROJECT TYPE

TABLE 19-5 LARGE C&I SOLUTIONS EXPECTED SAVINGS SUMMARY

Count of Projects	Ex Ante Gross Energy Savings (kWh)	Ex Ante Gross Demand Reductions (kW)
281	33,629,284	4,637.37

The table below shows the split of savings coming from custom and prescriptive projects.

TABLE 19-6 LARGE C&I SOLUTIONS SAVINGS EXPECTATIONS BY PROJECT COMPONENT

Project Component	Ex Ante Gross Energy Savings (kWh)	Ex Ante Gross Demand Reductions (kW)
Prescriptive	10,764,097	3,483.57
Custom	22,865,187	1,153.82
Total	33,629,284	4,637.38

19.2.2 Timing of Projects

Figure 19-3 below outlines ex ante kWh and project count by the project reported completion dates for projects claimed in PY15.

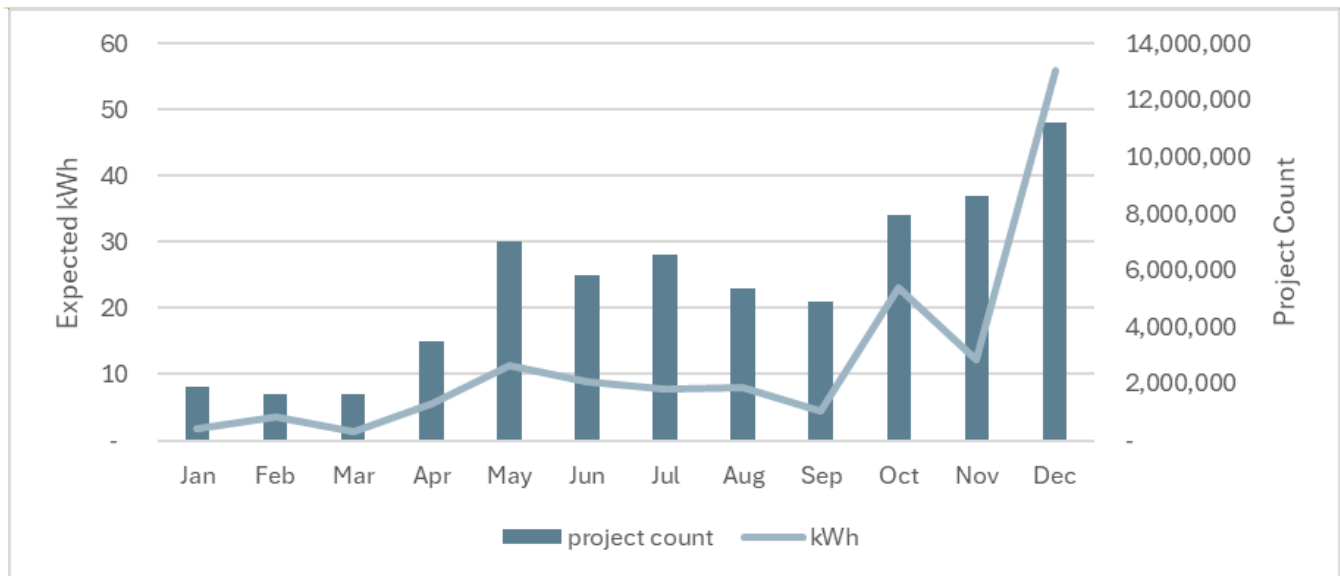


FIGURE 19-3 LARGE C&I PROGRAM PARTICIPATION BY START MONTH

19.2.3 Trade Allies

In PY15, the program saw projects completed by 36 different trade allies. The contribution to savings by Trade Ally is outlined below in Table 19-7. Trade allies 23-63 each contributed less than 1% to program kWh savings and are grouped together for brevity.

TABLE 19-7 LARGE C&I TRADE ALLY CONTRIBUTION

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	5,405,866	60	16.1%
Trade Ally 2	4,468,983	1	13.3%
Trade Ally 3	3,099,779	4	9.2%
Trade Ally 4	2,967,240	11	8.8%
Trade Ally 5	2,951,327	54	8.8%
Trade Ally 6	1,533,098	6	4.6%
Trade Ally 7	1,345,338	13	4.0%
Trade Ally 8	899,751	6	2.7%
Trade Ally 9	883,661	4	2.6%
Trade Ally 10	820,393	2	2.4%
Trade Ally 11	681,599	1	2.0%
Trade Ally 12	630,066	1	1.9%
Trade Ally 13	620,791	4	1.8%
Trade Ally 14	616,915	2	1.8%
Trade Ally 15	508,142	1	1.5%
Trade Ally 16	376,809	5	1.1%
Trade Ally 17	365,343	3	1.1%
Trade Ally 18	363,949	6	1.1%

Trade Ally 19	353,675	4	1.1%
Trade Ally 20	337,875	1	1.0%
Trade Ally 21	322,309	1	1.0%
Trade Ally 22	321,972	2	1.0%
Trade Allies 23-63	3,754,404	91	11.2%

19.2.4 Goal Achievement

In PY15, the program's net energy savings obtained 100.63% of the kWh goal. The program's net peak demand reduction obtained 334.39% of the peak demand target.

TABLE 19-8 LARGE C&I PY15 SAVINGS GOALS

<i>Ex Post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex Post</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Demand Reduction (kW) Goal	% to kW Goal	<i>Ex Post</i> Gross Demand Reduction (kW)
32,495,299	100.63%	32,699,559	2,370.90	334.39%	7,928.05

19.3 EM&V Methodology

Evaluation of the program involved the following:

- Stratified Random Sampling (as detailed in section (as detailed in Section 3.3.1) and by selecting large saving sites with certainty.
- On-site verification for 11 projects, desk reviews of all 27 sampled projects; and
- Interviewing program participants and trade allies.

19.3.1 Sample Design

Sampling for evaluation of the program was developed using the Stratified Random Sampling procedure detailed in section Stratified Sampling. This procedure provides 90% confidence and +/- 10% precision with a significantly reduced sample than simple random sampling would require by selecting the highest saving facilities with certainty, thereby minimizing the variance that non-sampled sites can contribute to the overall results.

The participant population for the offering was divided into four strata. The strata boundaries, sample frames and sample statistics are in Table 19-9 below.

TABLE 19-9 PROGRAM SAMPLE DESIGN

	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Stratum 5	Totals
Strata boundaries (kWh)	< 50,000	50,001 - 150,000	150,001 - 350,000	350,001 - 1,300,000	> 1,300,001	
Number of projects	140	88	37	16	2	283
Total kWh savings	3,226,984	7,337,874	8,226,343	9,017,674	5,820,409	33,629,284
Average kWh Savings	23,050	83,385	222,334	563,605	2,910,205	118,831
Standard deviation of kWh savings	15,340	26,143	57,844	28,512	2,204,445	306,303
Coefficient of variation	0.666	0.314	0.260	0.421	0.757	0.000
Final design sample	7	7	5	5	2	26

TABLE 19-10 EXPECTED SAVINGS FOR SAMPLED/NON-SAMPLED PROJECTS BY STRATUM

Stratum	Sample Expected Savings	Total Expected Savings
1	141,056	3,226,984
2	645,448	7,337,874
3	1,228,756	8,226,343
4	2,586,475	9,017,674
5	5,820,409	5,820,409
Total	10,422,144	33,629,284

The achieved sampling precision was $\pm 9.90\%$ at 90% confidence.

19.3.2 Site Visits

To approach the impact evaluation, data was collected through review of program materials and on-site inspections were performed to inform savings calculations. Based on data provided by staff, sample designs were developed for the impact evaluation. The on-site inspection was used to help verify installations and to determine any changes to the operating parameters since the measures were first installed. During PY15, the Evaluators visited eleven facilities.

19.3.3 Measure-Specific Methodology

Lighting projects made up 17.5% of total expected savings. Projects were analyzed using the prescriptive methods described in the NO TRM V8.0, Section 2.6.1 and 2, Lighting Efficiency and Lighting Controls. Specific algorithms for lighting savings and an explanation of deemed inputs are below.

19.3.3.1 Lighting Savings Calculations

$$kWh_{savings} = \sum \left(\left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{pre} - \left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{post} \right) \times AOH \times IEF_E$$

$$kW_{savings} = \sum \left(\left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{pre} - \left[N_{fixt(i)} \times \frac{W_{fixt(i)}}{1000} \right]_{post} \right) \times CF \times IEF_D$$

Where:

Nfixt(i), pre = Pre-retrofit number of fixtures of type i

Nfixt(i), post = Post-retrofit number of fixtures of type i

Wfixt(i), pre = Rated wattage of pre-retrofit fixtures of type i (Volume 3, Appendices)

Wfixt(i), post = Rated wattage of post-retrofit fixtures of type i (Volume 3, Appendices)

CF = Peak demand coincidence factor (TRM Table 2-138)

AOH = Annual operating hours for specified space type (Table 2-138)

IEFD = Interactive effects factor for demand savings (Table 2-139)

IEFE = Interactive effects factor for energy savings (Table 2-139)

19.3.3.2 Air Conditioner Tune-Up Savings Calculations

Air Conditioner Tune-Up projects made up 14.2% of total expected savings. These projects were analyzed using the prescriptive methods described in the NO TRM V8.0, section 2.3.5, Commercial Air Conditioner and Heat Pump Tune-Up. This section provides multiple methods to calculate savings, including a typical engineering algorithm and primary data, or a component-based deemed method when primary data is unavailable or unreliable.

Primary data used in savings calculations was collected by trade allies before and after tune-up service and included voltage, amperage, Δ temp and other data points used to calculate pre and post tune-up EER values. Once calculated, these values were reviewed using the following criteria to determine which method verified savings would be calculated using:

- Post EER values used in savings calculations may not exceed the AHRI EER or EER2 specification (Equation 18-1 may still be used, however the post EER value may not exceed the AHRI EER or EER2 specification).
- When calculated Pre EER values exceed the AHRI EER or EER2 specification, the savings calculation should default to Component Savings, shown below in Equation 18-2.
- Pre EER values used in savings calculations must be equal to five (5)²¹ or greater.

This process is discussed in detail in a supplementary memo on the topic, attached in **Engineering algorithm with primary data method:**

EQUATION 19-1 ENGINEERING ALGORITHM SAVINGS

$$kWh_{savings,cooling} = CAP_c \times \frac{1}{1000} \times EFLH_c \times \left(\frac{1}{EER_{pre}} - \frac{1}{EER_{post}} \right)$$

Where:

EER pre and post are calculated from primary data

Component method:

EQUATION 19-2 COMPONENT SAVINGS

$$kWh_{savings,C} = \frac{\frac{CAP_c}{1,000}}{EER_{AHRI}} \times EFLH_c \times \%Savings$$

Where:

EER is specified by AHRI rating, or default EER from TRM

% Savings is based on tune-up component

Tune-Up Component	% Savings
Condenser Cleaning	6.10%
Evaporator Cleaning	0.22%

²¹ It is the professional opinion of the ADM that an EER value lower than five (5) is indicative of potential damage or other inefficiency in the system which cannot be remedied with evaporator coil and/or condenser coil cleaning

19.3.3.3 Option C Billing Analyses

For two projects, the Evaluators conducted facility-level billing analysis, consistent with IPMVP Option C.

19.4 Evaluation Findings

19.4.1 Gross Impact Findings

19.4.1.1 Large C&I Site Level Realization

Desk reviews of documentation for all sites chosen within each stratum were performed: All project documentation, calculations, invoices, photos, were carefully examined to verify the installation and operation of equipment. In addition, the Evaluators visited two sites to verify installation and operation of measures and collect data. Where there was uncertainty, the Evaluators contacted staff or site contacts for clarification. This information was then used to verify savings or adjust *ex ante* estimates based on findings. The realization rates for sites within each stratum were then applied to the non-sampled sites within their respective stratum. Table 19-11 presents realization at the stratum level.

TABLE 19-11 SUMMARY OF KWH SAVINGS FOR LARGE C&I OFFERING BY SAMPLE STRATUM

Stratum	Sample Ex Ante Gross Energy Savings (kWh)	Sample Ex Post Gross Energy Savings (kWh)	Realization Rate
1	141,056	184,532	130.8%
2	645,448	662,348	102.6%
3	1,228,756	1,050,772	85.5%
4	2,586,475	2,321,194	89.7%
5	5,820,409	5,820,409	100.0%
Total	10,422,144	10,039,255	96.3%

Table 19-12 shows the expected and verified energy savings for the sampled projects.

TABLE 19-12 LARGE C&I EXPECTED AND VERIFIED SAVINGS BY SAMPLED PROJECT

Project ID(s)	Facility Type	Expected kWh Savings	Verified kWh Savings	Realization Rate
CIP_1223	Lodging (Hotel/Motel/Dorm): Common Areas	3,550	3,550	100.0%
192709-2025-G850	Retail: Strip Shopping & Non-enclosed Mall	8,756	8,756	100.0%
CIP_1342	Education: K-12	14,627	18,633	127.4%
CIP_1311	Large Office	16,684	14,830	88.9%
CIP_1241	Large Office	18,319	13,347	72.9%
CIP_1328	Large Office	39,257	91,725	233.7%
CIP_1300	Education: K-12	39,863	33,691	84.5%
CIP_1282	Education: K-12	50,617	27,276	53.9%
CIP_1323	Education: K-12	68,095	67,319	98.9%
CIP_1355	Education: K-12	71,249	75,361	105.8%
CIP_1225	Religious or Faith-Based	83,365	83,365	100.0%
CIP_1301	Education: K-12	104,865	95,547	91.1%

CIP_1122	Lodging (Hotel/Motel/Dorm): Common Areas	118,132	118,132	100.0%
CIP_1328B	Large Office	149,125	195,348	131.0%
CIP_1271	Large Office	167,197	165,567	99.0%
CIP_1538	Lodging (Hotel/Motel/Dorm): Common Areas	206,604	149,599	72.4%
CIP_1468	Education: K-12	259,903	198,203	76.3%
CIP_1488	Large Office	272,743	238,532	87.5%
CIP_1277	Warehouse: Non-refrigerated	322,309	298,871	92.7%
CIP_1244	Large Office	367,279	379,234	103.3%
CIP_1326	Health Care: In-patient	508,142	369,558	72.7%
CIP_1478	Warehouse: Refrigerated	524,518	524,518	100.0%
CIP_1481	Warehouse: Refrigerated	556,470	556,470	100.0%
CIP_982B	Warehouse: Refrigerated	630,066	491,414	78.0%
CIP_1313	Manufacturing – 1 and 2 Shif	1,351,426	1,351,426	100.0%
CIP_1114	Education: College, University, Vocational, Day Care, and K-12 w/ Summer Session	4,468,983	4,468,983	100.0%
Total		10,422,144	10,039,255	96.3%

19.4.1.2 Program-level Realization

Using the realization rates presented in Table 19-11 the Evaluators extrapolated results from sampled sites to non-sampled sites in developing offering-level savings estimates. Table 19-13 presents results by stratum.

TABLE 19-13 LARGE C&I SOLUTIONS PROGRAM LEVEL REALIZATION RATE BY STRATUM

Stratum	# Sites	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	kWh RR	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	kW RR
1	138	3,226,984	4,221,599	130.82%	699.52	1049.44	150.02%
2	88	7,337,874	7,530,004	102.62%	1698.10	3395.96	199.99%
3	37	8,226,343	7,034,766	85.52%	1251.12	2154.90	172.24%
4	16	9,017,674	8,092,779	89.74%	594.87	933.98	157.01%
5	2	5,820,409	5,820,409	100.00%	393.77	393.77	100.00%
	281	33,629,284	32,699,557	97.24%	4637.38	7928.04	170.96%

Table 19-14 shows the verified savings across the program.

TABLE 19-14 LARGE C&I SOLUTIONS PROGRAM LEVEL REALIZATION

Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	kW Realization Rate

19.4.1.3 Causes of Savings Deviations

For illustrative purposes, the Evaluators have summarized these adjustments to kWh savings in Table 19-15.

TABLE 19-15 LARGE C&I CAUSES OF VARIANCE IN SAVINGS

Project ID(s)	Expected kWh Savings	Verified kWh Savings	Realization Rate	Causes of Variance in Savings
CIP_1311	16,684	14,830	88.9%	Chiller tune-up. Verified savings were carried out using methods described in the TRM. Ex ante savings calculations are not shown, precluding a comparison.
CIP_1241	18,319	13,347	72.9%	Chiller tune-up. Verified savings were carried out using methods described in the TRM. Ex ante savings calculations are not shown, precluding a comparison.
CIP_1300	39,863	33,691	84.5%	AC tune-up. Pre EER values exceeded rate values. Verified savings were carried out using methods described in the TRM and AC tune-up memo. Ex ante savings calculations are not shown, precluding a comparison.
CIP_1282	50,617	27,276	53.9%	AC tune-up. All Pre EER values either exceeded rate values or were below 5.0, indicating that data was bad or that the unit was in need of repair. Verified savings were carried out using methods described in the TRM and AC tune-up memo. Ex ante savings calculations are not shown, precluding a comparison.
CIP_1538	206,604	149,599	72.4%	AC tune-up. Verified savings were carried out using methods described in the TRM and AC tune-up memo and supplemented with logger data. Ex ante savings calculations are not shown, precluding a comparison.
CIP_1468	259,903	198,203	76.3%	AC tune-up. Verified savings were carried out using methods described in the TRM and AC tune-up memo. Ex ante savings calculations are not shown, precluding a comparison.
CIP_1488	272,743	238,532	87.5%	AC tune-up. Verified savings were carried out using methods described in the TRM and AC tune-up memo. Ex ante savings calculations are not shown, precluding a comparison.
CIP_1326	508,142	369,558	72.7%	Chiller tune-up. Ex ante calculations assumed incorrect capacity and IPLV values.
CIP_982B	630,066	491,414	78.0%	Automatic refrigeration stabilization. Verified savings were measured using a facility-level billing analysis, where results yields lower savings than predicated.

19.4.1.4 Avoided Replacement Costs

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarize the ARC by measure in Large C&I Solutions.

Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 19-16 SUMMARY OF ARC FOR LARGE C&I SOLUTIONS

Measure	Ex Post Gross ARCs (\$)
HVAC	\$0
BMS	\$0
Chiller	\$0

Linear LED	\$76,772
LED Fixtures	\$11,512
Incentive Bonus	\$0
Screw Based LED	\$92
Air Compressor	\$0
VFD	\$0
Lighting Controls	\$0
LED Exit Sign	\$0
Kitchen Exhaust Controls	\$0
Coil Cleaning	\$0
Interior LPD	\$51,665
Door Gaskets	\$0
Total	\$140,049

Sums may differ due to rounding.

19.4.2 Net Impact Findings

We calculated a net-to-gross ratio using the PY15 interview data and applied that score to the 12 individuals included in the sample. Based on this approach, the NTG ratio is 100%. However, because the sample size is small, we also developed a weighted NTG estimate using results from PY12, PY13, and PY15 (no PY14 data were available). The resulting weighted NTG ratio is 98.4%.

19.4.2.1 Net Savings Results

Net savings by measure can be found in Figure 19-1.

19.4.3 Process Findings

The Evaluators conducted a process evaluation of the Large C&I Solutions program in PY15. Process activities included a database review, participant interviews, and staff and implementer interviews.

A total of 4 in-depth, one-on-one interviews were conducted with 4 large business owners/managers of the Entergy New Orleans Large Commercial & Industrial Solutions Energy Smart program. The interviews lasted approximately 45 minutes and took place between August 21, 2025 – February 20, 2026.

TABLE 19-17 LARGE C&I PARTICIPANT FIRMOGRAPHICS (N=4)

Program	Respondent Title	Business Description	Upgrades Installed
Large Commercial & Industrial Solutions	Sustainability Director	Education/University	HVAC, lighting upgrades
	General Manager	Hotel	LED lighting conversion
	Director of Engineering	Grocery Store	HVAC, lighting controls, chiller replacement
	Energy Manager Consultant	US government facilities	HVAC tune-ups

19.4.3.1 Program Design and Implementation

The Large Commercial offering provides financial incentives and technical support for energy efficiency upgrades in facilities with higher energy consumption. The program primarily serves larger commercial customers, many

of whom are managed through Entergy Key Account Representatives. The offering is intended to be flexible, addressing customer-specific opportunities through custom or deemed measures.

The program also supports strategic project planning by working with customers across multiple project phases, which is particularly helpful given the long lead times for large commercial upgrades. While many projects are initiated by customers directly or via trade allies, some begin through outreach from program staff or utility representatives.

Program staff noted that commercial programs overall have not yet met their energy savings goals, and that continued focus on engaging commercial customers—particularly in ways that yield measurable kWh reductions—remains a top priority for the upcoming year.

19.4.3.2 Marketing and Outreach

Marketing for the Large Commercial offering is relationship-driven and occurs primarily through:

- One-on-one outreach from program engineers and Key Account Reps
- Project follow-up and repeat engagement with previous participants
- Informal word-of-mouth within facility or institutional networks

*"Energy Smart will reach every once in a while, say, hey, are you guys doing any projects?"
– Sustainability Director, Large C&I Solutions Participant*

Participants report limited contact from representatives. The most effective outreach appears to occur through industry relationships and referrals rather than formal marketing channels.

"I think these programs should be made more advertised and there should be more outreach... if it wasn't for my fellow general manager at the other hotel, we would have eaten up the cost." – General Manager, Large C&I Solutions Participant

One participant relayed that current marketing efforts fail to adequately explain program benefits and processes.

*"The marketing is there, but the education within the marketing is not."
– Energy Manager Consultant, Large C&I Solutions Participant*

19.4.3.3 Trade Ally Role and Involvement

Trade allies are essential to the design and delivery of the Energy Smart C&I program. According to the Energy Smart Trade Ally Manual, trade allies are often the primary initiators of projects, proposing efficiency upgrades and submitting incentive applications on behalf of their customers.

Trade allies represent a wide range of specialties—including lighting, mechanical, refrigeration, and controls—and are required to maintain proper licensure, insurance, and certifications. To remain active in the program,

trade allies must complete at least one project per year and comply with program standards outlined in the manual, including customer service expectations and the Code of Conduct.

The Trade Ally Manual outlines numerous supports and expectations for participating trade allies:

- Support provided by the program includes:
 - Access to the Trade Ally Portal to track project submissions
 - Program-administered training and continuing education
 - Approved co-branding opportunities and marketing materials
 - Tiered recognition on the program website (Platinum, Gold, Silver, General), with promotion through customer referrals and case studies
 - Invitations to networking events and Trade Ally Advisory Group meetings
 - Workforce development assistance and support for supplier diversity certification
- Expectations include:
 - Responding to customer or program inquiries within two business days
 - Providing clear, itemized proposals with accurate incentive information
 - Submitting complete documentation for pre-approval and incentive processing
 - Honoring scheduled appointments and maintaining professional conduct on-site
 - Communicating any customer complaints to the program and following the documented resolution process

Performance and professionalism are closely monitored. Trade allies who misrepresent project details, delay communication, or violate the Code of Conduct may receive written warnings and increased QA/QC inspection requirements. Repeat violations may result in suspension from the program.

Energy Smart also offers informal onboarding support to new trade allies and emphasizes continuous improvement and community-minded service delivery throughout the C&I portfolio.

19.4.3.4 Participant Motivation and Barriers

Many participants are repeat customers or come to the program through trade ally or utility rep referrals.

Motivations include:

- Reducing operating costs
- Replacing aging or failing equipment
- Access to incentives that improve payback timelines
- Opportunities to “batch” upgrades across buildings or campuses

Barriers to participation include timing issues when projects begin before program engagement, reducing available rebates.

“[We] didn’t get like a large percentage of rebate back...they started the project kind of without consulting to see what could be done first.”

– Sustainability Director, Large C&I Solutions Participant

Some organizational barriers also exist, particularly in government settings.

“We were extremely hesitant and scared to make any changes or let anybody on site.” – Energy Manager Consultant, Large C&I Solutions Participant

No significant non-operability issues were reported, though some participants experienced equipment delivery delays and quality issues.

19.4.3.5 Participation in Program Offerings

19.4.3.5.1 Participant Journey Overview

The customer journey in the Large Commercial offering is typically longer and more complex than in small business programs:

1. A customer, trade ally, or Key Account Rep identifies a potential project.
2. The customer submits an application, or the implementer follows up to begin project scoping.
3. The implementer supports the development of energy savings calculations (custom or deemed).
4. Project documentation is submitted, reviewed, and approved.
5. The project is implemented by the customer or contractor.
6. Post-installation documentation and verification are submitted, and the incentive is processed.

19.4.3.5.2 Major Measure Installations

Projects often include lighting retrofits, HVAC upgrades, building automation systems, VFDs, and refrigeration controls. Projects may be phased or bundled over time. HVAC measures appear most popular due to higher rebate percentages, compared to lower percentages for lighting.

19.4.3.6 Participant Experience and Satisfaction

Participants report high overall satisfaction with the Energy Smart program, with multiple respondents rating their experience as 10 out of 10. The program process is generally considered straightforward, particularly for repeat participants.

“I think [the application process] is pretty simple.” – Sustainability Director, Large C&I Solutions Participant

“The representatives help me with filling out the forms. Any questions I have, they help me with.” – Director of Engineering, Large C&I Solutions Participant

Communication quality receives consistently positive feedback, with participants praising representative responsiveness and technical support.

"I mean, I even had his cell phone number. We were texting back and forth when the project was going on. He was also very helpful in coordinating with the supplier of the bulbs and everything. So very responsive."
 – General Manager, Large C&I Solutions Participant

Perceived value is exceptionally high due to substantial financial benefits, with participants achieving significant cost savings on necessary upgrades. However, participants identified several improvement opportunities. The most common suggestion involves enhanced outreach and education efforts within marketing materials and via training sessions. Some participants experienced confusion about contractor requirements and application processes, suggesting a need for clearer guidance.

19.5 Data Tracking Review

The Evaluators reviewed the tracking data provided from program implementers. Information included for the Large C&I program was:

- Project Information: Program name, project name, project unique ID, service address, account number associated with savings, trade ally and associated trade ally contact
- Measure Specific Information: Measure name/description, quantity, kWh savings, kW reduction, incentive, install cost, equipment cost, measure type (prescriptive/custom), end use type and install date
- Facility Information: Site address, building type and primary heating and cooling types.
- Participant Information: Primary contact name, email address and phone number

Tracking data for 11 line items from 10 projects did not include a description of the measure, instead listing 'Energy Efficient Equipment Replacing Inefficient Equipment.' The implementors provided a supplemental dataset which included descriptions of the unknown measures.

19.6 Findings and Recommendations

Findings:

- **Program awareness is low and understanding is inconsistent.** Most participants learned about the offering through trade allies, Key Account Reps, or internal networks rather than formal marketing. Several initially misunderstood eligibility or assumed the program was residential, and some expressed skepticism about program legitimacy due to limited educational content in outreach materials.
- **Trade allies and utility representatives drive nearly all project initiation and navigation.** Their role is central to scoping, documentation, and application submission. Participants who relied on these relationships reported smooth experiences, but those without established contacts faced knowledge gaps. Technical documentation—especially lighting workbooks and custom savings calculations—was cited as a barrier for less experienced customers.

- **Participant satisfaction is high once engaged, driven by strong communication and financial value.** Participants consistently praised staff responsiveness, technical support, and assistance with forms. Incentives significantly improved payback periods and motivated upgrades. However, participants still reported confusion around contractor requirements, application steps, and program processes, indicating gaps in early-stage guidance despite strong support later in the project.

Recommendations:

- **Strengthen marketing clarity and educational content by clearly explaining eligibility, incentive structure, and required steps.** Materials should address common misconceptions (e.g., residential vs. commercial applicability) and provide straightforward descriptions of how the program works.
- **Enhance support for complex documentation requirements.** Streamlined templates, clearer instructions for lighting workbooks, and short guidance sheets for custom projects would reduce participant confusion and reliance on staff for basic navigation.
- **Clarify contractor expectations and process steps upfront.** Participants requested clearer explanations of contractor requirements, application sequencing, and what to expect during scoping and verification. Providing this information early would reduce uncertainty and improve first-time participant experience.

20 C&I NEW CONSTRUCTION CODE COMPLIANCE

The tables below report ex ante gross, ex post gross, ex post net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable. Additionally, the tables above represent evaluation findings for each measure, whereas the analysis described in this chapter summarizes the findings of the evaluation.

TABLE 20-1 PY15 C&I CONSTRUCTION SOLUTIONS ENERGY SAVINGS (kWh)

Measure	<i>Ex Ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Savings (kWh)	NTG	<i>Ex Post</i> Net Savings (kWh)
HVAC	40,953	101.73%	8.47%	3,467	68.24%
Interior NC Lighting	128,628	104.44%	104.44%	134,340	68.24%
Exterior NC Lighting	40,125	105.68%	105.68%	42,405	68.24%
Total	209,706	104.15%	85.94%	180,212	68.24%

Sums may differ due to rounding.

TABLE 20-2 PY15 C&I CONSTRUCTION SOLUTIONS DEMAND SAVINGS (kW)

Measure	<i>Ex Ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand (kW)	NTG	<i>Ex Post</i> Net Demand (kW)
HVAC	2.01	45.88%	0.92	68.24%	0.63
Interior NC Lighting	42.52	88.75%	37.74	68.24%	25.75
Exterior NC Lighting	0.00	N/A	0.00	68.24%	0.00
Total	44.54	86.82%	38.67	68.24%	26.39

Sums may differ due to rounding.

TABLE 20- C&I CONSTRUCTION SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
HVAC	15	614,297	419,195
Interior NC Lighting	15	1,929,419	1,316,633
Exterior NC Lighting	15	601,874	410,718
Total	15	3,145,589	2,146,546

Sums may differ due to rounding.

TABLE 20-3 C&I CONSTRUCTION SOLUTIONS INCENTIVE SPEND SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend (\$)
HVAC	153	\$6,928

New Construction Interior Lighting	44,328	\$44,328
New Construction Exterior Lighting	9,290	\$9,290
Incentive Bonus	2	\$2,000
Total	53,772	\$62,545

20.1 Program Description

The Commercial & Industrial Construction Solutions (C&I NC) program intends to encourage customers to design and construct higher efficiency facilities than required by building codes or planned designs. This offering is available to ground-up construction, additions, or expansions, building repurposing and commercial building restorations. Incentives are available for the following:

- Predefined prescriptive savings based on units installed
- Lighting wattage below approved baseline
- Custom qualifying measures
- Whole Building

20.1.1 Program Delivery Channels and Expected Savings

The evaluation approach for PY145 included the following activities, database review, desk reviews, site visits, participants surveys and staff interviews. A total of three projects were completed in the C&I NC program in PY15.

20.1.2 Timing of Projects

According to the tracking data, in PY15, the three projects completed in the program had start months in July, August and September of 2025.

20.1.3 Trade Allies

In PY15, the program saw projects completed by three trade allies. The program participation is shown below.

TABLE 20-4 C&I NC TRADE ALLY PARTICIPATION

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	118,096	1	56.3%
Trade Ally 2	45,367	1	21.6%
Trade Ally 3	46,243	1	22.1%

20.1.4 Goal Achievement

In PY15, the program had a verified savings of 218,406 kWh and a verified peak demand reduction of 7.69 kW.

TABLE 20-5 C&I NC SUMMARY OF GOAL ACHIEVEMENT

<i>Ex post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex post</i> Gross Energy Savings (kWh)	<i>Ex post</i> Gross Savings (kW) Target	% to kW Target	<i>Ex post</i> Gross Savings (kW)
804,227	22.41%	180,212	238.9	16.18%	38.67

20.2 Evaluation Methodology

Evaluation of the program involved the following:

- Census review of PY15 projects
- Interviewing of program participants and trade allies.

During PY15 only three projects were completed. The Evaluators analyzed all and the results are discussed below.

20.2.1 Gross Impact Findings

The Evaluators reviewed all project documentation, including invoices, spec sheets and site photos to verify the installation of the equipment. Energy and demand reduction calculations were reviewed to verify that they were consistent with the TRM and that all inputs were appropriate. Changes and corrections between Ex Ante and Ex Post savings estimates were documented and realization rates based on verified savings were developed for each site. In PY15, there were a total of three projects completed in the program:

CIP_1197 Is a refrigerated warehouse that received incentives for installing above-code HVAC and reduced LPD inside and out. The Evaluators were unable to fully recreate interior LPD ex ante calculations, but applied the building area method and IECC2015 LPD baselines, resulting in an 85.3% realization rate for this measure.

Area	Area (SqFt)	Code W/SF	Installed W/SF	HOU	Expected kWh	Verified kWh	Realization Rate
Warehouse - Non-Refrigerated (Building area method)	101,000	0.66	0.32	2,417	84,635	72,189	85.3%
Loading Areas for Emergency Service Vehicles (Non-trade)	15,532	0.5	0.12	4,319	25,335	25,335	100.0%
Total					109,970	97,524	88.7%

For the NC HVAC project component, installed AC units were rated at 11.0 EER, the same as the baseline, resulting in no savings for these measures. Installed heat pump measures were above code.

Measure	Capacity	EER/SEER base	EER/SEER efficient	EFLH	Expected kWh	Verified kWh	Realization Rate
High Eff. AC	12.0	11.0	11.0	1,483	6,460	0	0.0%
High Eff. Heat Pump	1.0	14.3	21.3	1,483	1,666	2,282	137.0%

TABLE 20-6: PROJECT CIP_1197 SAVINGS

Measure	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	kWh RR	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	kW RR
Prescriptive HVAC	8,126	2,282	28.1%	2.66	0.29	10.8%
Interior Lighting	84,635	72,189	85.3%	31.72	31.72	100.0%
Exterior Lighting	25,335	25,335	100.0%	-	-	N/A
Total	118,096	99,806	84.5%	2.38	0.16	6.7%

CIP_1291 Is a supermarket which received incentives from installing reduced LPD and an above-code HVAC system.

Area	Area (SqFt)	Code W/SF	Installed W/SF	HOU	Expected kWh	Verified kWh	Realization Rate
Warehouse - Non-Refrigerated (Building area method)	13,075	1.26	0.77	2,417	43,993	43,897	99.8%
Total					43,993	43,897	99.8%

Measure	Capacity	SEER/HPSF base	SEER/HSPF efficient	EFLH	Expected kWh	Verified kWh	Realization Rate
HP (cooling)	3	14.3	19.8	1,526	1,374	1,185	86.3%
HP (heating)	3.5	7.5	8.7	153			

TABLE 20-7: PROJECT CIP_1291 SAVINGS

Measure	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	kWh RR	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	kW RR
Interior Lighting	43,993	43,897	99.8%	10.80	10.78	99.8%
Prescriptive HVAC	1,374	1,185	86.3%	(0.65)	0.64	N/A
Total	45,367	45,082	99.4%	10.15	11.41	112.5%

CIP_1297 Is a supermarket which received incentives from installing reduced LPD and an above-code HVAC system.

Area	Area (SqFt)	Code W/SF	Installed W/SF	HOU	Expected kWh	Verified kWh	Realization Rate
parking lots & drives	53,215	0.095	0.03	4,319	14,678	14,678	100.0%
entry canopies	695	0.325	0.29	4,319	112	112	100.0%
Total					14,790	14,790	100.0%

For the NC HVAC project component, installed AC units were rated at 10.9 EER, however the Federal baseline for this equipment is 11.0 EER, resulting in no savings for these measures.

Measure	Capacity	EER base	EER efficient	EFLH	Expected kWh	Verified kWh	Realization Rate

Air Conditioner	12.5	11.0	10.9	3,191	31,453	-	0.0%

TABLE 20-8: PROJECT CIP_1297 SAVINGS

Measure	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	kWh RR	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	kW RR
Exterior Lighting	14,678	14,678	100.0%	0.00	0.00	N/A
Prescriptive HVAC	31,453	0	0.0%	0.00	0.00	N/A
Total	48,643	14,721	30.30%	0.00	0.00	N/A

TABLE 20-9 VERIFIED SAVINGS

Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	RR kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	RR kW
209,706	180,212	85.94%	44.54	38.67	86.82%

The overall verified energy savings is 180,212 kWh and the peak demand reduction is 38.97 kW resulting in realization rates of 85.94% and 86.82% respectively.

20.2.1.1 Avoided Replacement Costs

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarizes the ARC by measure.

Information on methodology can be found in Section 3.4.1.3.

TABLE 20-10 C&I NC ARC SUMMARY

Measure	Ex Post Gross ARCs (\$)
New Construction Interior Lighting	\$144,064
New Construction Exterior Lighting	\$1,331,672
HVAC	\$0
Energy Star Refrigerator	\$0
Total	\$1,475,736

20.2.2 Net Impact Findings

No interviews were completed with C&I NC participants in PY15. Therefore, an average of participant survey responses from the PY12 and PY13 evaluations were used to estimate the net savings of the program. The net-to-gross ratio was 68.2%.

20.2.3 Process Evaluation Findings

The Evaluators conducted a limited process evaluation of the C&I Construction Solutions program in PY15. Process activities included a database review and staff and implementer interviews.

20.2.3.1 *Program Design and Implementation*

The New Construction / Code Compliance program supports energy-efficient design and construction practices for commercial new construction and major renovation projects. The offering is intended to influence project design early, promote practices that exceed code, and reduce long-term energy use.

The program is open to all commercial sectors and supports both market-rate and publicly funded projects. Services may include energy modeling, design review, and financial incentives for efficient equipment or envelope upgrades. The implementer also tracks code compliance among projects receiving support.

Program staff explained that the baseline for new construction projects was adjusted from the 2021 energy code to the 2015 code to preserve savings opportunities that would otherwise be diminished under stricter standards. This change, approved by the City Council, resulted in a new track referred to by staff as the “New Construction / Code Compliance” program. While detailed eligibility criteria and project size thresholds were not discussed, the adjustment reflects efforts to maintain meaningful savings potential and ensure continued program impact under evolving code requirements.

20.2.3.2 *Marketing and Outreach*

Outreach for this offering is relationship-based. Project leads may come from:

- Trade allies (e.g., architects, engineers, general contractors)
- Entergy Key Account Reps
- Repeat participants from other programs
- Word-of-mouth and local development networks

The program is not heavily marketed through mass campaigns, and success relies on early identification of eligible projects, often well before construction begins.

20.2.3.3 *Trade Ally Role and Involvement*

Trade allies are crucial to program participation, particularly design professionals and mechanical, electrical, plumbing engineers. They often bring projects into the program and coordinate with the implementer to ensure compliance with modeling and documentation requirements.

The implementer supports these partners with technical guidance and incentive planning. Project timelines may be long (12–24+ months), so ongoing engagement is essential.

20.2.3.4 *Participant Awareness and Motivation*

Participants often become aware of the offering through professional networks, contractor referrals, or previous participation. Motivating factors include:

- Financial incentives that help offset cost premiums for higher-efficiency design
- Technical support to navigate energy code requirements
- Interest in LEED or other sustainability certifications
- Long-term operational cost savings

20.2.3.5 Participation in Program Offerings

20.2.3.5.1 Participant Journey Overview

New construction participation typically follows a longer timeline than retrofit projects. A standard process includes:

1. A project is identified through a trade ally, Key Account Rep, or direct outreach.
2. The implementer meets with the project team to scope efficiency opportunities.
3. Energy modeling or measure review is conducted to establish baseline vs. proposed savings.
4. The participant submits documentation and applies for pre-approval of incentives.
5. Construction is completed according to approved plans.
6. Final documentation is submitted for review, and incentives are paid.

20.2.3.5.2 Major Measure Installations

Common measures include high-efficiency HVAC, lighting, controls, and envelope upgrades. Savings are often modeled as a whole-building package.

20.2.3.6 Participant Experience and Satisfaction

The implementer noted that long project timelines and extensive documentation can create administrative burden, especially for less experienced firms. Ongoing implementer support is often needed throughout the project.

20.3 Data Tracking Review

The Evaluators reviewed the tracking data provided from program implementers. Information included for the PFI program was:

- Project Information: Program name, project name, project unique ID, service address, account number associated with savings, trade ally and associated trade ally contact
- Measure Specific Information: Measure name/description, quantity, kWh savings, kW reduction, incentive, install cost, equipment cost, measure type (prescriptive/custom), end use type and install date
- Facility Information: Site address, building type and primary heating and cooling types.
- Participant Information: Primary contact name, email address and phone number

The Evaluators note that a supplemental tracking dataset was provided for this program and a few others. This data had some additional fields.

20.4 Findings and Recommendations

Findings:

- **The program is relationship-driven and technically strong, but long timelines and documentation requirements create administrative burden for some project teams.** The offering relies heavily on early engagement with architects, engineers, and contractors, and the implementer provides ongoing technical support throughout multi-year project cycles. This relationship-based model is appropriate for new construction, but the combination of long timelines, energy modeling requirements, and extensive

documentation can be challenging for firms with limited experience in efficiency programs. Staff note that implementer support is often needed throughout the entire design-to-construction process.

- **Awareness and participation depend on professional networks, and the recent baseline adjustment reflects an effort to preserve savings opportunities under evolving code requirements.** Participation is driven almost entirely by trade allies, Key Account Reps, and repeat program users. The program is not marketed broadly, and success depends on identifying eligible projects early in the design process. The shift from a 2021 to a 2015 code baseline—approved by the City Council—was implemented to maintain meaningful savings potential as codes tightened, signaling the program’s need to adapt to regulatory changes.

Recommendations:

- **To reduce administrative friction, continue refining guidance and support materials for less experienced firms**—such as clearer documentation checklists, early scoping templates, or periodic touchpoints during long project timelines. These light-touch supports could help maintain engagement without altering the program’s technical rigor.
- **To sustain participation and savings, reinforce outreach within professional networks**—such as targeted engagement with design firms, engineering groups, and local development organizations. As codes evolve, maintaining clear communication about baseline assumptions and eligibility criteria may also help ensure that project teams understand how the program fits into their design and compliance strategies.

21 PUBLICLY FUNDED INSTITUTIONS

21.1 Summary

The tables below report *ex ante* gross, *ex post* gross, *ex post* net energy savings (kWh) (both annual and lifetime), demand reductions (kW), participation, and incentive spend, by measure, where applicable. Additionally, the tables above represent evaluation findings for each measure, whereas the analysis described in this chapter summarize the findings of the evaluation stratum.

TABLE 21-1 PY15 PFI ENERGY SAVINGS (KWH)

Measure	<i>Ex Ante</i> Gross Savings (kWh)	Realization Rate (kWh)	<i>Ex Post</i> Gross Savings (kWh)	NTG	<i>Ex Post</i> Net Savings (kWh)
Chiller tune-up	25,066	106.3%	26,633	92.9%	24,750
AC tune-up	22,288	88.7%	19,759	92.9%	18,362
coil cleaning	554,218	93.2%	516,715	92.9%	480,183
HVAC	1,785	100.8%	1,799	92.9%	1,672
BAS	653,237	100.0%	653,237	92.9%	606,857
Total	1,256,593	106.3%	1,218,144	92.9%	1,131,824

Sums may differ due to rounding.

TABLE 21-2 PY15 PFI DEMAND REDUCTIONS (kW)

Measure	<i>Ex Ante</i> Gross Demand (kW)	Realization Rate (kW)	<i>Ex Post</i> Gross Demand (kW)	NTG	<i>Ex Post</i> Net Demand (kW)
Chiller tune-up	9.95	121.5%	12.09	92.9%	11.23
AC tune-up	12.62	88.2%	11.14	92.9%	10.35
coil cleaning	242.61	99.0%	240.11	92.9%	223.14
HVAC	0.60	100.7%	0.61	92.9%	0.57
BAS	0.00	N/A	0.00	92.9%	0.00
Total	265.78	99.3%	263.95	92.9%	245.28

Sums may differ due to rounding.

TABLE 21-3 PY15 PFI LIFETIME SAVINGS SUMMARY

Measure	EUL	<i>Ex Post</i> Gross Lifetime Energy Savings (kWh)	<i>Ex Post</i> Net Lifetime Energy Savings (kWh)
Chiller tune-up	3	79,900	74,251
AC tune-up	5	98,795	91,811
coil cleaning	5	2,583,574	2,400,913
HVAC	15	26,991	25,083
BAS	15	9,798,555	9,102,858
Total	10.3	12,587,816	11,694,915

Sums may differ due to rounding.

TABLE 21-4 PY15 PFI COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend (\$)

Chiller tune-up	195	\$2,925
AC tune-up	2	\$800
coil cleaning	1,474	\$83,273
HVAC	15	\$221
BAS	1	\$97,986
Total	1,687	\$185,204

Sums may differ due to rounding.

21.2 Program Description

The Publicly Funded Institutions (PFI) program provides financial incentives and technical services to encourage the participation of publicly funded customers. The PFI offering is designed to help this customer segment overcome barriers to energy improvement, such as higher first-cost of efficiency equipment and a lack of technical knowledge or resources. The incentives are based on the total demand (kW) of the facility; above or below 100 kW. Rebates are available for the following categories: prescriptive (TRM-based); custom lighting; and custom non-lighting.

21.2.1 Program Delivery Channels and Expected Savings

The program was open and available to customers between January 1, 2025, and December 31, 2025. Project documentation showed that there were nineteen projects completed. These twenty projects have a total expected energy savings of 1,256,592 kWh and a peak demand reduction of 265.79 kW.

TABLE 21-5 PFI SAVINGS EXPECTATIONS

Project Count	Measure Count	<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Ante</i> Gross Demand Reductions (kW)
51	1,687	1,256,593	265.79

TABLE 21-6 PFI SAVINGS EXPECTATIONS BY MEASURE TYPE

Measure	Count of Project Components	<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Ante</i> Gross Demand Reductions (kW)	Percent Savings (kWh)
Chiller tune-up	195	25,066	9.95	2.0%
AC tune-up	2	22,288	12.62	1.8%
coil cleaning	1,474	554,218	242.61	44.1%
HVAC	15	1,785	0.60	0.1%
BAS	1	653,237	0.00	52.0%
Total	1,687	1,256,593	265.78	

21.2.2 Timing of Projects

Below outlines ex ante kWh and project count by the project reported install date for projects claimed in PY15.

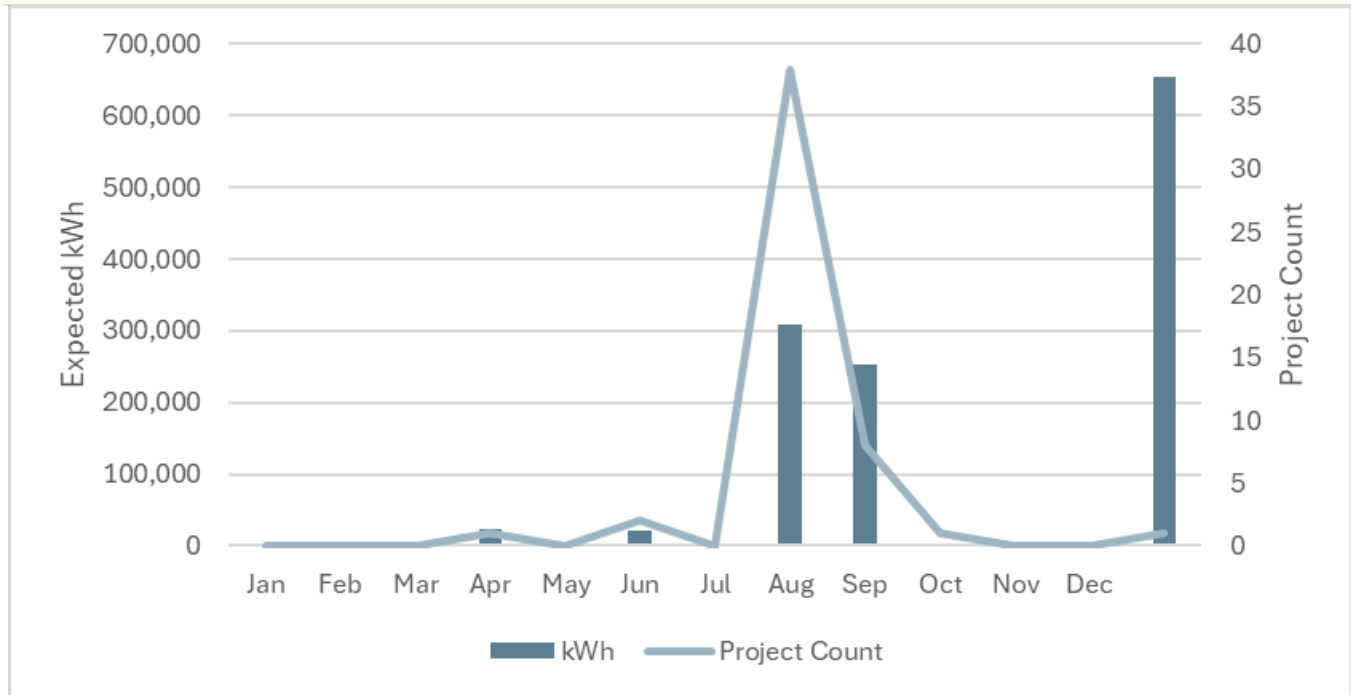


FIGURE 21-1 PFI PARTICIPATION BY PROJECT INSTALL MONTH

The program had the largest number of projects completed in July (38 projects) and saw its largest expected energy reduction claimed in December (653,237 kWh) which was 52.0% of the total expected energy savings for the year.

21.2.3 Trade Allies

The program saw eleven trade allies complete projects, their participation is summarized below.

TABLE 21-7 PFI TRADE ALLY PARTICIPATION

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	558,474	47	44.4%
Trade Ally 2	22,594	1	1.8%
Trade Ally 3	653,237	1	52.0%
Trade Ally 4	22,288	2	1.8%

21.2.4 Goal Achievement

The program had a verified savings of 1,218,143 kWh and a verified peak demand reduction of 263.95 kW.

TABLE 21-8 PFI SUMMARY OF GOAL ACHIEVEMENT

<i>Ex post</i> Gross Energy Savings (kWh) Goal	% to kWh Goal	<i>Ex post</i> Gross Energy Savings (kWh)	<i>Ex post</i> Gross Savings (kW) Target	% to kW Target	<i>Ex post</i> Gross Savings (kW)

21.3 EM&V Methodology

Evaluation of the PFI offering requires the following:

- Stratified Random Sampling (as detailed in Section 3.3.) and by selecting large saving sites with certainty.
- Two on-site verifications were conducted, desk reviews of all ten sampled; and
- Interviewing program participants and trade allies.

Energy savings was estimated using proven techniques, including engineering calculations using industry standards to determine energy savings. Methods for evaluating lighting measures are described in the Small C&I Solutions Chapter, Section 1.2.1 M&V Methodology.

21.3.1 Site Visits

There were two site visits in PY15.

21.3.2 Sample Design

Sampling for evaluation of the program was developed using the Stratified Random Sampling procedure detailed in Section 3.3. This procedure provides 90% confidence and +/- 10% precision with a significantly reduced sample than simple random sampling would require by selecting the highest saving facilities with certainty, thereby minimizing the variance that non-sampled sites can contribute to the overall results. Table 21-9 summarizes the total participation in the PY15 PFI offering.

TABLE 21-9 PY15 PFI OFFERING PARTICIPATION AND SAMPLING SUMMARY

# Projects	Expected kWh	Expected Peak kW	Sample Size
50	1,256,592	265.79	10

The participant population was divided into five strata. Table 21-10 summarizes the strata boundaries and sample frames for the program. Table 21-10 summarizes expected savings for of both the sample and population. The achieved sampling precision was $\pm 6.50\%$ at 90% confidence.

TABLE 21-10 PFI OFFERING SAMPLE DESIGN

	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Stratum 5	Totals
Strata boundaries (kWh)	< 10,000	10,001 - 20,000	20,001 - 50,000	50,001 - 85,000	> 85,001	
Number of projects	30	10	7	2	1	51
Total kWh savings	108,107	147,721	216,185	131,342	653,237	1,256,592
Average kWh Savings	3,487	14,772	30,884	65,671	653,237	24,639
Standard deviation of kWh savings	2,940	2,287	7,601	28,512	0	91,070
Coefficient of variation	0.843	0.155	0.246	0.310	0.000	3.696
Final design sample	2	3	2	2	1	10

TABLE 21-11 PFI EXPECTED SAVINGS FOR SAMPLED AND NON-SAMPLED PROJECTS BY STRATUM

Stratum	Total Expected Savings	Sampled Expected Savings
1	51,194	7,560
2	204,634	56,951
3	216,185	66,568
4	131,342	131,342
5	653,237	653,237
Total	1,256,592	915,658

21.4 Evaluation Findings

21.4.1 Gross Impact Findings

21.4.1.1 PFI Project Level Results

Sites chosen within each stratum were reviewed to verify installation of rebated equipment. The reviewed information was used to perform calculations to determine the ex post verified savings. The realization rates for sites within each stratum were then applied to the non-sampled sites within their respective stratum.

TABLE 21-12 SUMMARY OF PFI KWH SAVINGS FOR PFI OFFERING BY SAMPLE STRATUM

Stratum	Sample <i>Ex Ante</i> Gross Energy Savings (kWh)	Sample <i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate
1	14,944	7,679.00	51.4%
2	47,095	47,489.00	100.8%
3	66,568	74,727.00	112.3%
4	131,342	117,716.00	89.6%
5	653,237	653,237.00	100.0%
Total	913,186	900,848.00	96.9%

The specific site level realization rates are shown in Table 21-13 below.

TABLE 21-13 PFI EXPECTED AND VERIFIED SAVINGS BY SAMPLED PROJECT

Project ID(s)	Facility Type	<i>Ex Ante</i> Gross Energy Savings (kWh)	<i>Ex Post</i> Gross Energy Savings (kWh)	Realization Rate
CIP_1375	Public Order and Safety	5,088	717	14.1%
CIP_1402	Public Order and Safety	9,857	6,962	70.6%
CIP_1441	Outdoor	12,423	8,373	67.4%
CIP_1443	Outdoor	16,989	29,876	175.9%
CIP_1299	Public Order and Safety	17,683	9,239	52.2%
CIP_1434	Public Assembly	29,490	39,639	134.4%
CIP_1440	Public Assembly	37,079	35,088	94.6%
CIP_1437	Public Assembly	51,257	61,211	119.4%
CIP_1444	Public Assembly	80,085	56,505	70.6%
CIP_1363	Large Office	653,237	653,237	100.0%

Totals:		913,188	900,847	98.6%

21.4.1.2 PFI Program Level Results

Using the realization rates presented in Table 21-12, the evaluators extrapolated the results from the sampled projects to non-sampled projects to determine the program level verified results.

TABLE 21-14 PFI OFFERING LEVEL REALIZATION BY STRATUM

Stratum	# Sites	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	Realization Rate kWh	Ex Ante Gross Demand Reductions (kW)	Ex Post Gross Demand Reductions (kW)	Realization Rate kW
1	30	108,107	55,551	51.4%	45.19	22.71	50.2%
2	10	147,721	148,957	100.8%	63.72	64.15	100.7%
3	7	216,185	242,682	112.3%	82.48	109.16	132.4%
4	2	131,342	117,716	89.6%	74.40	67.93	91.3%
5	1	653,237	653,237	100.0%	-	-	
Total	50	1,256,592	1,218,143	96.9%	265.79	263.95	99.3%

The *ex post* gross energy savings (kWh) in PY15 are 1,218,143 kWh and 263.95 kW resulting in realization rates of 96.9% and 99.3% respectively.

21.4.1.3 PFI Causes of Savings Deviations

For illustrative purposes, the Evaluators have summarized these adjustments and others in Table 21-15.

TABLE 21-15 PFI CAUSES OF VARIANCE IN KWH SAVINGS

Project ID(s)	Ex Ante Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh)	RR	Causes of Variance in Savings
CIP_1375	5,088	717	14.1%	Coil cleaning. Reported EER values exceeded unit rating, savings calculations defaulted to 'component' method. Ex ante calculations were not shown in ex ante workbook, precluding comparison.
CIP_1402	9,857	6,962	70.6%	Coil cleaning. EER calculations and verified savings were carried out using methods described in the TRM and AC Tune-Up memo. Ex ante calculations were not shown in ex ante workbook, precluding comparison.
CIP_1441	12,423	8,373	67.4%	Coil cleaning. Reported EER values were below 5.0, indicating that either the data was bad or the unit was in need of repair. Savings calculations defaulted to 'component' method. Ex ante calculations were not shown in ex ante workbook, precluding comparison.
CIP_1299	17,683	9,239	52.2%	Coil cleaning. Reported EER values were below 5.0, indicating that either the data was bad or the unit was in need of repair. Savings calculations defaulted

				to 'component' method. Ex ante calculations were not shown in ex ante workbook, precluding comparison.
CIP_1444	80,085	56,505	70.6%	Coil cleaning. Reported EER values were below 5.0, indicating that either the data was bad or the unit was in need of repair. Savings calculations defaulted to 'component' method. Ex ante calculations were not shown in ex ante workbook, precluding comparison.

21.4.2 Net Impact

No interviews with PFI participants were completed in PY15. Therefore, an average of participant survey responses from the PY12 and PY13 evaluations were used to estimate the net savings of the program. The net-to-gross ratio was 92.9%.

21.4.2.1 Avoided Replacement Costs

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarize the ARC by measure in PFI.

Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 21-16 SUMMARY OF ARC FOR PFI

Measure	Ex Post Gross ARCs (\$)
Screw Based LED	\$0
Linear LED	\$0
LED Fixtures	\$0
Incentive Bonus	\$0
New Construction Exterior Lighting	\$0
BMS	\$0
Chiller	\$0
Total	\$0

Sums may differ due to rounding.

21.4.3 Process Findings

The Evaluators conducted a process evaluation of the PFI program in PY15. Process activities included a database review and staff and implementer interviews. Participant interviews were also attempted, however no customers responded to outreach efforts.

21.4.3.1 Program Description and Implementation

The Publicly Funded Institutions offering provides tailored support and incentives for energy efficiency projects undertaken by schools, local governments, and other publicly funded entities. These projects often face unique budget constraints and longer decision-making timelines compared to private-sector customers.

PFI projects are delivered through the Large Commercial track but are treated as a distinct subcategory due to their funding structures, internal approval processes, and procurement requirements. Program staff often work with these institutions over multiple years to align project planning with budget cycles.

21.4.3.1 *Marketing and Outreach*

Outreach to PFI customers is conducted primarily through one-on-one engagement with energy managers, facility directors, or administrative leadership. Projects often originate from:

- Entergy Key Account Representatives
- Trade ally referrals
- Follow-up with previous participants
- Outreach by program staff to schools, city agencies, or housing authorities

Due to long approval timelines, the program tracks projects well in advance and may re-engage with institutions over multiple program years.

21.4.3.2 *Trade Ally Role and Involvement*

Trade allies often initiate projects by identifying eligible upgrades during routine work or bid opportunities. PFI projects may require additional contractor coordination due to public procurement rules or prevailing wage requirements.

Implementer staff often support trade allies and customers in navigating administrative paperwork, estimating savings, and compiling required documentation.

21.4.3.3 *Participant Awareness and Motivation*

Awareness of the program within the PFI sector is driven by previous participation, utility relationships, or trade ally engagement. Motivations include:

- Budget relief through incentive offsets
- Opportunities to complete deferred maintenance
- Alignment with sustainability or public accountability goals
- External requirements for energy planning (e.g., city mandates)

PFI participants may also be motivated by political visibility or demonstration value of energy projects.

21.4.3.4 *Participation in Program Offerings*

21.4.3.4.1 *Participant Journey Overview*

PFI participation mirrors that of other Large Commercial projects but often takes longer due to internal processes. A typical journey includes:

1. A trade ally, Key Account Rep, or program staff identifies a project opportunity.
2. The customer initiates planning and seeks internal approvals or budget alignment.
3. Implementer staff support energy calculations, incentive planning, and application documentation.
4. The project is implemented and verified post-installation.
5. Final documentation is submitted and reviewed, and the incentive is paid.

Some PFI customers may pursue phased projects across multiple program years.

21.4.3.4.2 *Major Measure Installations*

PFI projects typically include lighting retrofits, HVAC upgrades, controls, and other large capital improvements. These may span multiple buildings or systems.

21.4.3.1 *Participant Experience and Satisfaction*

PFI customers often require more support and longer engagement than other commercial participants. Program staff noted that satisfaction is generally tied to clear communication, flexible timelines, and staff assistance in navigating public-sector paperwork and constraints.

21.5 Data Tracking Review

The Evaluators reviewed the tracking data provided from program implementers. Information included for the PFI program was:

- Project Information: Program name, project name, project unique ID, service address, account number associated with savings, trade ally and associated trade ally contact
- Measure Specific Information: Measure name/description, quantity, kWh savings, kW reduction, incentive, install cost, equipment cost, measure type (prescriptive/custom), end use type and install date
- Facility Information: Site address, building type and primary heating and cooling types.
- Participant Information: Primary contact name, email address and phone number

21.6 Findings and Recommendations

Findings:

The program is well aligned with the needs of public institutions, but long approval cycles and procurement requirements create administrative complexity that requires sustained implementer support. PFI projects often span multiple fiscal years, require internal approvals, and must comply with public procurement rules. As a result, they demand more hands-on assistance than typical commercial projects. Implementer staff frequently help with documentation, savings estimates, and navigating public sector constraints. This support is essential, but it also means the program must maintain long-term engagement with customers and trade allies.

Participation is driven by relationships and repeat engagement, and motivations center on budget relief and deferred maintenance rather than efficiency alone. PFI customers typically enter the program through Key Account Reps, trade allies, or prior participation. Motivations include offsetting capital costs, addressing deferred maintenance, and meeting public accountability or sustainability goals. Because the program is not marketed broadly, participation depends on maintaining strong relationships with institutional stakeholders and identifying opportunities early in the planning process.

Recommendations:

To ease administrative burden, continue refining tools that support multiyear planning—such as clearer documentation templates, early scoping guidance, or periodic check-ins during long approval cycles. These light touch supports could help institutions stay on track without requiring major program changes.

To sustain participation, reinforce outreach within institutional networks—such as facility directors, school districts, and city agencies—and ensuring that these stakeholders understand how incentives can support long-

term capital planning. Highlighting examples of successful PFI projects may also help demonstrate value and encourage repeat engagement.

22 APPENDIX B: COST-EFFECTIVENESS METHODS

22.1 Summary

The Evaluators estimated the cost-effectiveness for the overall energy efficiency and demand response portfolio of programs, based on PY15 costs and savings estimates provided by ENO and their third-party implementers. This appendix provides the cost-effectiveness results, as well as a brief overview of the approach taken by the Evaluators. The portfolio and energy efficiency programs pass all the cost-effectiveness tests except the RIM test. The table below presents the cost-effectiveness results for the PY15 portfolio.

TABLE 22-1 PY15 COST-EFFECTIVENESS RESULTS

Program	TRC	UCT	RIM	PCT	SCT
Home Performance with ENERGY STAR®	1.08	1.09	0.40	4.31	1.42
Retail Lighting & Appliances	0.37	0.35	0.20	5.06	0.42
Retail Lighting & Appliances Income-Qualified	0.52	0.46	0.22	3.34	0.60
Multifamily Solutions	1.16	1.22	0.37	4.65	1.49
Multifamily Solutions Income-Qualified	1.61	1.55	0.45	4.98	2.21
Income-Qualified Weatherization	1.50	1.42	0.54	2.81	2.17
AC Solutions	1.16	1.36	0.43	3.14	1.39
AC Solutions Income-Qualified	1.01	1.01	0.39	3.53	1.14
School Kits & Education	0.78	0.78	0.26	6.69	0.91
Residential HVAC Midstream	0.32	0.35	0.27	1.83	0.42
Neighborhood-Based Delivery Pilot	1.28	1.22	0.49	3.61	1.84
Behavioral	1.50	1.50	0.33	0.00	1.50
EasyCool (BYOT)	0.96	0.61	0.60	0.00	0.96
Peak Time Rebate	0.28	0.21	0.21	0.00	0.28
Battery Pilot (BESS)	0.18	0.10	0.10	0.00	0.18
Small Commercial & Industrial Solutions	0.92	0.89	0.30	5.19	1.10
Large Commercial & Industrial Solutions	1.14	1.66	0.35	3.80	1.39
Publicly Funded Institutions	0.81	0.84	0.27	5.34	0.95
Commercial New Construction Code Compliance	6.47	0.42	0.22	21.27	6.58
Large C&I DR	0.54	0.38	0.38	0.00	0.54
EV Charging (BYOC) Pilot	0.10	0.08	0.08	0.00	0.10
Total	1.11	1.15	0.38	3.95	1.40

22.2 Methods

The California Standard Practice Model was used as a guideline for the calculations, along with guidance from the ENO TRM V8.0, the IL TRM V9.0, and the AR TRM v9.1. The cost-effectiveness analysis methods that were used in this analysis are among the set of standard methods used in this industry and include the Utility Cost

Test (UCT)²², Total Resource Cost Test (TRC), Ratepayer Impact Measure Test (RIM), and Participant Cost Test (PCT). All tests weigh monetized benefits against costs. These monetized amounts are presented as Net Present Value (NPV) evaluated over the lifespan of the measure. The benefits and costs differ for each test based on the perspective of the test. The definitions below are taken from the California Standard Practice Manual.

The TRC measures the net costs of a demand-side management program as a resource option based on the total costs of the program, including both the participants' and the utility's costs.

The UCT measures the net costs of a demand-side management program as a resource option based on the costs incurred by the program administrator (including incentive costs) and excluding any net costs incurred by the participant. The benefits are similar to the TRC benefits. Costs are defined more narrowly.

The PCT is the measure of the quantifiable benefits and costs to the customer due to participation in a program. Since many customers do not base their decision to participate in a program entirely on quantifiable variables, this test cannot be a complete measure of the benefits and costs of a program to a customer.

The RIM test measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the program. Rates will go down if the change in revenues from the program is greater than the change in utility costs. Conversely, rates or bills would go up if revenues collected after program implementation is less than the total costs incurred by the utility in implementing the program. This test indicates the direction and magnitude of the expected change in customer bills or rate levels.

A common misperception is that there is a single best perspective for evaluation of cost-effectiveness. Each test is useful and accurate, but the results of each test are intended to answer a different set of questions. The questions to be addressed by each cost test are shown in the table below.²³

TABLE 22-2 QUESTIONS ADDRESSED BY THE VARIOUS COST TESTS

Cost Test	Questions Addressed
Participant Cost Test (PCT)	Is it worth it to the customer to install energy efficiency?
	Is it likely that the customer wants to participate in a utility program that promotes energy efficiency?
Ratepayer Impact Measure (RIM)	What is the impact of the energy efficiency project on the utility's operating margin?
	Would the project require an increase in rates to reach the same operating margin?
Utility Cost Test (UCT)	Do total utility costs increase or decrease?
	What is the change in total customer bills required to keep the utility whole?
Total Resource Cost Test (TRC)	What is the regional benefit of the energy efficiency project (including the net costs and benefits to the utility and its customers)?

²² The UCT is also referred to as the Program Administrator Cost Test (PACT).

²³ <https://www.epa.gov/energy/understanding-cost-effectiveness-energy-efficiency-programs>

	Are all of the benefits greater than all of the costs (regardless of who pays the costs and who receives the benefits)?
	Is more or less money required by the region to pay for energy needs?

Overall, the results of all four cost-effectiveness tests provide a more comprehensive picture than the use of any one test alone. The TRC cost test addresses whether energy efficiency is cost-effective overall. The PCT, UCT, and RIM address whether the selection of measures and design of the program are balanced from the perspective of the participants, utilities, and nonparticipants. The scope of the benefit and cost components included in each test are summarized in the table below.²⁴

TABLE 22-3 BENEFITS AND COSTS INCLUDED IN EACH COST-EFFECTIVENESS TEST

Test	Benefits	Costs
PCT (Benefits and costs from the perspective of the customer installing the measure)	Incentive payments	Incremental equipment costs
	Bill Savings	Incremental installation costs
	Applicable tax credits or incentives	
UCT (Perspective of utility, government agency, or third party implementing the program)	Energy-related costs avoided by the utility	Program overhead costs
	Capacity-related costs avoided by the utility, including generation, transmission, and distribution	Utility/program administrator incentive costs
TRC (Benefits and costs from the perspective of all utility customers in the utility service territory)	Energy-related costs avoided by the utility	Program overhead costs
	Capacity-related costs avoided by the utility, including generation, transmission, and distribution	Program installation costs
	Additional resource savings	Incremental measure costs
	Monetized non-energy benefits as outlined by the TRM.	
RIM (Impact of efficiency measure on non-participating ratepayers overall)	Energy-related costs avoided by the utility	Program overhead costs
	Capacity-related costs avoided by the utility, including generation, transmission, and distribution	Lost revenue due to reduced energy bills
		Utility/program administrator installation costs

²⁴ *Ibid.*

22.2.1 Line Losses

The Evaluators used the line losses provided by ENO for the PY15 evaluation.

22.2.2 Economic Inputs

The Evaluators used the economic inputs provided by ENO for the cost benefit analysis, this included avoided costs that were estimated using the Real Economic Carrying Charge (RECC) approach. The rates utilized for avoided water from Protocol L in the AR TRM V9.1.

The Evaluators used the discount rates provided by ENO to perform the cost benefit analysis, and these values align with the rates used in the PY13 to PY15 Plan. The evaluated net energy savings (kWh) and demand reductions (kW) values utilized in the cost benefit analysis include a line loss factor, those values are in the table below. Additionally, the table below outlines the discount rates, escalation rate and avoided costs used in the PY15 cost-effectiveness analysis.

TABLE 22-4 ECONOMIC INPUTS FOR COST EFFECTIVENESS ANALYSIS

Discount Rates	
Utility (TRC)	6.86%
Utility (UCT)	6.86%
Utility (RIM)	6.86%
Societal (SCT)	3.00%
Participant (PCT)	10.00%
Line Losses	
Line Losses (demand)	4.66%
Line Losses (energy)	4.19%
Escalation rate	2.00%
Avoided Costs	
Avoided Energy (\$/kWh)	\$0.05
Avoided Demand (\$/kW)	\$84.59

22.3 Findings

The tables below outline the results for each test, for both the programs and the portfolio as a whole.

TABLE 22-5 PY15 COST-EFFECTIVENESS RESULTS BY PROGRAM

Program	TRC	UCT	RIM	PCT	SCT
HPwES	1.08	1.09	0.40	4.31	1.42
RLA	0.37	0.35	0.20	5.06	0.42
RLA IQ	0.52	0.46	0.22	3.34	0.60
MF Solutions	1.16	1.22	0.37	4.65	1.49
MF Solutions IQ	1.61	1.55	0.45	4.98	2.21
IQW	1.50	1.42	0.54	2.81	2.17
A/C Solutions	1.16	1.36	0.43	3.14	1.39
A/C Solutions IQ	1.01	1.01	0.39	3.53	1.14
SK&E	0.78	0.78	0.26	6.69	0.91
Residential HVAC Midstream	0.32	0.35	0.27	1.83	0.42
Neighborhood-Based Delivery Pilot	1.28	1.22	0.49	3.61	1.84
Behavioral	1.50	1.50	0.33	0.00	1.50

EasyCool (BYOT)	0.96	0.61	0.60	0.00	0.96
PTR Pilot	0.28	0.21	0.21	0.00	0.28
BESS Pilot	0.18	0.10	0.10	0.00	0.18
Small C&I Solutions	0.92	0.89	0.30	5.19	1.10
Large C&I Solutions	1.14	1.66	0.35	3.80	1.39
PFI	0.81	0.84	0.27	5.34	0.95
C&I NC Solutions	6.47	0.42	0.22	21.27	6.58
Large C&I DR	0.54	0.38	0.38	0.00	0.54
EV Charging Pilot	0.10	0.08	0.08	0.00	0.10
Total	1.11	1.15	0.38	3.95	1.40

Sums may differ due to rounding.

TABLE 22-6 PY15 COST-EFFECTIVENESS BENEFITS BY PROGRAM

Program	TRC Benefits	UCT Benefits	RIM Benefits	PCT Benefits	SCT Benefits
HPwES	\$1,989,734	\$1,989,734	\$1,989,734	\$3,414,745	\$2,621,413
RLA	\$195,753	\$195,753	\$195,753	\$514,488	\$224,667
RLA IQ	\$619,366	\$619,366	\$619,366	\$2,155,097	\$707,979
MF Solutions	\$1,001,041	\$1,001,041	\$1,001,041	\$1,946,921	\$1,287,280
MF Solutions IQ	\$2,027,931	\$2,027,931	\$2,027,931	\$3,370,834	\$2,771,841
IQW	\$6,473,511	\$6,473,511	\$6,473,511	\$9,608,481	\$9,314,609
A/C Solutions	\$1,129,818	\$1,129,818	\$1,129,818	\$2,062,331	\$1,354,503
A/C Solutions IQ	\$978,201	\$978,201	\$978,201	\$1,866,451	\$1,098,100
SK&E	\$238,684	\$238,684	\$238,684	\$628,456	\$276,871
Residential HVAC Midstream	\$212,877	\$212,877	\$212,877	\$225,243	\$282,454
Neighborhood-Based Delivery Pilot	\$2,260,399	\$2,260,399	\$2,260,399	\$3,219,742	\$3,259,650
Behavioral	\$648,558	\$648,558	\$648,558	\$1,534,753	\$648,558
EasyCool (BYOT)	\$533,167	\$533,167	\$533,167	\$308,499	\$533,167
PTR Pilot	\$67,644	\$67,644	\$67,644	\$87,765	\$67,644
BESS Pilot	\$14,890	\$14,890	\$14,890	\$61,221	\$14,890
Small C&I Solutions	\$1,790,633	\$1,638,932	\$1,638,932	\$3,872,701	\$2,142,094
Large C&I Solutions	\$13,662,482	\$13,524,729	\$13,524,729	\$30,907,208	\$16,663,339
PFI	\$421,808	\$421,808	\$421,808	\$1,085,346	\$492,941
C&I NC Solutions	\$1,079,979	\$72,939	\$72,939	\$1,200,245	\$1,098,637
Large C&I DR	\$1,181,201	\$1,181,201	\$1,181,201	\$948,513	\$1,181,201
EV Charging Pilot	\$13,806	\$13,806	\$13,806	\$25,497	\$13,806
Total	\$36,541,485	\$35,244,990	\$35,244,990	\$69,044,537	\$46,055,645

Sums may differ due to rounding.

TABLE 22-7 PY15 COST-EFFECTIVENESS COSTS BY PROGRAM

Program	TRC Costs	UCT Costs	RIM Costs	PCT Costs	SCT Costs
HPwES	\$1,847,910	\$1,831,827	\$5,011,427	\$791,758	\$1,847,910
RLA	\$530,973	\$564,459	\$993,861	\$101,770	\$530,973
RLA IQ	\$1,188,938	\$1,333,776	\$2,852,438	\$644,355	\$1,188,938
MF Solutions	\$866,517	\$821,390	\$2,715,236	\$418,725	\$866,517

MF Solutions IQ	\$1,256,318	\$1,308,578	\$4,512,443	\$676,717	\$1,256,318
IQW	\$4,302,284	\$4,550,022	\$11,914,145	\$3,425,167	\$4,302,284
A/C Solutions	\$975,429	\$833,569	\$2,602,352	\$655,884	\$975,429
A/C Solutions IQ	\$967,002	\$967,002	\$2,527,938	\$529,344	\$967,002
SK&E	\$305,533	\$305,533	\$906,210	\$94,000	\$305,533
Residential HVAC Midstream	\$665,952	\$603,012	\$802,546	\$123,040	\$665,952
Neighborhood-Based Delivery Pilot	\$1,772,050	\$1,852,240	\$4,637,463	\$893,010	\$1,772,050
Behavioral	\$431,585	\$431,585	\$1,966,337	\$0	\$431,585
EasyCool (BYOT)	\$553,216	\$870,841	\$885,065	\$0	\$553,216
PTR Pilot	\$237,440	\$324,310	\$325,205	\$0	\$237,440
BESS Pilot	\$84,466	\$145,687	\$145,687	\$0	\$84,466
Small C&I Solutions	\$1,953,737	\$1,834,435	\$5,433,235	\$746,184	\$1,953,737
Large C&I Solutions	\$11,971,579	\$8,153,372	\$38,998,847	\$8,132,514	\$11,971,579
PFI	\$518,268	\$500,204	\$1,534,273	\$203,268	\$518,268
C&I NC Solutions	\$166,863	\$172,967	\$327,871	\$56,441	\$166,863
Large C&I DR	\$2,174,888	\$3,116,403	\$3,136,391	\$0	\$2,174,888
EV Charging Pilot	\$141,529	\$167,026	\$167,026	\$0	\$141,529
Total	\$32,912,478	\$30,688,238	\$92,395,998	\$17,492,179	\$32,912,478

Sums may differ due to rounding.

TABLE 22-8 PY15 COST-EFFECTIVENESS NET BENEFITS BY PROGRAM

Program	TRC Net Benefits	UCT Net Benefits	RIM Net Benefits	PCT Net Benefits	SCT Net Benefits
HPwES	\$141,823	\$157,907	-\$3,021,693	\$2,622,986	\$1,829,654
RLA	-\$335,220	-\$368,706	-\$798,108	\$412,718	\$122,897
RLA IQ	-\$569,572	-\$714,410	-\$2,233,072	\$1,510,742	\$63,624
MF Solutions	\$134,524	\$179,651	-\$1,714,195	\$1,528,196	\$868,555
MF Solutions IQ	\$771,614	\$719,354	-\$2,484,512	\$2,694,117	\$2,095,124
IQW	\$2,171,227	\$1,923,489	-\$5,440,634	\$6,183,314	\$5,889,442
A/C Solutions	\$154,389	\$296,249	-\$1,472,534	\$1,406,447	\$698,619
A/C Solutions IQ	\$11,199	\$11,199	-\$1,549,737	\$1,337,107	\$568,756
SK&E	-\$66,848	-\$66,848	-\$667,526	\$534,456	\$182,871
Residential HVAC Midstream	-\$453,075	-\$390,135	-\$589,670	\$102,203	\$159,414
Neighborhood-Based Delivery Pilot	\$488,348	\$408,158	-\$2,377,064	\$2,326,732	\$2,366,640
Behavioral	\$216,974	\$216,974	-\$1,317,779	\$1,534,753	\$648,558
EasyCool (BYOT)	-\$20,050	-\$337,675	-\$351,899	\$331,849	\$533,167
PTR Pilot	-\$169,796	-\$256,666	-\$257,561	\$87,765	\$67,644
BESS Pilot	-\$69,576	-\$130,797	-\$130,797	\$61,221	\$14,890
Small C&I Solutions	-\$163,104	-\$195,503	-\$3,794,303	\$3,126,517	\$1,395,910
Large C&I Solutions	\$1,690,903	\$5,371,356	-\$25,474,118	\$22,752,371	\$8,530,826
PFI	-\$96,460	-\$78,396	-\$1,112,465	\$882,077	\$289,673
C&I NC Solutions	\$913,116	-\$100,029	-\$254,932	\$1,143,804	\$1,042,196
Large C&I DR	-\$993,687	-\$1,935,201	-\$1,955,190	\$961,503	\$1,181,201
EV Charging Pilot	-\$127,723	-\$153,220	-\$153,220	\$25,497	\$13,806
Total	\$3,629,007	\$4,556,751	-\$57,151,008	\$51,566,375	\$28,563,466

Sums may differ due to rounding.

23 APPENDIX C: BEHAVIORAL PROGRAM MODEL OUTPUT

This section summarizes the post-program regression model output for each of the cohorts evaluated through the Behavioral Program.

23.1 Model Output

The tables in this section summarize each cohort's model results, including model terms, coefficients, confidence intervals, t-statistics, and p-values. In addition, adjusted R-squared values are demonstrated for each cohort.

TABLE 23-1 – QUALUS DIFFERENCE-IN-DIFFERENCE MODEL ESTIMATES – WAVE 1

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
pre_mo_year12_2022	9.218	9.009	9.428	72.379	0.000
pre_mo_year1_2023	2.866	2.657	3.075	22.579	0.000
pre_mo_year2_2023	3.833	3.625	4.041	30.299	0.000
pre_mo_year3_2023	2.317	2.110	2.524	18.392	0.000
pre_mo_year4_2023	0.450	0.243	0.656	3.584	0.000
pre_mo_year5_2023	9.079	8.873	9.284	72.616	0.000
pre_mo_year6_2023	24.277	24.072	24.481	195.230	0.000
pre_mo_year7_2023	28.082	27.878	28.286	226.944	0.000
pre_mo_year8_2023	33.705	33.503	33.908	273.638	0.000
pre_mo_year9_2023	19.671	19.470	19.872	160.729	0.000
pre_mo_year10_2023	3.120	2.919	3.321	25.544	0.000
post_mo_year12_2023	5.776	5.575	5.977	47.203	0.000
post_mo_year1_2024	13.825	13.623	14.027	112.653	0.000
post_mo_year2_2024	2.493	2.290	2.695	20.264	0.000
post_mo_year3_2024	-2.292	-2.495	-2.089	-18.595	0.000
post_mo_year4_2024	1.143	0.940	1.347	9.253	0.000
post_mo_year5_2024	14.658	14.455	14.862	118.274	0.000
post_mo_year6_2024	22.172	21.967	22.376	178.246	0.000
post_mo_year7_2024	23.165	22.960	23.370	185.637	0.000
post_mo_year8_2024	28.546	28.340	28.752	227.909	0.000
post_mo_year9_2024	14.871	14.665	15.078	118.638	0.000
post_mo_year10_2024	4.718	4.511	4.924	37.566	0.000
post_mo_year11_2024	2.641	2.434	2.848	20.984	0.000
post_mo_year12_2024	4.020	3.813	4.228	31.890	0.000
post_mo_year1_2025	18.884	18.677	19.092	149.380	0.000
post_mo_year2_2025	4.855	4.647	5.063	38.404	0.000
post_mo_year3_2025	-1.292	-1.500	-1.083	-10.202	0.000
post_mo_year4_2025	4.213	4.004	4.421	33.226	0.000
post_mo_year5_2025	10.980	10.771	11.189	86.344	0.000
post_mo_year6_2025	20.204	19.994	20.415	158.170	0.000

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
post_mo_year7_2025	23.697	23.485	23.908	184.662	0.000
post_mo_year8_2025	22.822	22.610	23.034	177.175	0.000
post_mo_year9_2025	18.546	18.333	18.758	143.569	0.000
post_mo_year10_2025	5.241	5.028	5.454	40.458	0.000
post_mo_year11_2025	-0.595	-0.809	-0.381	-4.580	0.000
post_mo_year12_2025	5.906	5.692	6.120	45.333	0.000
pre_mo_year_trmt12_2022	-0.059	-0.292	0.173	-0.419	0.675
pre_mo_year_trmt1_2023	-0.048	-0.279	0.184	-0.341	0.733
pre_mo_year_trmt2_2023	-0.116	-0.346	0.115	-0.825	0.410
pre_mo_year_trmt3_2023	-0.133	-0.362	0.097	-0.950	0.342
pre_mo_year_trmt4_2023	-0.213	-0.442	0.016	-1.528	0.126
pre_mo_year_trmt5_2023	-0.294	-0.522	-0.066	-2.123	0.034
pre_mo_year_trmt6_2023	-0.463	-0.690	-0.236	-3.360	0.001
pre_mo_year_trmt7_2023	-0.416	-0.642	-0.191	-3.035	0.002
pre_mo_year_trmt8_2023	-0.482	-0.706	-0.258	-3.533	0.000
pre_mo_year_trmt9_2023	-0.333	-0.555	-0.110	-2.454	0.014
pre_mo_year_trmt10_2023	-0.096	-0.318	0.126	-0.710	0.478
post_mo_year_trmt12_2023	-0.116	-0.339	0.107	-0.855	0.392
post_mo_year_trmt1_2024	-0.175	-0.399	0.048	-1.289	0.197
post_mo_year_trmt2_2024	-0.197	-0.421	0.027	-1.444	0.149
post_mo_year_trmt3_2024	-0.287	-0.512	-0.062	-2.099	0.036
post_mo_year_trmt4_2024	-0.274	-0.500	-0.049	-2.001	0.045
post_mo_year_trmt5_2024	-0.383	-0.609	-0.157	-2.788	0.005
post_mo_year_trmt6_2024	-0.597	-0.824	-0.370	-4.325	0.000
post_mo_year_trmt7_2024	-0.586	-0.814	-0.358	-4.231	0.000
post_mo_year_trmt8_2024	-0.605	-0.834	-0.376	-4.349	0.000
post_mo_year_trmt9_2024	-0.509	-0.739	-0.280	-3.657	0.000
post_mo_year_trmt10_2024	-0.472	-0.701	-0.242	-3.379	0.001
post_mo_year_trmt11_2024	-0.402	-0.632	-0.171	-2.869	0.004
post_mo_year_trmt12_2024	-0.407	-0.638	-0.176	-2.903	0.004
post_mo_year_trmt1_2025	-0.480	-0.711	-0.249	-3.413	0.001
post_mo_year_trmt2_2025	-0.332	-0.563	-0.100	-2.359	0.018
post_mo_year_trmt3_2025	-0.324	-0.555	-0.092	-2.296	0.022
post_mo_year_trmt4_2025	-0.354	-0.586	-0.122	-2.509	0.012
post_mo_year_trmt5_2025	-0.285	-0.518	-0.052	-2.012	0.044
post_mo_year_trmt6_2025	-0.297	-0.531	-0.063	-2.086	0.037
post_mo_year_trmt7_2025	-0.231	-0.466	0.004	-1.616	0.106
post_mo_year_trmt8_2025	-0.325	-0.561	-0.089	-2.266	0.023
post_mo_year_trmt9_2025	-0.385	-0.621	-0.148	-2.675	0.007
post_mo_year_trmt10_2025	-0.288	-0.526	-0.051	-1.999	0.046
post_mo_year_trmt11_2025	-0.303	-0.541	-0.065	-2.096	0.036
post_mo_year_trmt12_2025	-0.117	-0.356	0.121	-0.810	0.418
Adjusted R-Squared	0.72				

TABLE 23-2 – QUALUS DIFFERENCE-IN-DIFFERENCE MODEL ESTIMATES – WAVE 2

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
pre_mo_year2_2024	-25.757	-26.523	-24.992	-55.366	0.000
pre_mo_year3_2024	-30.213	-30.907	-29.518	-71.581	0.000
pre_mo_year4_2024	-26.490	-27.140	-25.839	-66.996	0.000
pre_mo_year5_2024	-15.156	-15.762	-14.549	-41.128	0.000
pre_mo_year6_2024	-7.848	-8.415	-7.280	-22.741	0.000
pre_mo_year7_2024	-5.813	-6.355	-5.270	-17.630	0.000
pre_mo_year8_2024	-1.082	-1.604	-0.561	-3.414	0.001
pre_mo_year9_2024	-15.063	-15.557	-14.568	-50.120	0.000
pre_mo_year10_2024	-19.678	-20.170	-19.185	-65.745	0.000
pre_mo_year11_2024	-21.036	-21.529	-20.544	-70.260	0.000
pre_mo_year12_2024	-17.469	-17.962	-16.976	-58.325	0.000
post_mo_year3_2025	-23.573	-24.075	-23.072	-77.311	0.000
post_mo_year4_2025	-18.902	-19.408	-18.396	-61.433	0.000
post_mo_year5_2025	-13.318	-13.829	-12.806	-42.820	0.000
post_mo_year6_2025	-5.470	-5.988	-4.952	-17.366	0.000
post_mo_year7_2025	-2.356	-2.882	-1.830	-7.369	0.000
post_mo_year8_2025	-2.928	-3.461	-2.395	-9.031	0.000
post_mo_year9_2025	-6.759	-7.299	-6.220	-20.615	0.000
post_mo_year10_2025	-18.707	-19.253	-18.161	-56.320	0.000
post_mo_year11_2025	-23.206	-23.758	-22.655	-69.224	0.000
post_mo_year12_2025	-15.877	-16.433	-15.321	-46.973	0.000
pre_mo_year_trmt2_2024	-0.359	-1.218	0.501	-0.686	0.493
pre_mo_year_trmt3_2024	-0.528	-1.308	0.253	-1.112	0.266
pre_mo_year_trmt4_2024	-0.730	-1.460	0.000	-1.644	0.100
pre_mo_year_trmt5_2024	-0.325	-1.005	0.355	-0.786	0.432
pre_mo_year_trmt6_2024	-0.872	-1.509	-0.236	-2.255	0.024
pre_mo_year_trmt7_2024	-0.972	-1.579	-0.364	-2.629	0.009
pre_mo_year_trmt8_2024	-0.474	-1.058	0.110	-1.334	0.182
pre_mo_year_trmt9_2024	-0.304	-0.858	0.250	-0.902	0.367
pre_mo_year_trmt10_2024	-0.482	-1.033	0.070	-1.436	0.151
pre_mo_year_trmt11_2024	-0.235	-0.787	0.317	-0.701	0.483
pre_mo_year_trmt12_2024	-0.228	-0.779	0.324	-0.678	0.497
post_mo_year_trmt3_2025	-0.352	-0.913	0.209	-1.032	0.302
post_mo_year_trmt4_2025	-0.352	-0.918	0.214	-1.022	0.307
post_mo_year_trmt5_2025	-0.245	-0.817	0.327	-0.704	0.481
post_mo_year_trmt6_2025	-0.378	-0.958	0.201	-1.074	0.283
post_mo_year_trmt7_2025	-0.468	-1.057	0.120	-1.310	0.190
post_mo_year_trmt8_2025	-0.778	-1.374	-0.181	-2.145	0.032
post_mo_year_trmt9_2025	-0.378	-0.981	0.225	-1.032	0.302
post_mo_year_trmt10_2025	-0.247	-0.858	0.363	-0.666	0.506
post_mo_year_trmt11_2025	-0.295	-0.912	0.321	-0.789	0.430
post_mo_year_trmt12_2025	-0.443	-1.065	0.178	-1.173	0.241
Adjusted R-Squared	0.64				

24 COMMERCIAL AIR CONDITIONER TUNE- UP MEMO

This section presents a memo written by Qualus (though still 'ADM' at the time) and edited in collaboration with program implementors and Entergy New Orleans, which clarifies and expands the existing TRM 8.0 section 2.3.5, Commercial Air Conditioner and Heat Pump Tune-Up. This memo was developed mid-year to address the use of primary data collection for AC tune-ups.

COMMERCIAL AIR CONDITIONER TUNE-UP BENCHMARK

SUBMITTED TO:

DEREK MILLS & ROSS THEVENOT, ENTERGY NEW ORLEANS

SUBMITTED ON: AUGUST 8, 2025

SUBMITTED BY: ADM ASSOCIATES, INC.

ADM

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1. Introduction and Background

This memorandum provides background information and guidance regarding various EM&V methods that are used to determine energy savings for Commercial Air Conditioner Tune-Ups (tune-ups) in Louisiana.

In this memorandum, ADM Associates Inc. (ADM) – an independent, third-party EM&V supplier – provides a detailed description of how savings for tune-ups are calculated for Entergy New Orleans (ENO), the neighboring CLECO territory, and multiple other impact evaluations which ADM has conducted.

ADM also provides a benchmarking comparison of methods for calculating savings according to several established TRMs in the US. These benchmarks support ADM’s assertion that the methods delineated in the New Orleans Technical Reference Manual (TRM) are appropriate and consistent with numerous other TRMs. However, program implementors have recently asserted that a) the EM&V methodology in the New Orleans TRM produced conservative savings estimates for tune-ups, and b) true savings for tune-ups may be closer to those which could be claimed in the CLECO territory. The implementors’ concerns are further complicated by different requirements for (and inconsistent results from) refrigerant charge adjustment (RCA) during tune-ups; RCA is not consistently conducted in tune-ups but is nonetheless required for certain savings calculation methods.

In support of their claims, program implementors have provided ADM various data from a sample of tune-ups for which the implementors collected on-site measurements. After analyzing all of the implementor-provided data, ADM concurs that data collection that includes on-site measurements for tune-ups can support claims of higher savings than are currently achieved when using the EM&V methodology in the New Orleans TRM.

2. Commercial HVAC Tune-Up Methodologies

2.1 CLECO and Other LPSC Territory Methodology

CLECO is one of four utilities participating the LPSC’s ‘Quickstart’ program, which is legally obligated to reference the AR current version of the Arkansas TRM¹ for specific methodologies in calculating energy savings. The specific measure discussed in this memo is 3.1.6, Central Air Conditioner Tune-Up.

The AR TRM provides a checklist of activities which must be performed to claim savings, followed by two methods for calculating savings. To claim savings from a tune-up, a list of service activities must be performed during a tune-up, which includes checking the refrigerant level and, if not at the manufacturer-specified level, adjusting the refrigerant level. The amount of refrigerant correction is then used to determine the efficiency improvement in the first method for calculating savings.

The second method of calculating savings substitutes on-site pre-and-post tune-up measurements for the estimated efficiency change. EER_{pre} (efficiency prior to tune-up) is calculated based on a power measurement of the equipment operating prior to the required tune-up tasks. An algorithm is provided to calculate the resulting efficiency, based on system age and maintenance factor. EER_{post} is the resulting efficiency of the unit, and is the lesser of the nameplate efficiency of the unit or result of Equation 1 below.

Equation 1

$$EER_{post} = \frac{(EER_{pre})}{(1 - Maintenance\ Factor)^{age}}$$

¹ During 2024 AR TRM 9.2 was effective but superseded by version 10.0 in 2025. Changes made to the AR TRM between version 7 and 10 do not affect the relevant section.

Maintenance factor = 0.03 (if unknown)

Age = 10 (if unknown)

For CLECO territory tune-ups no refrigerant adjustments were performed, precluding the use of the first savings calculation method. However, EER_{pre} (efficiency of the system prior to the tune-up) measurements were taken during the service, which were then used with Equation 1 above to calculate the EER_{post} (efficiency of the system after to the tune-up). The measured EER_{pre} and calculated EER_{post} then went into the final kWh savings calculation.

2.2 ENO TRM Methodology

The New Orleans TRM provides a method for calculating savings which is identical to the first method of the AR TRM, citing the same checklist of tune-up activities and using the amount of refrigerant adjustment in the savings calculation. The New Orleans TRM also allows for the substitution of EER measures, but also offers a method for calculating savings when only certain tune-up activities have been performed and no efficiency measurements are taken, henceforth referred to as the ‘component method’:

Equation 2 Component Method kWh

$$kWh_{savings,C} = \frac{\frac{CAP_C}{1,000}}{EER_{AHRI}} \times EFLH_C \times \%Savings$$

At the time of authorship of this memo, the New Orleans TRM does not yet provide a method for calculating peak kW reductions using a component-based method. To address this, ADM is including Equation 3 below, which is based on methods in the current versions of the Illinois and New Jersey TRMs, for calculating peak kW reductions in a manner consistent with component kWh savings.

Equation 3 Component Method Peak kW

$$kW_{reduction} = \frac{\frac{CAP_C}{1,000}}{EER_{AHRI}} \times CF \times \%Savings$$

CAP_C = Rated equipment cooling capacity (BTU/hr)

1000 = Btu/hr to kBtu/hr conversion

EER = Nameplate efficiency of the existing equipment for cooling

CF = Peak Coincidence factor

For $\%Savings$ see the table below:

Table 1 Savings by Component

Tune-Up Component	% Savings
Condenser Cleaning	6.10%
Evaporator Cleaning	0.22%
Refrigerant Charge Off. ≤ 20%	0.68%
Refrigerant Charge Off. > 20%	8.44%
Combined (Refrigerant Off. ≤ 20%)	7.00%
Combined (Refrigerant Off. > 20%)	14.76%

2.3 Benchmark Study of Evaluations and Methodology

ADM conducted a comparative analysis of several commercial tune-up programs we evaluate. The table below lists these programs and includes the following data points for each:

- Percentage of program savings expected from tune-ups
- The gross impact method employed in the evaluation
- The gross impact method source
- Whether partial savings can be claimed, where 'partial savings' refers to a tune-up in which not all activities were completed, such as the component method described above.

Table 2 Benchmark of ADM Commercial Tune-Up Evaluations Conducted Within the Past Five Years

Utility	State	Program	Percentage of Program Savings from Tune-Ups	Gross Impact Method	TRM/Savings Source	Can Claim Partial Savings?
Entergy New Orleans	LA	Small C&I Solutions	9.9%	Prescriptive Algorithm	New Orleans TRM	Yes
SWEPSCO (LPSC)	LA	CSOL Large C&I Solutions	5.9%	Prescriptive Algorithm	AR TRM	No
CLECO (LSPC)	LA	Commercial HVAC Tune-Up Pilot	45.1% ²	Prescriptive Algorithm	AR TRM	No
Jersey Central Power and Light (JCP&L)	NJ	SBDI	2.1%	Prescriptive Algorithm	PA TRM	Yes
OGE	OK/AR	CEEP	4.8%	IPMVP Option C	direct measurement	Yes, indirectly
FirstEnergy (Met Ed, Penelec, Penn Power, West Penn Power)	PA	Building Tune-Ups	1.6%	Prescriptive Algorithm	PA TRM	Yes
LADWP	CA	ACOP	2.0%	IPMVP Option C	direct measurement	Yes, indirectly

A comparison of additional accepted methodologies is provided in Table 3

Table 3 Benchmark of Regional and Nationwide Tune-Up Methods

TRM	Gross Impact Method	Can Claim Partial Savings?	<u>Requires</u> Refrigerant Check/Adjust?	EER value source(s)	Notes
New Orleans v7.0 and 8.0	Algorithm	Yes	Yes	Full if measured <u>EERpre</u> and <u>EERpost</u> . Partial savings <u>is</u> calculated using nameplate EER.	Partial savings may also be calculated using nameplate EER and individual component savings (by %).

² Unlike other evaluations shown in this table, this evaluation was of an entire pilot program, rather than of a program component. To present a number for comparison, 45.1% show the claimed pilot savings divided by the claimed savings of the entire Commercial portfolio.

TRM	Gross Impact Method	Can Claim Partial Savings?	Requires Refrigerant Check/Adjust?	EER value source(s)	Notes
Arkansas 9.2	Algorithm	No	Yes	<u>EERpost</u> is nameplate in Method 1, but may be measured or calculated in Method 2.	Measurements for <u>EERpre</u> and <u>EERpost</u> may be used.
Texas v11	Algorithm	No	Yes	<u>EERpost</u> is nameplate. <u>EERpre</u> is calculated.	Assumes set efficiency improvement, regardless of actions taken.
Illinois v12	Algorithm	Yes	Yes	Requires <u>EERpre</u> and EER post measurement.	Component savings may be used, but <u>EERpre</u> measurement must be made.
Pennsylvania 2024	Algorithm	Yes	Yes	Nameplate EER	Partial savings may also be calculated using nameplate EER and individual component savings (by %), identical to the New Orleans TRM.
New Jersey (2024)	Algorithm	Yes	" <u>is</u> typical"	Full if measured <u>EERpre</u> and <u>EERpost</u> . Partial savings <u>is</u> calculated using nameplate EER.	Partial savings may also be calculated using nameplate EER and individual component savings (by %), identical to the New Orleans TRM.

The methodology provided in the New Orleans TRM is consistent with methodologies presented in other TRMs and industry methods.

3. Alternative Methodology

While the New Orleans TRM provides a method for calculating deemed savings based on tune-up component, M3 Solutions (M3), a trade ally conducting AC tune-ups in for the Energy Smart portfolio, more annual energy savings are realized for tune-ups than the New Orleans TRM component-based tune-up method yields.

To support their claims, M3 provided ADM with a sample set of tune-ups where site measurements of pre-and-post operating data were collected from each HVAC unit tuned. Provided operating data includes power and temperature measurements taken directly from equipment during operating and is used to calculate estimated EERs both before and after the tune-up has been performed. The difference between the two EER values is the 'efficiency gain' or more simply, the efficiency improvement resulting from the tune-up.

An analysis of the sample test data provided by M3 was conducted and found that, generally, these savings are significantly higher than what can be claimed using the TRM component method.

To illustrate this difference, we present the following examples:

Please note: These are merely hypothetical examples, used only to illustrate the difference in savings using each method. These are not to be taken as deemed savings figures, nor are their inputs to be used as prescriptive inputs.

3.1 Existing, deemed method (New Orleans TRM) using Equation 2:

Equation 2 Component Method kWh

$$kWh_{savings,C} = \frac{\frac{CAP_C}{1,000}}{EER_{AHRI}} \times EFLH_C \times \%Savings$$

CAP_C = 39,538 BTU/hr (average of sampled test data)

1000 = Btu/hr to kBtu/hr conversion

$EFLH_C$ = 2,329 EER = 12.70 (average nameplate EER of sampled test data)

$\%Savings$ = 6.32% (condenser and evaporator cleaning, cumulative)

$$\begin{aligned} kWh_{savings,C} &= \frac{\frac{39,538}{1,000}}{12.70} \times 2,329 \times 6.32\% \\ &= 458.1 \text{ kWh} \end{aligned}$$

This method yields 458.1 kWh in estimated savings.

3.3 Proposed method using site measurements:

Equation 4 Algorithm Method kWh

$$kWh_{savings,cooling} = CAP_C \times \frac{1}{1000} \times EFLH_C \times \left(\frac{1}{EER_{pre}} - \frac{1}{EER_{post}} \right)$$

Equation 5 Algorithm Method Peak kW

$$kW_{reduction} = CAP_C \times \frac{1 \text{ kW}}{1,000 \text{ W}} \times \left(\frac{1}{EER_{pre}} - \frac{1}{EER_{post}} \right) \times CF$$

Where:

CAP_C = 39,538 BTU/hr (average of sampled test data)

1000 = Btu/hr to kBtu/hr conversion

$EFLH_C$ = Equivalent full-load cooling hours (2,329)

CF = Peak Coincidence factor

EER_{pre} = Calculated using on-site test data (9.1, average of sampled test data)

EER_{post} = Calculated using on-site test data (11.6, average of sampled test data)

$$\begin{aligned} kWh_{savings,cooling} &= 39,538 \times \frac{1}{1000} \times 2,329 \times \left(\frac{1}{9.1} - \frac{1}{11.6} \right) \\ &= 2,173.2 \text{ kWh} \end{aligned}$$

A similar calculation was carried out using the method approved for use in the CLECO program, and the results are shown in Table 4.

Table 4 Comparison of Results Using Each Method

Method	Resulting Savings Estimate
Partial tune-up (TRM Method 2)	458.1
Site test data	2,173.2
CLECO-approved method	1,764.1

M3 Solutions is responsible for 2,220,184 kWh in expected savings during PY14, which is 7.8% of the total contribution to the PY14 Large C&I program overall. As part of both the PY14 evaluation and in the preparation of this memo, ADM analyzed a total of 13 of the 39 sites where M3 conducted tune-ups, representing 50.6% of the total PY14 savings claimed from tune-ups in the Large C&I program. These projects were analyzed using the component method in TRM, as was specified and agreed upon by all parties during the planning and execution of the PY14 program. The overall realization rate for these projects is 101.2%, 2,247,315 kWh.

4. PY15 Methodology Recommendation

ADM will allow the use of primary data to claim savings during the PY15 project year, with the following stipulations:

- All service steps explained in the New Orleans TRM Vol. II Section 2.3.5 must be followed according to industry best practices.
- Measurements must be taken on the same site visit and under similar operating conditions using reliable, industry-accepted techniques.
- Power demand measurements using Direct kW OR Amperage, Voltage, and Power Factor.
- Ensure all power components are included, especially for a split system.
- Temperature measurements of return air, supply air and outside air at the time of pre and post power measurements.
- Three readings each for each of the above characteristics must be taken and the average of the three reading used in calculations.
- Any unit which has received maintenance within the prior three years is ineligible to claim any savings from a tune-up.
- VFDs must NOT be running at the times of measurements.

4.1 Calculation of EER values using primary data

This section has been added as a supplement to this memo to provide clear instructions for calculating EER values using primary data.

Equation 6 EER Calculation

$$EER = \frac{(1.08 \times CFM \times \Delta temp)}{(volts \times amps \times power\ factor \times \sqrt{phase})}$$

Where:

1.08 = Conversion factor which account for the sensible heat capacity and density of air

CFM = Typical rating of airflow per capacity (400 CFM per TON_{cooling})

$\Delta temp$ = Measure the temperature difference between the supply air and return air (or the air entering and leaving the heating/cooling coil).³

volts = System voltage when operating (average of three readings)

amps = System current draw when operating (average of three readings)

power factor = Measure of how effectively power flows through the unit. Should be specific to the HVAC unit (typically approximately 0.85)

phase = Count of power phases of HVAC unit (1 or 3)

This formula should be used for calculating both the measured EER_{pre} (efficiency prior to tune-up) and measured EER_{post} (efficiency after tune-up), to be used with Equation 4 above to calculate kWh savings.

4.2 Capacity adjustment when using primary data

When calculating EER values using primary data, a system capacity adjustment must also be made, using the following algorithm:

Equation 7 Capacity Adjustment

$$CAP_c = CAP_{AHRI} \times \frac{EER_{post}}{EER_{AHRI}}$$

Where:

CAP_c = Capacity in Btu/hr used in savings algorithm

CAP_{AHRI} = AHRI-rated capacity of the unit

EER_{post} = Calculated EER post

EER_{AHRI} = AHRI EER rating of the equipment

4.3 Cases of exceptional EER results

In instances in which primary data produces nonsensical or erroneous results, the data should be considered erroneous and savings calculations should be carried out using the 'Partial Savings Based on the Tune Up Component,' shown above in Equation 2 and pages 241 and 242 of the New Orleans TRM V8.0. Specific guidelines are:

- Post EER values used in savings calculations may not exceed the AHRI EER or EER2 specification (Equation 4 may still be used, however the post EER value may not exceed the AHRI EER or EER2 specification). Also in this instance, a capacity adjustment (see Equation 7) should NOT be

³ Temperature measurements should be taken once the system is stabilized, after approximately 15 minutes running. Measurements are to be taken inside the ductwork close to the air handler for the supply side. Ensure the probe does not touch the duct wall or is affected by supplemental heat sources such as heat strips. Measure return air close to the unit, and ensure measurement is taken in the center of the airflow. If multiple return or supply ducts directly into the unit then take measurements from each and use the average temperature. Be sure to seal access holes used for temperature measurements.

performed. Instead, the capacity used in the kWh savings calculation should be the AHRI-rated capacity.

- When calculated Pre EER values exceed the AHRI EER or EER2 specification, the savings calculation should default to Partial Savings Based on the Tune Up Component,⁴ shown above in Equation 2.
- Pre EER values used in savings calculations must be equal to five (5)⁴ or greater.

The above guidelines apply to the calculation of both kWh savings and peak kW reductions. In situations where either the pre EER exceeds the AHRI specification or is below five (5), then peak kW reductions should also be carried out using the 'partial' method, following Equation 3 Component Method Peak kW.

As the evaluator, ADM will develop independent savings impacts with the support of the project data and information outlined above, however the development of ex ante savings is the responsibility of the program implementor(s).

5. Proposed Commercial HVAC Tune-Up M&V Study

While calculating efficiency gain using one-time measurements is more rigorous than applying a deemed savings factor, the measurements can be prone to error. As this measure represent 9.9% of the total PY14 Large C&I program savings, ADM proposes conducting on-site monitoring of a small sample, up to 20 HVAC units, to examine resulting operation during PY15. The result of which will be shared with Entergy.

⁴ It is the professional opinion of the ADM that an EER value lower than five (5) is indicative of potential damage or other inefficiency in the system which cannot be remedied with evaporator coil and/or condenser coil cleaning.