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October 6, 2023

VIA ELECTRONIC MAIL ONLY
Ms. Lora W. Johnson, CMC, LMMC
Clerk of Council
City Hall - Room 1E0
1300 Perdido Street
New Orleans, LA 70112

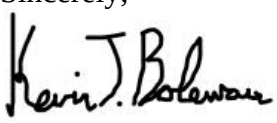
Re: Filing of Entergy New Orleans, LLC's Energy Smart Program Year 12 Annual Program Report and Evaluation, Measurement and Verification Report for Energy Efficiency Programs (Resolutions R-11-52, R-17-31, R-17-176, R-17-177, R-17-623, R-19-516; UD-08-02, UD-17-03)

Dear Ms. Johnson,

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. Resolution R-19-516 approved the continuance of Energy Smart for Program Years 10-12. Council Resolution R-20-51 adopted on February 20, 2020, approved the Program Year 10-12 Implementation Plan with APTIM, Environmental and Infrastructure ("APTIM") as the Third-Party Administrator and ADM Associates, Inc. ("ADM") as the Third-Party Evaluator.

On behalf of APTIM and ADM, Entergy New Orleans, LLC ("ENO") submits this Energy Smart Annual Program Report and Annual Evaluation, Measurement and Verification Report for Energy Efficiency Programs for the period of January 1, 2022 to December 31, 2022 and requests that you file this submission in accordance with Council regulations. The Demand Response portion of these reports will be filed separately as a supplement. Should you have any questions regarding this filing, please contact my office at (504) 670-3680.

Sincerely,



Kevin T. Boleware

Enclosure

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

Annual Report

Energy Smart

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ENERGY STAR AWARD 2022
PARTNER OF THE YEAR
Sustained Excellence

Program Year 12

January 1, 2022-December 31, 2022

Table of Contents

Executive Summary

The Energy Smart Program (Program) was developed by the New Orleans City Council (Council), is administered by Entergy New Orleans, LLC (ENO) and is implemented by APTIM, the Third-Party Administrator (TPA). This report contains performance data and activities for the Program period of January 1, 2022 - December 31, 2022. This report contains data on the Program and evaluation results from ENO's Third-Party Evaluator's (TPE) Evaluation, Measurement and Verification (EM&V) report. This report includes verified gross savings and net savings.

To ensure success in current and future programs, APTIM has engaged several subcontractors that have extensive experience in energy efficiency programs and in the New Orleans market to implement the program, including:

- ILSI Engineering
- Legacy Professional Services
- Spears Consulting
- Green Coast Enterprises
- Energy Wise Alliance
- Franklin Energy Services
- EnergyHub
- Harris Energy Solutions
- Honeywell
- MD Energy Advisors
- Urban League of Louisiana

This report contains data on the Energy Smart program offerings, including:

- Summary of activities by offering
- kWh savings achieved, kW reduction and incentives spent
- Marketing, outreach, and engagement
- Training and workforce development activities
- Supplier diversity highlights

Staff List

Name	Title	Company	Location
Brenda Hopewell	Vice President, Energy Solutions	APTIM	San Francisco, CA
Dan Reese	Director of Energy Programs	APTIM	Portland, OR
Megan Sykes	Marketing Manager	APTIM	Baton Rouge, LA
Michelle Krueger	Program Director	APTIM	New Orleans, LA
John Krzystowczyk	Commercial Program Manager	APTIM	New Orleans, LA
Dawn Ellerd	Marketing & Outreach Lead	APTIM	New Orleans, LA
Kevin Fitzwilliam	Training & Development Specialist	APTIM	New Orleans, LA
Spencer Kurtz	Energy Engineer	APTIM	Charlotte, NC
Nick Scherer	Data Analyst	APTIM	Baltimore, MD
Michael Slaughter	Finance	APTIM	Baton Rouge, LA
Nick Bengtson	Sales Executive	EnergyHub	Brooklyn, NY
Nathan Meadows	Client Success Manager	EnergyHub	Brooklyn, NY
Jamie Wine	Director	Energy Wise Alliance	New Orleans, LA
Emily Snyder	Education Manager	Energy Wise Alliance	New Orleans, LA
Meredith Seale	Education Coordinator	Energy Wise Alliance	New Orleans, LA
Brandon Muetzel	Community Outreach Manager	Energy Wise Alliance	New Orleans, LA
Nate Wolf	Residential Program Manager	Franklin Energy Services	New Orleans, LA
Alan Mitchell	Field Manager	Franklin Energy Services	New Orleans, LA
Amanda Welch	Operations Analyst	Franklin Energy Services	Milwauke, WI
Melissa Carlson	Client Marketing Manager	Franklin Energy Services	Chicago, IL
Wendy Becker	Outreach Manager	Franklin Energy Services	Milwaukee, WI
Daniel Franklin	Operations Manager	Franklin Energy Services	New Orleans, LA
James Herman	Operations Analyst	Franklin Energy Services	New Orleans, LA
Dwayne Haley	Energy Advisor	Franklin Energy Services	New Orleans, LA
Jackie Dadakis	Chief Operating Officer	Green Coast Enterprises	New Orleans, LA
Joe Ryan	Director of Energy Services	Green Coast Enterprises	New Orleans, LA
John Eskew	Energy Management Specialist	Green Coast Enterprises	New Orleans, LA
Ben Meyers	Benchmarking Associate	Green Coast Enterprises	New Orleans, LA
Jessica Harris	President	Harris Energy Solutions	Austin, TX
Craig Henry	Demand Response Program Manager	Honeywell	San Antonio, TX
Benjamin Cavell	ADR Business Consultant	Honeywell	New Orleans, LA
Iam Tucker	President & CEO	ILSI Engineering	New Orleans, LA
Keeley Evans	Project Specialist	ILSI Engineering	New Orleans, LA
Alcide Tervalon III	Principal	Legacy Professional	New Orleans, LA
Aaron Herbert	Project Energy Engineer	Legacy Professional	New Orleans, LA
Iryell Richard	Small Commercial Project Coordinator	Legacy Professional	New Orleans, LA
Denzel Harry	Energy Advisor	Legacy Professional	New Orleans, LA
Louis Bart	Energy Advisor	Legacy Professional	New Orleans, LA
Joshua Kruebbe	Residential QA/QC	Legacy Professional	New Orleans, LA
Jacob Pohlman	Residential QA/QC	Legacy Professional	New Orleans, LA
Derrick Hammond	Energy Advisor	Legacy Professional	New Orleans, LA
Larry Tervalon	Energy Advisor	Legacy Professional	New Orleans, LA
Vindocto Torns	Energy Advisor	Legacy Professional	New Orleans, LA
Brandon Barbre	Recycling Specialist	Legacy Professional	New Orleans, LA

Wilbert Curtis	Recycling Specialist	Legacy Professional	New Orleans, LA
Ethan Cartwright	Energy Advisor	MD Energy Advisors	New Orleans, LA
Layne Carroll	Energy Advisor	MD Energy Advisors	New Orleans, LA
Cleveland Spears	President/CEO	Spears Consulting	New Orleans, LA
Meredith Adams	Account Executive	Spears Consulting	New Orleans, LA
Klassi Duncan	VP Entrepreneurship & Innovation	Urban League	New Orleans, LA
Cherie Duckworth	VP of Workforce Development	Urban League	New Orleans, LA

Offerings Overview

Residential

Energy Efficiency

- Home Performance with ENERGY STAR®
- Retail Lighting & Appliances
- Income-Qualified Weatherization
- A/C Solutions
- Multifamily Solutions
- Appliance Recycling & Replacement Pilot
- School Kits & Education
- Behavioral & Rewards

Commercial & Industrial

Energy Efficiency

- Small Commercial & Industrial Solutions
- Large Commercial & Industrial Solutions
- Publicly Funded Institutions
- Commercial & Industrial Construction Solutions

PROGRAM PERFORMANCE & ACTIVITY

Table 2.1

Program Performance and Activity

	kWh SAVINGS	kWh GOAL*	% TO GOAL	kW SAVINGS	kW GOAL*	% TO GOAL	INCENTIVES	BUDGET	% TO BUDGET
Commercial & Industrial - Energy Efficiency	42,390,538	53,636,918	79%	8,245.23	9,097	91%	$4,675,319	$6,307,651	74%
Residential - Energy Efficiency	34,743,430	43,136,759	81%	8,012.07	4,580	175%	$4,153,287	$4,836,502	86%
Total	**77,133,968**	**96,773,677**	**80%**	**16,257.30**	**13,677**	**119%**	**$8,828,606**	**$11,144,153**	**79%**

**Energy Efficiency Goals are reflective of the revised Energy Smart Implementation Plan PY 10-12 approved 2/13/2020.*

Summary tables show savings achieved and incentive spend from January 1, 2022 through December 31, 2022.

Table 2.2

GROSS PEAK DEMAND REDUCTION (kW)	GROSS ANNUAL ENERGY SAVINGS (kWh)	TOTAL PROGRAM EXPENDITURES*	TRC (B/C RATIO)	UCT (B/C RATIO)
16,257.30	77,133,968	$16,501,914	1.39	1.71

**Total program expenditures for energy efficiency portfolio only and does not include demand response portfolio.*

Residential Summary

The Residential Portfolio achieved 34,743,430 in verified gross kWh savings reaching 81% of the goal while spending 86% of the incentive budget. The Energy Smart team was able to garner more savings from cost effective offerings in order to keep Income-Qualified Weatherization open through the entire year. This was a necessary step to keep serving customers who needed the most support from the program. The Income Qualified Weatherization offering exceeded energy savings targets, reaching 166% of goal. Additionally, the Multifamily Solutions Program and Retail Lighting and Appliance Program exceeded kWh savings goals, reaching 157% and 244%, respectively.

Community Outreach was critical for cultivating relationships with diverse organizations to provide energy education and lead generation for the Residential Portfolio offerings. Energy Smart partnered with Vietnamese Initiatives in Economic Training (VIET) to enroll 60 customers in whole-home retrofit offerings: Home Performance with Energy Star (HPwES) or Income Qualified Weatherization (IQW). VIET provided translation services for Energy Smart to overcome the language barrier for Vietnamese community members. Program marketing also played a pivotal role in creating awareness through multiple marketing channels and techniques to reach all Entergy New Orleans customers. Online kits, direct-ship lighting kits and LED giveaways at community events were used to increase customer awareness, generate participation, and create additional kWh savings.

Community outreach was conducted at over 98 event days, gaining visibility with up to 8,213 community members. The team offered flexible content options to community groups, ranging from information tables, five-minute briefings to 60-minute energy efficiency lessons for maximum community impact. Monthly presentations by the outreach team included “Power Trip: Your Journey to Energy Efficiency”, a 20-minute webinar on the Energy Smart program, followed by a question-and-answer session with an energy expert that provided individuals with information specifically for their home energy needs. The team continues to build on the hybrid approach of offering both virtual and in person events, noting greater engagement as a result.

Entergy New Orleans earned the 2022 ENERGY STAR® Partner of the Year Sustained Excellence Award from the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). This award honored the Energy Smart program for its outstanding contributions to protecting the environment through superior energy achievements. This marks the sixth time since 2014 that Entergy New Orleans has been recognized by the EPA and DOE for its energy efficiency efforts.

Commercial & Industrial Summary

The Energy Smart Commercial & Industrial (C&I) Portfolio successfully achieved 42,390,538 in verified gross kWh savings and reached 79% of the goal, while spending 74% of the incentive budget. COVID-19 restrictions to operating hours and occupancy were significantly reduced compared to PY10 and PY11 however commercial customers in Orleans Parish still faced challenges including financial impacts from COVID-19, staffing turnover, inflation, and labor shortages. Trade allies reported similar challenges. The Program noted several trade allies that were active participants in previous program years had not recovered to pre-COVID-19 participation levels. The Energy Smart team continued to be proactive in responding to these customer and trade ally challenges by re-designing the bonus incentive structure to accommodate longer product lead times and maximizing the amount of time customers had to complete projects and receive bonus incentives. Just before the start of the fourth quarter, the Energy Smart team re-designed the Hurricane Ida Recovery Fund and introduced the Lagniappe Fund which built on the success of the previous year’s fund offering.

In response to long lead times for energy efficient equipment such as chillers and VFDs, Energy Smart redesigned the incentive bonus structure for PY12 to allow customers and contractors to submit applications earlier in the program year and still receive a bonus. The Step-Down Bonus was introduced at the beginning of PY12, and allowed customers to reserve bonus incentives for projects submitted in the first three quarters of the program year and completed on or before December 31, 2022. The bonus amount "stepped down" in each of the first three quarters of the year with applications received in Q1 receiving a 25% bonus, Q2 receiving a 15% bonus and Q3 receiving a 5% bonus. The goal of this incentive structure was to eliminate the "hockey stick effect" that occurs when the majority of projects are completed in the last quarter of the year in order to capture any end of year bonus that may be available. The hockey stick effect had previously resulted in a very high workload for Energy Smart staff, program evaluators and trade allies. The Step-Down Bonus also allowed for projects that include measures with long-lead time equipment to reserve their bonus incentives in Q1 and still have the rest of the year to receive and install the equipment. The Step-Down bonus was successful in getting projects submitted earlier in the program year as compared to previous program years. Thirty-nine projects that reserved the 25% bonus in the first quarter added 4.7 million kWh to the PY12 pipeline while increasing the incentives for these projects by $104,758. Twenty-four projects were submitted in the second quarter and completed by the end of the program year and these projects added 1.2 million kWh to the pipeline while receiving $18,607 in bonus incentives. Twenty projects were received in the third quarter of PY12 and completed before the end of the year and these projects added an additional 1.6 million kWh and $7,210 in bonus incentives to the PY12 pipeline. In total, 83 projects received Step-Down Bonus funds adding 7.5 million kWh to the PY12 energy savings pipeline.

The Commercial & Industrial portfolio started strong in PY12, reaching 55% of the goal by the end of the first quarter. The second and third quarter bonuses were considerably less effective, and several large projects were cancelled causing stagnation in pipeline growth. In response, the Energy Smart team proposed the Lagniappe Fund as a method to drive program participation and increase the savings pipeline. The Lagniappe Fund built on the success of PY11 Hurricane Ida Recovery Fund. The Lagniappe Fund utilized a streamlined online application which encouraged commercial customers to submit their ideas for proposed energy efficiency projects. Once a customer submitted a proposed project, the application was assigned to an energy advisor who provided technical and application support to walk customers through the process of selecting a trade ally and submitting the necessary documents for program pre-approval. Customers and their selected trade ally received a Lagniappe Fund "offer" which included the standard Energy Smart incentive as well as a Lagniappe Fund Bonus. Customers accepted the offer in writing and confirmed the project would be installed on or before December 31, 2022. Energy Smart utilized marketing strategies such as eblasts and digital advertisements to raise awareness of the Lagniappe Fund offer and quickly received a surge of applications. The Lagniappe Fund offering launched on September 9, 2022 and received 11 applications the same day; nearly 40 applications were received in the first two weeks. The Energy Smart Lagniappe Fund was successful in bringing attention to the program and re-energizing Energy Smart trade allies who were using the Lagniappe Fund offering to sell new projects and provide updated proposals for projects that were previously declined by customers. The increased incentives and marketing efforts resulted in 44 applications received in the first month the Lagniappe Fund was available, compared to 16 applications the previous month. The team utilized a tiered incentive structure that would ensure the Lagniappe Fund offering was cost-effective and consistent in offers made to customers.

This incentive structure allowed Energy Smart to quickly communicate the Lagniappe Fund offer to customers and encouraged trade allies to keep costs low to increase the percentage of project cost covered by the Lagniappe Fund. The Energy Smart team made over 150 Lagniappe Fund offers, 122 offers were accepted and completed in PY12. Lagniappe Fund projects contributed a total of 10.4 million

kWh to the C&I pipeline and $1.4 million Lagniappe Fund incentives were paid to customers and trade allies. Many customers who received Lagniappe Funds were first time program participants. In addition, Energy Smart onboarded several new trade allies as a result of customers using contractors they had worked with previously. Overall, the Lagniappe Fund was successful in raising awareness of the Energy Smart program and in just four months increased the C&I portfolio by 19%.

RESIDENTIAL OFFERINGS

Residential Portfolio Performance

Table 3.1

RESIDENTIAL OFFERING	kWh SAVINGS	kWh GOAL*	% TO GOAL	kW SAVINGS	kW GOAL*	% TO GOAL	INCENTIVES	BUDGET	% TO BUDGET
Home Performance with ENERGY STAR	2,108,669	4,870,449	43%	410.72	1,384	30%	$430,869	$1,517,071	28%
Retail Lighting & Appliances	19,806,949	8,131,626	244%	3,370.75	1,102	306%	$1,315,375	$1,285,720	102%
Multifamily Solutions	2,530,865	1,616,270	157%	571.02	470	121%	$511,210	$359,750	142%
Income Qualified Weatherization	3,068,747	1,850,708	166%	2,133.62	623	342%	$1,330,917	$759,461	175%
A/C Solutions	1,402,624	2,388,674	59%	598.59	687	87%	$241,886	$439,100	55%
Appliance Recycling & Replacement	168,470	1,897,900	9%	21.35	233	9%	$148,950	$220,000	68%
School Kits & Community Outreach	596,196	681,132	88%	84.18	81	104%	$108,325	$105,400	103%
Behavioral	5,060,909	21,700,000	23%	821.84	-	N/A	N/A	N/A	N/A
Rewards	N/A	N/A	N/A	N/A	N/A	N/A	$65,755	$150,000	44%
Total	**34,743,430**	**43,136,759**	**81%**	**8,012.07**	**4,580**	**175%**	**$4,153,287**	**$4,836,502**	**86%**

**Goals are reflective of the revised Energy Smart Implementation Plan PY 10-12 approved 2/13/2020.*

Summary tables show savings achieved and incentive spend from January 1, 2022 through December 31, 2022.

Home Performance with ENERGY STAR®

Offering Description

This offering will achieve long term, significantly cost-effective electric savings through the use of local auditors and contractors 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. The offering includes a home energy assessment which may also recommend follow up measures to be completed by trade ally contractors. The home energy assessment includes a walk-through inspection and direct installation of low-cost measures such as LED lighting, high-efficiency showerheads and water aerators, smart power strips, pipe wrap and smart thermostats. The home energy assessment may recommend follow-up measures which require diagnostic testing to achieve deeper savings in the home. Follow-up measures, completed by an Energy Smart approved trade ally, include attic insulation, air conditioning tune-up, air sealing, and duct sealing. This offering also includes an energy- saving kit component offered through the Online Marketplace, which provides an easy customer entry point.

To meet the needs of New Orleans' unique housing stock of double shot-gun homes and smaller multifamily configurations, the HPwES offering now includes all buildings with four or fewer units. Structures of this size and construction type often behave and function more like single-family homes, with owners often occupying one of the units, thus minimizing the split-incentive barrier.

Offering Highlights

The Home Performance with ENERGY STAR offering achieved 2,108,669 in verified kWh savings, reaching 43% of the goal. Home Performance budget was utilized in the Income-Qualified Weatherization offering to ensure eligible customers would have access to the program throughout the year. Home Performance remained open and available to customers throughout the year as well. The Energy Smart team completed 775 assessments during the year and generated 49% of the offering energy savings from direct-install measures at the time of the assessment. Deeper savings measures completed by the trade allies, which include attic insulation, air sealing and duct sealing, generated the remaining 51% of the savings. This measure mix allowed the offering to produce an average of 1,734 kWh per customer. LED Lighting kits were mailed to 1,200 customers to create program leads and generate low-cost savings. Following the lighting kits, the offering saw a sharp increase in savings after the close of Q2, adding 700,000 kWh in July. The Department of Energy recognized the Energy Smart Program as an ENERGY STAR Partner of the Year, Sustained Excellence, for the third consecutive year for its exemplary commitment and dedication to energy efficiency.

- A total of 9,953 measures were installed during the program year.
- A total of 1,819 kits were shipped in PY12.
- The offering reached 43% of the kWh goal, achieving 2,108,669 kWh.
- The offering reached 30% of the kW target, achieving 410.7 kW.

Offering Budget and Savings

Table 4.1

MEASURE	COUNT OF MEASURES	GROSS kWh SAVINGS	% OF kWh CONTRIBUTION
1.0 Bathroom Aerator	34	1,205	0.06%
1.0 Bathroom Aerator - KIT	623	4,857	0.23%
1.5 Kitchen Aerator	34	455	0.02%
1.5 Kitchen Aerator - KIT	623	2,597	0.12%
1.5 Showerhead	40	12,959	0.61%
1.5 Showerhead - KIT	623	31,815	1.51%
Air Infiltration	144	174,804	8.29%
Assessment	775	0	0.00%
Attic Insulation	10	24,185	1.15%
Duct Sealing	222	487,598	23.12%
Indoor LED Lamp (Specialty)	456	119,266	5.66%
Indoor LED Lamp (Standard)	603	134,505	6.38%
LED 15W A-Type - KIT	623	23,911	1.13%
LED 15W A-Type - LTN KIT	1,197	209,224	9.92%
LED 15W PAR38 - LTN KIT	1,197	403,765	19.15%
LED 9W A-Type - KIT	623	42,788	2.03%
LED 9W A-Type - LTN KIT	1,198	114,545	5.43%
Outdoor LED Lamp (Specialty)	107	96,453	4.57%
Outdoor LED Lamp (Standard)	2	1,237	0.06%
Pipe Insulation	68	5,708	0.27%
Smart Thermostats	158	64,165	3.04%
Advanced Power Strip (Tier 2)	593	152,627	7.24%
TOTAL	9,953	2,108,669	100%

Table 4.2

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	Budget	%	Pre-Evaluated	Evaluated	%	Pre-Evaluated	Evaluated	%
$430,869	$1,517,071	28%	2,186,043	2,108,669	96%	421.9	410.7	97%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

The Energy Smart team will implement updates to the Efficiency Navigator platform that trade allies use for submitting and intaking leads. These updates will allow the program team to monitor the flow of trade ally assignments, increase conversion rates, improve customer satisfaction, and maximize savings at an individual home level. Due to the Energy Independence and Security Act(EISA) impacts,

the program is leveraging lighting kits while they are still available to maximize energy savings, increase offering awareness and creating lead sources for further participation in the Energy Smart program.

Retail Lighting & Appliances

Offering Description

The objective of the Retail Lighting and Appliance offering is to increase awareness and sales of efficient lighting and appliances to ENO's residential population. The offering will provide customers the opportunity to purchase a variety of discounted products that are ENERGY STAR qualified or better. The Energy Smart Online Marketplace features energy efficiency products as discounted prices. This allows Entergy New Orleans customers to purchase energy efficiency products online and have them shipped directly to their home.

Offering Highlights

During PY12, the Retail Lighting and Appliances offering achieved 19,806,949 in verified kWh savings, reaching 244% of the goal. The offering provides a large portion of savings for the residential portfolio and continues to be the most cost-effective and visible residential offering.

Point-of-sale lighting rebates, particularly with standard LEDs, were the main driver of savings at participating retailers, despite retail-price increases due to supply-chain issues and inflation. Additional savings came from the Online Marketplace and mail-in appliance rebates for ENERGY STAR certified refrigerators, window air-conditioning units, pool pumps, dehumidifiers, smart thermostats and heat-pump water heaters. Big-box stores, including The Home Depot, Costco, Lowe's and Walmart, participated in the point-of-sale offering, with sales at Costco and The Home Depot providing the most savings. The program team also continued its partnership with more local stores, including The Green Project and Eddie's Ace Hardware. Partnerships with local stores are vital to providing access to quality energy-efficient products for customers who shop locally and to support local businesses.

The Retail Lighting and Appliances field team began using a new tool to report on monthly store visits, called GoSpotCheck. This tool is an application-based program that allows field staff members to complete store-visit reports from their phones while in the store, including submitting photos and staff- and customer-training details. GoSpotCheck has provided substantial time savings, allowing the field staff to focus more on customer and staff interactions during visits.

Submissions of mail-in appliance-rebate applications increased in PY12 compared to PY11. The mail-in appliance-rebate offering has been vital to providing customers better access to energy-efficient products in light of the increasing costs of goods.

The Online Marketplace continues to play an important role in providing customers access to energy-efficient products. Manufacturer promotions occurred during the first half of the year, resulting in the sale of 4,389 smart thermostats. The Online Marketplace combined the program's incentives for smart thermostats with manufacturer and retailer discounts during the promotional periods, which allowed customers to purchase deeply discounted Emerson, Nest and Ecobee smart thermostats. The Earth Day promotion was particularly successful, with more than 1,000 smart thermostats sold in April. The inclusion of four-pack LED bulbs provided an increase in lighting sales on the Online Marketplace during the first six months. By layering in additional LED-lighting discounts during this period, the Online Marketplace sold 5,312 LEDs, 182 advanced power strips and 271 water-saving products largely as add-on purchases by customers purchasing smart thermostats.

- The offering reached 244% of the kWh goal, achieving 19,806,949 kWh.
- The offering reached 306% of the kW target, achieving 3,370.7 kW.

Table 5.1

PARTICIPATION TYPE	
In-Store	**Count**
Lighting	104,117
Online Marketplace	**Count**
Advanced Power Strips	182
Smart Thermostats	4,389
Smart Thermostat Accessories	444
Insulation	97
Lighting	5,312
Water Savers	271
Mail-In Rebates	**Count**
Pool Pump	11
Heat Pump Water Heater	12
Refrigerator	96
Window Ac	45
Water Cooler	1
Smart thermostat	174
Portable dehumidifier	9

Table 5.2 Participating Retailer

RETAIL COMPANY	SUPPORTED RETAIL PROGRAMS		ADDRESS
	Lighting	Appliances	
Barto Appliance		X	1400 Airline Dr
Costco Wholesale		X	3900 Dublin St
Home Depot (Bullard)	X	X	12300 I-10 Service Rd
Home Depot (Central)	X	X	1100 S Claiborne Ave
Lowes (Central)		X	2501 Elysian Fields Ave
Lowes (Read)		X	5770 Read Blvd
Walmart (Tchoupitoulas)	X	X	1901 Tchoupitoulas St
Walmart (Chef Menteur)	X	X	4301 Chef Menteur Hwy
Walmart (Behrman)	X	X	4001 Behrman Pl
Walmart Bullard	X	X	6000 Bullard Ave
The Green Project	X		2831 Marais St
Eddie's Ace Hardware	X		4401 Downman Rd

Offering Budget and Savings

Table 5.3

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	**Budget**	**%**	**Pre-Evaluated**	**Evaluated**	**%**	**Pre-Evaluated**	**Evaluated**	**%**
$1,315,375	$1,285,720	102%	16,408,179	19,806,949	121%	2,509.9	3,370.7	134%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

Due to the enforcement of EISA legislation, the program will be increasing the rate of sales and incentives throughout the first six months of the offering in PY13 before energy savings are no longer available to be claimed due to the new legislation. Retail stores will be increasing the point of purchase rebates for select ENERGY STAR appliances. The online marketplace will add new brands of products. Finally, the offering will add the capability of enrolling a purchased smart thermostat from the online marketplace directly into the EasyCool demand response offering. This cross promotion will help lead to increased demand load control capabilities and support increased participation.

Multifamily Solutions

Offering Description

This offering targets multifamily property owners (landlords) and managers, as well as apartment and condo renters. The offerings will address their unique needs through a combination of incentives for both direct install and prescriptive measures, and through property owner and tenant education. A property must have a minimum of five units to qualify for Multifamily Solutions. This allows for the Multifamily Solutions offering to be more focused on the unique needs of owners, managers and renters of larger buildings.

Offering Highlights

The Multifamily Solutions offering achieved 2,530,865 in kWh savings, reaching 157% of the goal. The team worked with 15 properties, totaling 1,149 units in PY12. The program saw a resurgence in PY12 compared to PY11 and PY10 which were both impacted significantly by COVID-19. This was reflected in overall success and the pipeline that was created for PY13. The offering generated 41% of the savings from direct-install measures at the time of the assessment. Deeper savings measures by the trade allies, which include attic insulation, air sealing and duct sealing, generated the remaining 59% of the savings.

- The offering reached 157% of the kWh goal, achieving 2,530,865 kWh.
- The offering reached 121% of the kW target, achieving 571 kW.

Table 6.1

MEASURE	COUNT OF MEASURES	GROSS kWh SAVINGS	% OF kWh CONTRIBUTION
Bathroom Aerator	997	58,928	2.33%
Kitchen Aerator	1,082	29,518	1.17%
Showerhead	1,111	293,886	11.61%
Air Sealing	575	538,591	21.28%
Duct Sealing	574	944,808	37.33%
Indoor LED Lamp (specialty)	882	106,283	4.20%
Indoor LED Lamp (standard)	1,075	204,747	8.09%
Multifamily Assessment	1,145	0	0.00%
Outdoor LED Lamp (specialty)	1	432	0.02%
Pipe Insulation	995	131,613	5.20%
Smart Thermostat	43	20,245	0.80%
Advanced Power Strip	614	201,814	7.97%
TOTAL	**9,094**	**2,530,865**	**100%**

Offering Budget and Savings

Table 6.2

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	Budget	%	Pre-Evaluated	Evaluated	%	Pre-Evaluated	Evaluated	%
$511,210	$359,750	142%	2,522,560	2,530,865	100%	569.6	571.0	100%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

The Energy Smart team is working on intake information for participating Multifamily communities to identify low-income housing and highlight those opportunities in reporting. This will allow the team to demonstrate how this offering impacts both low income and market rate customers.

Income-Qualified Weatherization

Offering Description

The Income-Qualified Weatherization 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.

Offering Highlights

The Income-Qualified Weatherization offering achieved 3,068,747 in verified kWh savings, reaching 166% of the goal. In addition, the offering achieved 342% of the kW reduction target. During PY12, the Energy Smart team completed 984 energy assessments. The Income-Qualified Weatherization offering generated 30% of kWh savings from direct-install measures at the time of the home-energy assessment. Trade allies performed the follow-up measures recommended in the home-energy assessment report, which include attic insulation, air sealing and duct sealing. Follow-up measures generated the remaining 70% of the kWh savings achieved. This measure mix allowed the offering to produce an average of 3,187 kWh reduction per customer.

The Income-Qualified Weatherization offering had an opportunity to partner with Vietnamese Initiatives in Economic Training (VIET) in PY12. The program was able to enroll 60 participants with VIET's assistance. In addition, VIET provided translating services to the program to overcome the language barrier. Partnering with VIET was very beneficial in building trust and overcoming a language barrier to increase the participation in the offerings.

- A total of 5,347 measures were installed during the program year.
- The offering reached 166% of the kWh goal, achieving 3,068,747 kWh.
- The offering reached 342% of the kW target, achieving 2,133.6 kW.

Table 7.1

MEASURE	COUNT OF MEASURES	GROSS kWh SAVINGS	PERCENT OF kWh CONTRIBUTION
1.0 BATHROOM AERATOR	87	5,312	0.17%
1.5 KITCHEN AERATOR	112	2,893	0.09%
1.5 SHOWERHEAD	99	16,689	0.54%
AIR INFILTRATION	543	634,339	20.67%
ASSESSMENTS	986	0	0.00%
CEILING INSULATION	184	532,441	17.35%
DUCT SEALING	489	996,850	32.48%
INDOOR LED LAMP (SPECIALTY)	647	169,677	5.53%
INDOOR LED LAMP (STANDARD)	915	220,466	7.18%
OUTDOOR LED LAMP (SPECIALTY)	169	142,981	4.66%
OUTDOOR LED LAMP (STANDARD)	5	5,807	0.19%
PIPE INSULATION	117	8,678	0.28%
SMART THERMOSTAT	280	101,566	3.31%
ADVANCED POWER STRIP (TIER 2)	714	231,048	7.53%
TOTAL	5,347	3,068,747	100%

Offering Budget and Savings

Table 7.1

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	Budget	%	Pre-Evaluated	Evaluated	%	Pre-Evaluated	Evaluated	%
$1,330,917	$759,461	175%	3,135,817	3,068,747	98%	2,350.5	2,133.6	91%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

With energy code changes indicating that residential attic insulation levels will rise from R-30 to R-38 as the new standard, the program is investigating increased rebate incentives to the per square foot rebate amount to compensate trade allies fairly for the increase of time and materials. The team will also implement the updates to the Efficiency Navigator platform that trade allies use for submitting and intaking leads. These updates will allow the team to monitor the flow of trade ally assignments and increase the conversion rates. The impacts of this update are to improve customer satisfaction and maximize savings at an individual home level.

A/C Solutions

Offering Description

The A/C Solutions offering provides residential customers with a more comprehensive set of options to help lower the energy consumption associated with keeping their homes cool and comfortable in the summer. Customers with functioning air conditioning can improve the efficiency of their units with the help of a comprehensive air conditioning tune-up or replacement. The offering also includes the installation of new Demand Response (DR)-enabled smart thermostats. The program works to enhance the ability within the territory's HVAC contractor network to provide value-added services to customers.

Offering Highlights

The A/C Solutions offering achieved 1,402,624 in verified savings, reaching 59% of the goal. The offering served 2,586 customers. Air conditioner tune-ups provided 55% of the kWh savings, and duct sealing generated the additional 45% of the kWh savings.

- A total of 1,354 measures were installed during the program year.
- The offering reached 59% of the kWh goal, achieving 1,402,624 kWh.
- The offering reached 87% of the kW target, achieving 598.6 kW.

Table 8.1

MEASURE	COUNT OF MEASURES	GROSS kWh SAVINGS	% OF SAVINGS CONTRIBUTION
CENTRAL AC REPLACEMENT	34	1,955	0.14%
CENTRAL AC TUNE-UP	623	792,167	56.48%
DUCT SEALING	34	601,002	42.85%
DUCTLESS HEAT PUMP	623	3,725	0.27%
SMART THERMOSTAT	40	3,774	0.27%
TOTAL	**1,354**	**1,402,623**	**100%**

Offering Budget and Savings

Table 8.2

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	Budget	%	Pre-Evaluated	Evaluated	%	Pre-Evaluated	Evaluated	%
$241,886	$439,100	55%	1,427,376	1,402,624	98%	610.1	598.6	98%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

The Energy Smart team will conduct further outreach to recruit new local contractors as trade allies. In the A/C replacement portion of the offering the program will implement a midstream approach working with A/C vendors to encourage rebates at the point of purchase.

Appliance Recycling & Replacement Pilot

Offering Description

The Appliance Recycling and Replacement Pilot offering will encourage early recycling of qualifying low efficiency appliances, such as refrigerators and freezers, for residential customers. The Pilot will also offer a refrigerator replacement option for income-qualified residential customers. This new offering will go beyond federal recycling requirements using environmentally friendly best practices for recycling all components of each appliance.

Offering Highlights

The Appliance Recycling and Replacement Pilot achieved 168,470 kWh savings in PY12, a 150% increase in savings over PY11. The offering served 200 income-qualified customers with the refrigerator replacement measure, installing a new ENERGY STAR refrigerator which will reduce appliance electricity consumption. In Q2, the Income-Qualified Weatherization offering added refrigerator replacement criteria to the home assessment to identify more qualified customers for this measure. The offering recycled 135 inefficient freezers and refrigerators to remove them from the electric grid permanently. The program team partnered with the Department of Sanitation on Household Hazardous Waste Day, held May 14, 2022. Orleans Parish residents were invited to drop off hazardous waste materials at the Elysian Fields recycling center. The Program Team distributed Energy Smart residential offering materials and Appliance Recycling flyer to 680 vehicles. The team will continue to partner with the Department of Sanitation to add the Appliance Recycling website link to the City Sanitation website. A bill insert was also deployed to all residential customers.

Offering Budget and Savings

Table 9.2

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	Budget	%	Pre-Evaluated	Evaluated	%	Pre-Evaluated	Evaluated	%
$148,950	$220,000	68%	167,764	168,470	100%	6.1	21.3	348%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

The Energy Smart team will expand the program to include a mid-stream approach, to work with used appliance retailers to remove outdated, inefficient appliances off their shelves and off the grid permanently.

School Kits & Education

Offering Description

The School Kit & Education offering targets 6th and 10th grade school age students in New Orleans to deliver a hands-on lesson and in-person instruction about energy efficiency concepts. Students are sent home with an energy efficiency starter kit and forms with installation data are returned to the Energy Smart team.

The School Kits offering achieved 596,196 in verified gross kWh savings, reaching 88% of the goal. The Energy Smart team overcame challenges in PY12 that carried over from PY11. These challenges included continuing adjustments due to the COVID-19 pandemic and carrying over PY11 instruction into PY12 as a result of Hurricane Ida. From January to March Energy Smart operated virtually in response to a surge in COVID-19 numbers across the parish and fluctuating school policies. With a backlog of classes following a 3-month delay in instruction after Hurricane Ida, the team successfully pivoted by switching to a one-day session for each class. This adjustment allowed Energy Smart to continue delivering high-quality energy education to the schools who were unable to participate in PY11 as well as those who registered in PY12. Because of this, the team was able to deliver the target of 3,500 kits. Through the year, as public health conditions changed, Energy Smart was able to return to in-person learning for Orleans Parish 6th and 10th graders starting in March. The Energy Smart team implemented four instructional methods: live webinars by Energy Smart staff, new classroom teacher-led lesson plans, take-home packets for students and an online platform to submit efficiency measure installation forms.

Instructional resources deployed:

- In-person classes
- Live webinars
- Classroom teacher-led lesson plans
- Student activity packets
- Online platform that engages classes in an inter-school competition

In-Person Classes

Students, teachers, and Energy Smart instructors were excited to restart in-person instruction of two sessions of instruction for 6th graders and two sessions for 10th graders. Eighteen schools were taught two lessons, representing 3,125 students in 35 classrooms across Orleans Parish.

- Bicycle Energy Generator & Interactive Skit - 6th grade
- The Energy House Game - 10th grade

Live Webinars

Three individual, hour-long live webinars were available for teachers to host Energy Smart staff in their classrooms. Fifteen schools, representing 254 students and 3 classrooms accepted live webinars in the following topics:

- Introduction to Energy Efficiency
- Careers in Energy Efficiency
- Climate Change and You

Teacher-Led Lesson Plans

Nine lesson plans were available to teachers to select and implement as they saw fit in their own classrooms. All 29 participating schools, including schools that gave live lessons, accepted one or more of these lessons to add to their own teaching schedule, representing 3,500 students in over 48 classrooms. Ten of 29 schools accepted lesson plans only and received no direct instruction from Energy Smart educators. The lesson plans developed were:

- The House Game
- Research a Fuel
- List Our (Electric) Stuff
- How to Read an Energy Bill
- Gallery Walk
- Myths vs. Facts About Electricity
- Skit: The Adventures of Kilowatt and Crawfish
- Flow Meter Bag Experiment
- Classroom Energy Audit

Student Activity packets

Five branded student activity packets continued to be distributed via print and emailed PDF. Each packet contains activities and experiments for the students to do at home, along with marketing information for the Energy Smart Online Marketplace to acquire additional energy efficiency products online. The packets were a way to reach all students more equitably, even those with limited internet access, while building relationships with teachers and providing additional savings opportunities online. All 29 schools had access for their 3,500 students to also use the packets in class or as homework.

The packets covered the following topics:

- General Energy Introduction
- Appliances
- HVAC/Insulation
- Lighting
- Water

Summary

- A total of 3,500 kits were distributed during the program year.
- The offering reached 88% of the kWh goal, achieving 596,196 kWh.
- The offering reached 104 % of the kW target, achieving 84.2 kW.

Offering Budget and Savings

Table 10.1

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	**Budget**	**%**	**Pre-Evaluated**	**Evaluated**	**%**	**Pre-Evaluated**	**Evaluated**	**%**
$108,325	$105,400	103%	810,950	596,196	74%	116.6	84.2	72%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

The National Theatre for Children (NTC), in coordination with Entergy New Orleans, will recruit, enroll, deliver energy efficiency curriculum. NTC will disperse school kits to 4,100 students and secure installation to ENO residences to promote behavior change and create lifelong energy-smart customers. Energy Wise, a local non-profit, will continue to support community outreach for the entire portfolio.

Behavioral & Rewards

Offering Description

The Behavioral offering provides customers a Home Energy Report/Scorecard (HERs) through Entergy New Orleans' Customer Engagement Portal (CEP). Residential customers will receive a monthly HER that compares them to similar and efficient households, shows their usage over time, provides tips for saving energy, rewards them for taking actions and directs them to other program offerings.

The Rewards offering enables residential customers to sign-up for Rewards through the CEP. Participants can receive eGift cards from their choice of available retailers for accumulating points for taking specific actions.

Offering Highlights

The first Home Energy Reports (HERs) of the year were sent to customers in January and continued each consecutive month throughout 2022. A total of 383,632 HERs were delivered to 83,846 residential customers in PY12. Home Energy Reports included a dynamic rewards section, which displayed customer reward balances and promotes Energy Smart offerings to further incentivize energy-saving actions and customer engagement through the Customer Engagement Portal (CEP). Throughout PY12, 106,591 customers saved energy or took actions within the CEP to earn rewards points. A total of $5,240 in rewards points were redeemed by customers' energy-saving actions in 2022.

The Program Team continued to promote the core Energy Smart offerings through a Program-awareness Widget in the CEP, including Home Performance with ENERGY STAR assessments, the Energy Smart Online Marketplace, ENERGY STAR appliance rebates, A/C Solutions offering and central-air-conditioner rebates. Email marketing campaigns were executed throughout the year to customers eligible to redeem rewards points and promote the Online Home-assessment tool to increase awareness, drive participation and yield savings.

Offering Participation

Table 11.1

Month of Data	Nov-21		Dec-21		Jan-22		Feb-22	
	Send Date	Send Count	Send Date	Send Count	Send Date	Send Count	Send Date	Send Count
Email - NC (Legacy)	1/28/22	13,296	3/4/22	10,877	3/14/22	12,133	4/13/22	11,573
Email - NC (New)	1/28/22	2,067	3/4/22	1,778	3/14/22	1,886	4/13/22	1,859
Email - SC (Legacy)	1/28/22	6,278	3/4/22	1,778	3/14/22	5,968	4/13/22	6,121
Email - SC (New)	1/28/22	1,706	3/4/22	1,527	3/14/22	1,576	4/13/22	1,519
Print - NC (Legacy)	2/2/22	5,961	3/7/22	4,707				
Print - ADM NC (New)	2/2/22	26,020	3/7/22	23,664				
Total HERs		**55,328**		**44,331**		**21,563**		**21,072**

Month of Data	Mar-22		Apr-22		May-22		Jun-22	
	Send Date	Send Count	Send Date	Send Count	Send Date	Send Count	Send Date	Send Count
Email - NC (Legacy)	5/6/22	11,246	6/2/22	11,136	7/13/22	24,732	8/12/22	20,960
Email - NC (New)	5/7/22	1,801	6/2/22	1,678	7/13/22	3,704	8/12/22	3,226
Email - SC (Legacy)	5/4/22	5,771	6/2/22	5,942	7/13/22	5,671	8/10/22	4,718
Email - SC (New)	5/4/22	1,498	6/2/22	1,440	7/13/22	1,361	8/10/22	1,182
Print - NC (Legacy)			6/2/22	5,017				
Print - ADM NC (New)			6/8/22	23,429				
Total HERs		**20,316**		**48,642**		**35,468**		**30,086**

Month of Data	Jul-22		Aug-22		Sep-22		Oct-22	
	Send Date	Send Count	Send Date	Send Count	Send Date	Send Count	Send Date	Send Count
Email - NC (Legacy)	9/7/22	11,694	10/5/22	12,235	11/14/22	12,079	12/5/22	11,432
Email - NC (New)	9/7/22	1,793	10/5/22	1,761	11/14/22	1,724	12/5/22	1,641
Email - SC (Legacy)	9/7/22	5,443	10/5/22	5,773	11/4/22	5,636	12/5/22	3,765
Email - SC (New)	9/7/22	1,396	10/5/22	1,361	11/4/22	1,377	12/5/22	1,017
Print - NC (Legacy)	9/8/22	5,525						
Print - ADM NC (New)	9/8/22	21,174						
Total HERs		**47,025**		**21,130**		**20,816**		**17,855**

Month of Data	2022 SUM
	2022 HERs
Email - NC (Legacy)	163,393
Email - NC (New)	24,918
Email - SC (Legacy)	62,864
Email - SC (New)	16,960
Print - NC (Legacy)	21,210
Print - ADM NC (New)	94,287
Total HERs	**383,632**

Offering Budget and Savings

Table 11.2

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	**Budget**	**%**	**Pre-Evaluated**	**Evaluated**	**%**	**Pre-Evaluated**	**Evaluated**	**%**
$65,755	$150,000	44%	-	5,060,909	N/A	-	821.84	N/A

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

The Rewards portion of the Behavioral program will be discontinued in PY13. The program team will transition Home Energy Reports to be generated with AMI meter data rather than monthly billing data.

COMMERCIAL & INDUSTRIAL OFFERINGS

Commercial & Industrial Portfolio Performance

Table 12.1

OFFERING	kWh SAVINGS	kWh GOAL*	% TO GOAL	kW SAVINGS	kW TARGET *	% TO GOAL	INCENTIVES	BUDGET	% TO BUDGET
Small Commercial & Industrial Solutions	5,451,890	8,830,250	62%	1,286.6	1,948	66%	$909,072	$1,189,931	76%
Large Commercial & Industrial Solutions	32,655,323	38,041,497	86%	6,815.6	6,048	113%	$3,273,623	$4,264,094	77%
Publicly Funded Institutions	4,147,387	3,592,744	115%	105.0	498	21%	$477,363	$435,147	110%
Commercial & Industrial Construction Solutions	135,938	3,172,427	4%	38.0	603	6%	$15,261	$418,479	4%
TOTAL	**42,390,538**	**53,636,918**	**79%**	**8,245.2**	**9,097**	**91%**	**$4,675,319**	**$6,307,651**	**74%**

**Energy Efficiency Goals are reflective of the revised Energy Smart Implementation Plan PY 10-12 approved 2/13/2020.*

Summary tables show savings achieved and incentive spend from January 1, 2022 through December 31, 2022.

Small Commercial & Industrial Solutions

Offering Description

The Small Commercial & Industrial Solutions offering provides small businesses (100 kW demand or less) and other qualified non-residential customers the opportunity to achieve electricity savings through strategies designed specifically for this sector. This offering helps small business customers analyze facility energy use and identify energy efficiency improvement projects. Program participants are advised on applicable offerings through the program as well as financial incentives for eligible efficiency measures that are installed in their facilities by trade allies.

Offering Highlights

The Small Commercial & Industrial Solutions offering achieved 5,451,890 in verified gross kWh saving, reaching 62% of goal. Program Year 12 saw significantly reduced COVID-19 restrictions on businesses however supply chain delays and labor shortages persisted which impacted Small Commercial customer's ability to make energy efficiency improvements. PY12 Small Commercial savings were almost three times higher than PY11, with an additional 3.5 million kWh completed in PY12 compared to the previous program year. To encourage participation and address barriers to participation, the Energy Smart team designed and implemented new incentive structures and program offerings in PY12.

- Step-Down Bonus
    - The Energy Smart Step-Down Bonus was designed to allow customers to reserve increased incentives for projects submitted in Q1 through Q3 to get more projects submitted to the program earlier in the Program Year. Customers who submitted applications between January 1, 2022 and September 30, 2022 would receive the Step-Down bonus as long as projects were fully installed with the required project documentation submitted to the program no later than December 31, 2022. In the first quarter of PY12 there were 9 Small Commercial projects submitted that reserved a Step-Down bonus, 12 more Small Commercial projects were submitted in Q2 and 9 more were submitted in Q3. All together these 30 Small Commercial projects received $6,695 in additional incentives and these projects contributed over 700,000 kWh to the PY12 Small Commercial & Industrial pipeline.

- Lagniappe Fund
    - The Lagniappe Fund was implemented in late Q3 and was designed to expedite application submittals add to the overall energy savings for the PY12 Commercial & Industrial Portfolio. In total, 55 Small Commercial projects received Lagniappe Funds and were completed in PY12. These projects received $444,871 in additional incentives and added over 2 million kWh to the Small Commercial & Industrial pipeline. The Small Commercial & Industrial Lagniappe Fund projects accounted for 47% of the PY12 Small Commercial & Industrial pipeline and represented 23% of the Small Commercial & Industrial energy savings goal.

- A total of 933 measures were installed during the program year.
- The offering reached 62% of the goal, achieving 5,451,890 kWh.
- The offering reached 66% of the kW target, achieving 1,279.3 kW.

Table 13.1

Project Components	Gross kWh Savings	% of Savings Contribution
Lighting	4,570,091	83.83%
Refrigeration	61,570	1.13%
HVAC	430,110	7.89%
Controls	247,489	4.54%
Water Heating	64,712	1.19%
Kit	75,984	1.39%
Appliance	1,934	0.04%
Total	**5,451,890**	**100%**

Table 13.2

Project Type	Total Incentives	Total Project Costs	% Covered
Custom Lighting	$136,092	$480,663	28%
Custom Non-Lighting	$59,684	$149,648	40%
Prescriptive	$713,296	$1,885,752	38%
Total	**$909,072**	**$2,516,063**	**36%**

Table 13.3

Program Component	Count of Measures	Gross kWh Savings
Prescriptive	147	3,385,255
Custom*	786	2,066,635
Total	**933**	**5,451,890**

*Custom measure count includes bonus measures

Chart 13.2

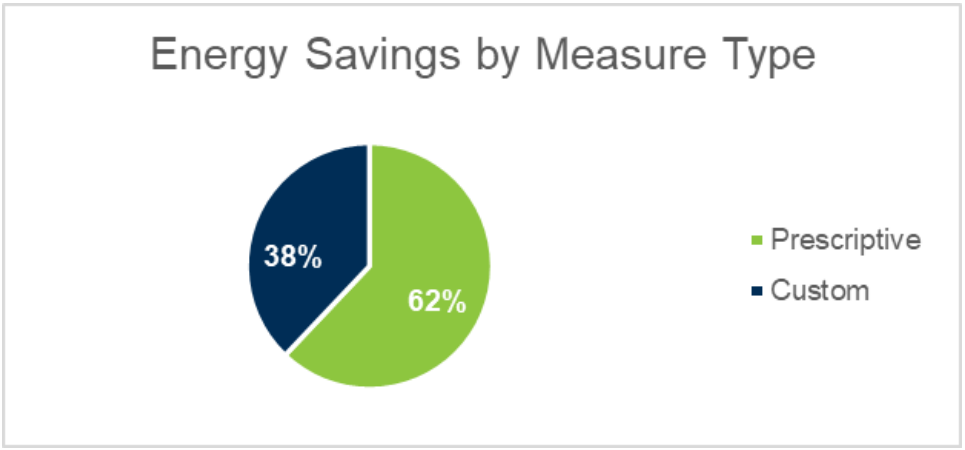
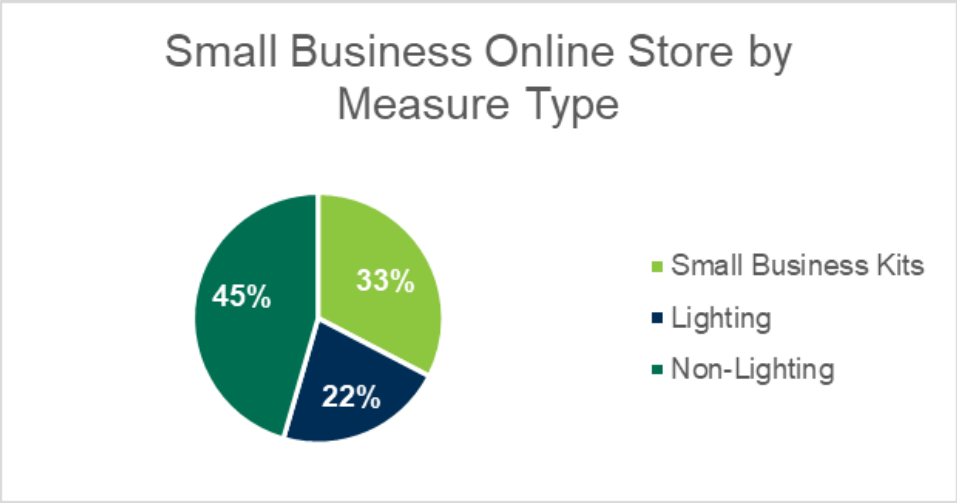


Chart 13.3



Offering Budget and Savings

Table 13.4

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	**Budget**	**%**	**Pre-Evaluated**	**Evaluated**	**%**	**Pre-Evaluated**	**Evaluated**	**%**
$909,072	$1,189,931	76%	4,249,756	5,451,890	128%	947.4	1,279.3	135%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

Energy Smart will build on some successful aspects of the Hurricane Ida Recovery Fund and the Lagniappe Fund to provide ongoing application assistance for Small Commercial & Industrial customers. The success of the Funds offered in PY11 and PY12 indicated that the program application is a barrier for customers, particularly Small Commercial customers who may not have the technical knowledge required to submit a program application package. The streamlined webform application has been successful in bringing in customer-initiated projects and walking them through the steps necessary to submit an Energy Smart application and reserve funds for their project. The Small Commercial & Industrial outreach staff will be responsible for following up with customers who submit a Project Request Form on the Energy Smart website. Customers who submit proposed project ideas that are not eligible for Energy Smart incentives will be given guidance on what types of projects qualify as well as any information on bonuses that could be applicable to eligible projects. This approach will not only result in a larger number of Small Commercial project applications submitted to the program, but also allow Energy Smart staff to build ongoing relationships with Small Commercial customers.

Large Commercial & Industrial Solutions

Offering Description

The primary objective of the Large Commercial and Industrial Solutions offering is to provide a solution for larger (greater than 100 kW demand) non-residential customers interested in energy efficiency through a prescriptive or custom approach. The Large Commercial & Industrial 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, installation contractors and Energy Service Companies (ESCOs).

Offering Highlights

The Large Commercial & Industrial offering achieved 32,655,323 in verified gross kWh savings, reaching 86% to goal. The Energy Smart team continued to promote non-lighting measures in PY12 to generate deeper savings and a more diverse measure mix for the Large Commercial & Industrial Solutions offering. Non-lighting measures continue to account for a larger portion of the Large Commercial & Industrial measure mix with over 22% of the measures in PY12 being non-lighting compared to 14% in PY11, 11% in PY10 and only 8% in PY9. Over half, 52%, of the Large Commercial & Industrial kWh savings came from non-lighting measures.

- Step-Down Bonus
    - The Energy Smart Step-Down Bonus was designed to allow customers to reserve increased incentives for projects submitted in the first three quarters of the program year. The Step-Down bonus was designed to account for continued supply chain disruptions and shipping delays while also encouraging customers and trade allies to submit Large Commercial & Industrial projects earlier in the program year. In order to receive the bonus customers were required to apply between January 1, 2022 and September 30, 2022 and the Step-Down bonus would be honored for projects that were completed by December 31, 2022. In the first quarter of PY12 there were 27 Large Commercial & Industrial projects that qualified for the Step-Down bonus, 8 in Q2 and 10 more were submitted in Q3. The 45 Large Commercial & Industrial projects that qualified for the Step-Down bonus received an additional $101,630 in incentives and contributed over 5.5 million kWh to the Large Commercial & Industrial energy savings pipeline.

- Lagniappe Fund
    - The Lagniappe Fund was implemented in late Q3 and was designed to expedite application submittals to add to the overall energy savings for the PY12 Commercial & Industrial Portfolio. In total, 64 Large Commercial & Industrial projects received Lagniappe Funds and were completed in PY12. These projects received $911,711 in additional incentives and added over 7.7 million kWh to the Large Commercial & Industrial pipeline. The Large Commercial & Industrial Lagniappe Fund projects accounted for 30% of the PY12 Large Commercial & Industrial pipeline and represented 20% of the Large Commercial & Industrial energy savings goal.

- A total of 485 measures were installed during the program year.
- The offering reached 86% of the kWh goal, achieving 32,655,323 kWh.
- The offering reached 113% of the kW target, achieving 6,815.6 kW.

Table 14.1

Project Components	Gross kWh Savings	% Of Savings Contribution
Lighting	**17,642,230**	**54.03%**
Refrigeration	5,375	0.02%
HVAC	886,402	2.71%
Controls	13,708,460	41.98%
Building Envelope	412,856	1.26%
Total	32,655,323	100%

Table 14.2

Project Type	Total Incentives	Total Project Costs	% Covered
Custom Lighting	$450,909	$1,798,400	25%
Custom Non-Lighting	$1,225,498	$1,991,112	62%
Prescriptive	$1,597,216	$5,591,702	29%
Total	**$3,273,623**	**$9,381,214**	**35%**

Chart 14.3

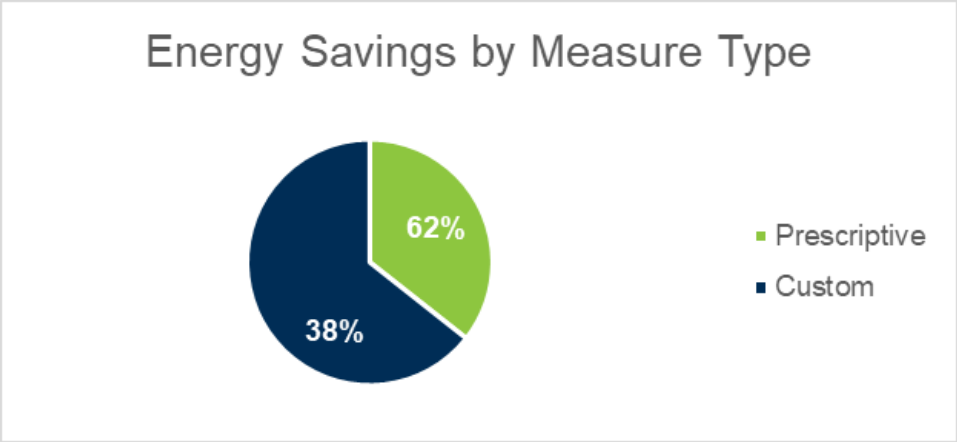
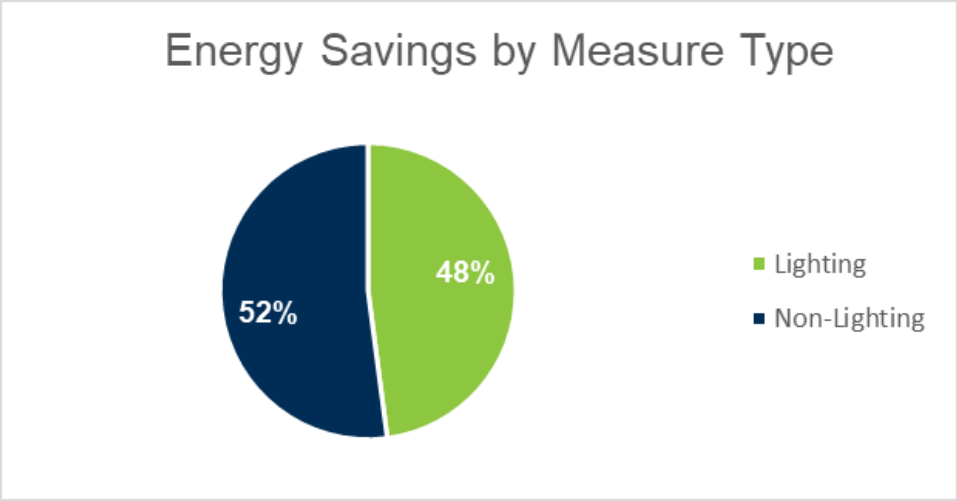


Chart 14.4



Offering Budget and Savings

Table 14.5

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	Budget	%	Pre-Evaluated	Evaluated	%	Pre-Evaluated	Evaluated	%
$3,273,623	$4,264,094	77%	25,436,680	32,655,323	128%	3,455.3	6,815.6	197%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

Energy Smart will add an additional Energy Advisor in PY13 who will be responsible for outreach to Large Commercial & Industrial customers. Outreach efforts in PY12 have been successful in developing relationships with Large Commercial & Industrial customers as well as those trade allies and contractors that are performing work for these customers. Outreach efforts in PY13 will prioritize customer and building types that have the most potential for energy savings based on the customer or building types with the largest energy use. Analysis has shown potential for savings with customer segments such as transportation and industrial.

Publicly Funded Institutions

Offering Description

The Publicly Funded Institutions offering is targeted at local publicly funded institutions. The offering assists 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 are given guidance throughout their engagement with the program.

Offering Highlights

The Publicly Funded Institutions offering achieved 4,147,387 in verified gross kWh savings in PY12, reaching 115% of goal. As in previous program years, once the PFI goal was met and the incentive budget was exhausted, new projects from publicly funded institutions were processed under the Large Commercial & Industrial or Small Commercial & Industrial offerings.

- Step-Down Bonus
  - The Energy Smart Step-Down bonus was designed to allow customers to reserve increased incentives for projects submitted in the first three quarters of the year to encourage customers and trade allies to submit and complete projects earlier in the program year. Customers who applied between January 1 and September 30, 2022 were able to reserve increased incentives for projects that were completed by December 31, 2022. A total of 8 PFI projects were paid a Step-Down bonus with 3 projects submitted in the first quarter, 4 in Q2 and one submitted in Q3 of PY12. These 8 projects received a total of $22,250 in additional program incentives and contributed 1.2 million kWh to the PFI energy savings pipeline.

- Lagniappe Fund
  - The Lagniappe Fund was implemented in late Q3 and was designed to expedite application submittals to add to the overall energy savings for the PY12 Commercial & Industrial Portfolio. In total, 3 PFI projects received Lagniappe Funds and were completed in PY12. These projects received $56,327 in additional incentives and added just under 700,000 kWh to the PFI pipeline. The PFI Lagniappe Fund projects accounted for 17% of the PY12 PFI pipeline and represented 19% of the PFI energy savings goal.

Table 15.1

Project Components	Gross kWh Savings	% Of Savings Contribution
Lighting	690,358	17%
Controls	3,396,396	82%
HVAC	60,633	1%
Total	**4,147,387**	**100%**

Table 15.2

Project Type	Total Incentives	Total Project Costs	% Covered
Custom Lighting	$56,214	$78,934	71%
Custom Non-Lighting	$364,981	$368,197	99%
Prescriptive	$56,167	$63,232	89%
Total	**$477,362**	**$510,363**	**94%**

Table 15.3

Program Component	Count of Measures	Gross kWh Savings
Prescriptive	18	460,012
Custom	31	3,687,375
Total	**49**	**4,147,387**

Offering Budget and Savings

- A total of 49 measures were installed during the program year.
- The offering reached 115% of the kWh goal, achieving 4,147,387 kWh.
- The offering reached 21% of the kW target, achieving 105.0 kW.

Table 15.4

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	Budget	%	Pre-Evaluated	Evaluated	%	Pre-Evaluated	Evaluated	%
$477,363	$435,147	110%	3,943,259	4,147,387	105%	131.3	105.0	80%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

The Publicly Funded Institutions offering will play a significantly larger role in the overall Commercial & Industrial portfolio in PY13. The overall energy savings goal has increased substantially from 3.6 million kWh in PY12 to 10.8 million kWh in PY13 and the associated incentive budget has increased by more than $1 million. In order to reach these goals in PY13 the Energy Smart team has identified key PFI customers whose participation in the program will be critical for program success. Energy Smart outreach staff will be assigned to each key customer in order to continually engage with these customers to ensure energy efficiency and Energy Smart incentives are integrated into decision making for ongoing facility improvements.

Commercial & Industrial Construction Solutions

Offering Description

The new Commercial & Industrial Construction Solutions offering encourages customers to design and construct higher efficiency facilities than building code or planned designs. This offering is available to ground-up construction, additions or expansions, building repurposing and commercial building restorations. The New Construction offering provides incentives for design assistance, prescriptive measures and custom upgrades tailored to the customer's building operations.

Offering Highlights

The Commercial & Industrial Construction Solutions offering achieved 135,938 kWh in verified gross kWh savings in PY12 reaching 4% of the energy savings goal. New Construction projects require a longer timeframe to develop and thus a pipeline of projects requires multiple years of Program development and outreach. New Construction during this period was highly disrupted with COVID-19 construction delays, financing disruptions and long equipment lead times. To overcome long lead times, development teams often prioritized using available equipment over efficient equipment that would be eligible for Energy Smart incentives. Two Commercial & Industrial Construction Solutions projects were completed in Program Year 12. A local nonprofit utilized Construction Solutions incentives for interior and exterior lighting, refrigeration, dishwasher, electric griddle, low-flow showerheads and a high efficiency heat pump. The second Construction Solutions project included incentives for interior and exterior LED lighting.

- A total of 9 measures were installed during the program year.
- The offering reached 4% of the kWh goal, achieving 135,938 kWh.
- The offering reached 6% of the kW target, achieving 38 kW.

Table 16.1

Program Component	Count of Measures	Gross kWh Savings
Lighting	4	117,695
Non-lighting	5	18,243
Total	**9**	**135,938**

Offering Budget and Savings

Table 16.2

COST			ENERGY SAVINGS (kWh)			DEMAND REDUCTION (kW)		
Spend	**Budget**	**%**	**Pre-Evaluated**	**Evaluated**	**%**	**Pre-Evaluated**	**Evaluated**	**%**
$15,261	$418,479	4%	182,385	135,938	75%	41.7	38.0	91%

Table reflects verified gross energy savings achievement from TPE's Evaluation, Measurement and Verification (EM&V) findings relative to pre-evaluated savings reported by TPA.

Planned or Proposed Changes to the Offering

Energy Smart will continue outreach efforts to identify program partners such as architectural firms and construction companies to discuss potential C&I Construction Solutions projects. Open office hours for new trade allies to discuss progress on their projects and fill out applications along with Energy Smart staff has proven to be an effective way to get applications submitted and energy savings in the pipeline. Coordination with Entergy's Region Engineering Department will continue to ensure customers adding additional electric load are aware of the Energy Smart program.

Marketing, Outreach & Engagement

Residential Marketing and Outreach

Highlights

Program Year 12 kicked off with the Home Fitness campaign. The campaign targeted residential customers who had not participated in the following offerings: Home Performance with ENERGY STAR® (HPwES), Income-Qualified Weatherization (IQW) or A/C Tune-Up. The first email was sent to 12,411 customers on January 28, with a second email sent on February 4 to customers who did not open (DNO) the first email. Google search and Facebook ads launched on February 2 with Google display ads launching a week later, on February 9. On February 22 and March 1, second lead generation and DNO emails were deployed to the remaining customers who had not participated in the HPwES, IQW or A/C Tune-Up offerings. Other assets of the Home Fitness campaign were also launched, which included streaming radio ads on Pandora and Spotify, a digital ad and a print ad in *Gambit Weekly* on March 1, 2022.

Table 17.1: Home Fitness Campaign Results

EMAIL NAME	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE*
Email 1 – Lead Gen	January 28, 2022	12,411	1,335	11.1%	72	5.4%
Google Search	February 2-March 16, 2022	4,141	N/A	N/A	224	5.41%
Facebook	February 2-March 16, 2022	102,978	N/A	N/A	949	0.62%
Email 1 – DNO	February 4, 2022	10,791	665	6.2%	50	7.5%
Google Display	February 9-March 16, 2022	384.498	N/A	N/A	289	0.08%
Email 2 – Lead Gen	February 22, 2022	7,351	674	9.5%	26	3.9%
Email 2 – DNO	March 1, 2022	6,495	319	4.9%	27	8.5%
Spotify	March 1-24, 2022	66,486	48,973	N/A	135	0.20%
Pandora	March 1-24, 2022	69,540	31,059	N/A	176	0.27%
***Gambit Weekly* Print Ad**	March 1, 2022	73,000	N/A	N/A	N/A	N/A
***Gambit Weekly* Digital Ad**	March 1-31, 2022	55,000	N/A	N/A	134	0.24%

***Benchmark Click Through Rate (CTR): Email 2%, Google Search 2%, Google Display 0.17-0.35%, Facebook 0.9%**

Every month, the Energy Smart team creates an article for the monthly Circuit newsletter and a corresponding social media post to increase awareness and promote program participation.

On February 2, February 23 and March 9, the Energy Smart team mailed letters to customers who had a DLC switch installed on their central air conditioner. The letter let customers know that the Energy Smart team would visit their home in the next two weeks to remove the switch. Customers were also told how to enroll in the EasyCool offering using their existing smart thermostats and all the ways they could purchase a smart thermostat if their home did not have one installed.

On March 3, the Energy Smart team launched the Q1 Trade Ally Newsletter. The newsletter included information on the trade ally tiering system, badge ordering information and upcoming trainings. The team sent the newsletter to 75 trade ally contacts.

In March and June, the team sent customer satisfaction survey emails to customers who had recently participated in the Energy Smart program. The results of the surveys will be discussed in the Residential Customer Satisfaction section below.

To address customer concerns about higher bills early in the new year, the team developed a High Energy User campaign. The campaign targeted customers whose January 2022 bill increased at least 50% over their 2021 November and December average spend and individuals whose bill doubled year over year. The team sent the first email to 26,167 customers on April 4. A week later, two emails were sent to customers who did not open the initial email and to customers who opened the email but did not click (DNC) the call to action in the email. On April 13, a direct mail postcard was sent to 31,997 customers.

Table 17.2: High Energy User Campaign Results

EMAIL NAME	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Email – Lead Gen	April 4, 2022	26,167	2,907	11.5%	188	6.5%
Email – DNO	April 11, 2022	3,247	183	5.7%	5	2.7%
Email – DNC	April 11, 2022	2,212	1,004	45.4%	23	2.3%
Direct Mail Postcard	April 13, 2022	31,997	N/A	N/A	N/A	N/A

In conjunction with the plan to reach customers with higher utility bills, the Energy Smart team produced a Home Performance with ENERGY STAR bill insert. The two-sided bill insert showcased the benefits of the HPwES offering and was sent to 110,000 customers between March 3 and April 1.

In May, the Spring into Energy Savings campaign focused on the Home Performance with ENERGY STAR offering and its potential customer savings. The campaign encouraged customers to sign up for a home assessment and receive no-cost energy-efficient products valued up to $300. The campaign targeted a list of 54,190 customers who had not previously participated in either the HPwES offering or Income-Qualified Weatherization offering. A Google search campaign was in market from May 4–31 to increase awareness of the HPwES offering and its benefits.

Table 17.3: Spring into Energy Savings Campaign Results

CHANNEL	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Email – Lead Gen	May 2, 2022	54,190	6,937	13.1%	421	6.1%
Email - DNO	May 9, 2022	46,169	4,635	10.1%	362	7.8%
Google Search	May 4-31, 2022	1,222	N/A	N/A	93	7.6%

On May 5, the Department of Energy announced that the Energy Smart program won the 2022 ENERGY STAR® Partner of the Year Award—Sustained Excellence for the third consecutive year. The Energy Smart program was recognized for its efforts to advance innovations in residential energy efficiency programs and technologies to improve the affordability of home energy upgrades for diverse households through Home Performance with ENERGY STAR. The Energy Smart team worked collaboratively with Entergy New Orleans communications team in developing the news release that ran on the Entergy New Orleans website. The ENERGY STAR Partner of the Year news release posted on May 5.

On May 11, the team sent a save-the-date email to 16 trade allies for the May 18 'HVAC Technology and Attic Air Sealing' webinar.

On May 17, the Q2 Trade Ally newsletter was sent to 16 trade allies. The newsletter included information about the program's progress to its goals, the May 18 webinar, a recording from the March 22 webinar and the upcoming Q3 Trade Ally Advisory Group meeting.

On May 18, the Energy Smart team launched the A/C Tune-Up Customer Reach Back campaign. The campaign targeted customers who participated in the A/C Tune-Up offering previously but had not completed an A/C tune-up in the past two years. The campaign included a lead generation email, a DNO email and a direct mail postcard.

Table 17.4: A/C Tune-Up Customer Reach Back Campaign Results

CHANNEL	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Email – Lead Gen	May 18, 2022	380	67	17.73%	13	19.40%
Email - DNO	May 25, 2022	316	26	8.25%	5	19.23%
Direct Mail Postcard	May 24, 2022	555	N/A	N/A	N/A	N/A

On June 2, the Energy Smart team mailed a kit with eight LEDs to promote energy savings and outdoor lighting safety to 1,200 customers in underserved areas.

On June 15, the Keep Your Cool campaign kicked off. The campaign focuses on the HPwES and A/C Solutions offerings and the benefits of a no-cost assessment and a more efficient cooling system. The campaign urged customers to sign up for a home assessment and receive no-cost, energy-efficient products. The campaign also encouraged customers to sign up for an A/C tune-up and earn up to a $150 instant rebate. The campaign list targeted 18,898 customers who had not had an A/C tune-up. On June 22, a DNO email was sent to customers who did not open the initial email. Other tactics in the campaign that launched on June 15 include Google search and display ads and Facebook ads. On July 5, a digital ad and print ad launched in *Gambit Weekly*. On July 23, a carousel Facebook ad launched, and on August 31, a static-image Facebook ad launched. The Keep Your Cool campaign wrapped up with a postcard sent to 6,874 customers, a second *Gambit Weekly* print and digital ad and emails. The lead generation email was sent on September 8 to 21,437 customers who had not had an A/C tune-up and a follow-up email was sent a week later to customers that had not opened the lead generation email.

Table 17.5: Keep Your Cool Campaign Results

EMAIL NAME	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Email 1 – Lead Gen	June 15, 2022	18,898	3,551	18.9%	187	5.3%
Google Search	June 15-September 30, 2022	11,016	N/A	N/A	1,158	10.51%
Google Display	June 15-September 30, 2022	529,126	N/A	N/A	5,675	1.07%
Facebook Ad 1	June 15-July 22, 2022	33,325	N/A	N/A	833	1.31%
Email 1 – DNO	June 22, 2022	15,303	1,678	11.0%	146	8.7%
***Gambit Weekly* Print Ad 1**	July 5, 2022	73,000	N/A	N/A	N/A	N/A
***Gambit Weekly* Digital Ad 1**	July 5-August 4, 2022	49,168	N/A	N/A	27	0.05%
Facebook Ad 2	July 23-August 30, 2022	48,952	N/A	N/A	524	0.80%
Facebook Ad 3	August 31-September 30, 2022	39,500	N/A	N/A	377	0.75%
Postcard	September 1, 2022	6,874	N/A	N/A	N/A	N/A
***Gambit Weekly* Print Ad 2**	September 6, 2022	73,000	N/A	N/A	N/A	N/A
***Gambit Weekly* Digital Ad 2**	September 6-October 6, 2022	50,023	N/A	N/A	77	0.15%
Email 2 – Lead Gen	September 8, 2022	21,437	3,729	17.5%	365	9.8%
Email 2 – DNO	September 15, 2022	17,694	1,254	7.1%	121	9.6%

In June, the Energy Smart team produced an A/C Tune-Up bill insert. The two-sided bill insert showcased the benefits of an A/C tune-up and was sent to 1110,000 customers between June 10 and July 13.

On June 28, the team launched two MyEntergy emails. The target audience was customers who were registered on the MyEntergy portal. One email targeted customers who had taken their online assessment and the other targeted customers who had not yet taken their online assessment. The emails detailed the benefits of taking energy-saving actions in the MyEntergy portal.

On July 25, the team sent an email to the customers who received the LED Kit that was mailed on June 2. The email encouraged customers to provide their feedback on the kit as well as to continue saving energy with a Home Performance with ENERGY STAR assessment.

On August 2, the Energy Smart team launched the second phase of the A/C Tune-Up Customer Reach Back campaign. The campaign targeted customers who had not completed an A/C tune-up in the past two years. The campaign included a direct mail postcard, lead generation email and a DNO email.

Table 17.6: A/C Tune-Up Customer Reach Back Campaign Results

CHANNEL	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Direct Mail Postcard	August 2, 2022	3,995	N/A	N/A	N/A	N/A
Email – Lead Gen	August 9, 2022	21,579	2,102	9.8%	252	12.0%
Email – DNO	August 16, 2022	19,501	1,250	6.4%	174	14.0%

On October 3, the team launched the Energy Awareness Month campaign. The campaign targeted arrear and high energy user customers who had not had a Home Performance with ENERGY STAR or Income-

Qualified Weatherization assessment. The campaign consisted of Google Search ads, two lead generation emails and two DNO emails. The first lead-generation email was sent to 41,681 customers and the second was sent to 4,861 customers.

Table 17.7: Energy Awareness Month Campaign Results

CHANNEL	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Google Search	October 3-31, 2022	2,042	N/A	N/A	157	7.69%
Email 1 – Lead Gen	October 3, 2022	41,681	3,239	7.8%	145	4.5%
Email 1 – DNO	October 10, 2022	38,234	1,707	4.5%	94	5.5%
Email 2 – Lead Gen	October 12, 2022	4,861	364	7.6%	13	3.6%
Email 2 – DNO	October 20, 2022	2,550	171	6.7%	13	7.6%

On November 16, the team launched a MyEntergy email informing customers that the *My Rewards* offering was sunsetting at the end of the year. The email was sent to customers who had $5 or more in redeemable rewards points and encouraged them to redeem their rewards points before the end of the year. A second email was sent on November 30 as a final reminder to customers to redeem their rewards points before the program ended on December 31.

Table: 17.8 Residential & Trade Ally Emails

EMAIL NAME	DATE SENT	SENT	OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Online Marketplace Customer Survey	January 6, 2022	85	20	23.53%	4	20.00%
HPwES Customer Survey	January 6, 2022	66	28	42.42%	9	32.14%
Light Up Night EE Kits Customer Survey	January 6, 2022	3,629	928	25.93%	85	9.16%
A/C Tune-Up Customer Survey	January 6, 2022	101	38	38.00%	10	26.32%
IQW Customer Survey	January 6, 2022	69	34	50.00%	14	41.18%
EE Kits Customer Survey	January 13, 2022	85	34	40.00%	10	29.41%
Online Marketplace Shipping Notification Error	February 15, 2022	3,334	1,285	38.68%	0	0.00%
Q1 2022 TA Newsletter	March 3, 2022	75	17	23.61%	2	11.77%
IQW Customer Survey	March 3, 2022	98	26	27.96%	6	23.08%
A/C Tune-Up Customer Survey	March 3, 2022	40	12	30.00%	5	41.67%
HPwES Customer Survey	March 3, 2022	42	11	26.19%	6	54.55%
Online Marketplace Customer Survey	March 3, 2022	179	56	31.82%	12	21.43%
EE Kits Customer Survey	March 15, 2022	60	17	28.81%	4	23.53%
Save the Date: TA May 18 Training	May 11, 2022	28	15	55.56%	2	13.33%
Q2 2022 TA Newsletter - May 2022	May 17, 2022	27	15	55.56%	4	26.67%
HPwES Customer Survey	June 21, 2022	93	43	46.74%	15	34.88%
EE Kits Customer Survey	June 21, 2022	226	104	46.22%	14	13.46%
A/C Tune-Up Customer Survey	June 21, 2022	124	50	40.32%	10	20.00%
IQW Customer Survey	June 21, 2022	116	49	43.75%	13	26.53%
Online Marketplace Customer Survey	June 21, 2022	820	263	32.11%	43	16.35%
***My Rewards* (Customer Engagement Portal) Online Assessment**	June 28, 2022	30,049	5,458	18.19%	497	9.11%
***My Rewards* (Customer Engagement Portal) Engagement**	June 28, 2022	345	92	26.82%	9	9.78%

Q3 2022 TA Newsletter	July 7, 2022	28	14	51.85%	3	21.43%
LED Kit Follow Up with Customer Survey	July 25, 2022	931	96	10.378	8	8.33%
EE Kits Customer Survey	August 26, 2022	116	39	33.621	3	7.69%
IQW Customer Survey	August 26, 2022	132	42	32.813	14	33.33%
Online Marketplace Customer Survey	August 26, 2022	353	113	32.194	14	12.39%
HPwES Customer Survey	August 26, 2022	116	33	28.947	10	30.30%
A/C Tune-up Customer Survey	August 26, 2022	35	8	22.857	3	37.50%
Q4 2022 TA Newsletter	October 6, 2022	36	16	44.444	2	12.50%
My Rewards (Customer Engagement Portal) Points Redemption/Program Ending	November 16, 2022	22,781	3,066	13.46%	1,236	40.31%
IQW Customer Survey	November 29, 2022	215	73	33.95%	27	36.99%
OLM Customer Survey	November 29, 2022	265	59	22.26%	11	18.64%
HPwES Customer Survey	November 29, 2022	213	48	22.54%	16	33.33%
EE Kit Customer Survey	November 29, 2022	21	7	33.33%	3	42.86%
A/C Tune-Up Customer Survey	November 29, 2022	66	14	21.21%	6	42.86%
My Rewards (Customer Engagement Portal) Points Redemption/Program Ending	November 30, 2022	21,626	3,376	15.61%	1,343	39.78%

Table 17.9: Circuit Newsletter Metrics

DATE	SCHEDULED RECIPIENTS	OPEN RATE	CLICK-TO- OPEN RATE	UNIQUE OPENS	UNIQUE CLICKS	CLICK-THROUGH RATE
1/20/22	69,502	35.86%	3.4%	24,823	847	1.22%
3/17/22	71,729	47.00%	2.1%	33,594	700	0.98%
4/21/22	73,219	37.70%	2.0%	27,794	547	0.75%
5/19/22	73,823	47.91%	2.7%	35,366	943	1.28%
6/23/22	85,877	30.40%	2.7%	26,000	692	0.81%
7/21/22	76,890	41.73%	3.2%	31,973	1038	1.35%
8/18/22	78,264	52.36%	2.1%	40,825	847	1.09%
9/22/22	79,566	50.65%	1.6%	40,149	630	0.79%
10/20/22	80,459	39.90%	1.6%	31,984	525	0.65%
11/17/22	81,502	40.59%	1.5%	32,970	487	0.60%
12/22/22	81,899	40.65%	1.5%	33,165	501	0.61%

Appliance Replacement and Recycling

The Energy Smart team supported the appliance recycling offering with a media mix of paid search, digital display, email campaigns and a bill insert. The offering was also included in the September Entergy New Orleans Circuit newsletter. The Energy Smart team attended Hazard Waste Day on May 14 and distributed over 600 appliance recycling rack cards to residents that were participating in this event. In addition, the Energy Smart team contacted the Tulane Sustainability Department to have the appliance recycling offering included in the New Orleans Recycling Guide provided on the Department of Sanitation website. Rack cards were also

distributed to customers who participated in Home Performance with ENERGY STAR assessments. During Q4, the question “Is your refrigerator or freezer in working condition” was removed from the online scheduler to remove any participation barriers.

Table 17.10: Appliance Recycling Metrics

Channel	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Paid Search	January 1 – December 31	21,972	N/A	N/A	2243	10.21%
Digital Display	January 1 – April 19	248,410	N/A	N/A	6,799	2.7%
Email	April 19	72,842	11,881	16.3%	152	.2%
Email	November 2	72,004	13,724	19.10%	127	.90%
Bill Insert	August 2 - 30	103,560	N/A	N/A	N/A	N/A

EasyCool

The Energy Smart team deployed two event letters to EasyCool participants in PY12. The first was the Winter Event letter sent on February 3. The second was the EasyCool Summer Season Notification letter sent on May 12. The Energy Smart team designed an EasyCool banner ad for the residential online marketplace which went live on November 9. From November 9 through December 31, the EasyCool landing page received 157 page views. These page views could be attributed to the Black Friday and Holiday promotional emails driving residential customers to the online store for the smart thermostat deals and clicked on the EasyCool banner to learn more and enroll.

Table 17.11: EasyCool Metrics

CHANNEL	IN-MARKET DATE	IMPRESSIONS/ SENDS	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Winter Event Email	February 3	2181	47.3%	26	1.2%
Summer Season Event Email	May 12	2,691	64.2	0	0%

Energy Smart Online Marketplace

Throughout 2022, the team promoted the Energy Smart Online Marketplace by using email marketing, Facebook ads, Google Search ads, homepage online store banners and a postcard. These tactics were used to create awareness for marketplace offerings, promotions and the duration of the promotions.

Email marketing was also used for each campaign. It included a lead-generation email, which first notified customers of marketplace promotions and their timeframes. Remarketing emails were used as reminders for customers to act on the promotion before it ended. On average, the team saw about a 40% increase in orders after remarketing emails were sent. Facebook ads were used separately for two campaigns. These ads brought in more than 800 new users during their short run times. Google Shopping Ads were also an ongoing tactic; yielding over 15,600 sessions on the marketplace. Marketplace discounts were also promoted via homepage online store banners. For each promotion, a homepage banner was created and added to the homepage of the marketplace. The banners included imagery pertaining to the discount,

a message on the promotion and its duration. In the month of June, a direct-mail postcard was used to promote a Google smart thermostat promotion. On this postcard, the team included a vanity URL link and QR code for easy access to the marketplace website. Within a week, the postcard provided a 12.5% conversion rate.

At the end of 2022, the online marketplace reached 85% of the annual thermostat goal (5,125 thermostats) and 97% of the annual LED goal (5,500 LEDs). The Google Nest Thermostat and Sensi smart thermostat were the most and the second most popular devices, respectively. Overall, the marketplace reached a 5.13% conversion rate.

Table 17.12: Online Marketplace Promotions

PROMOTION NAME	RUN DATES	PRODUCTS PROMOTED
Valentine's Day	February 9-25, 2022	Simple Conserve Specialty LEDs, Google Nest Thermostat, Google Nest Learning Thermostat, Emerson Sensi, Emerson Sensi Touch
Earth Day	April 4-30, 2022	Simply Conserve Flood LEDs, Google Nest Learning Thermostat, Google Nest Thermostat, ecobee3 lite smart thermostat, ecobee SmartThermostat with voice control, Emerson Sensi, Emerson Sensi Touch
Memorial Day	May 13-23, 2022	Simply Conserve Standard LEDs, Google Nest Learning Thermostat, Google Nest Thermostat, ecobee SmartThermostat with voice control, ecobee3 lite smart thermostat, Emerson Sensi, Emerson Sensi Touch
Summer Campaign 1	June 15-July 6, 2022	Emerson Sensi Touch in silver, Emerson Sensi, Google Nest Thermostat, Google Nest Learning Thermostat, ecobee3 lite smart thermostat, ecobee SmartThermostat with voice control
Google Nest Promo	July 12-17, 2022	Google Nest Thermostat, Google Nest Learning Thermostat
Summer Campaign 2	August 3-September 30, 2022	Google Nest Thermostat, Google Nest Learning Thermostat, ecobee SmartThermostat with voice control, ecobee3 lite smart thermostat, Emerson Sensi, Emerson Sensi Touch
Fall Campaign	September 20-October 31, 2022	Google Nest Thermostat, Google Nest Learning Thermostat, ecobee SmartThermostat with voice control, ecobee3 lite smart thermostat, Emerson Sensi, Emerson Sensi Touch
Black Friday/Cyber Monday Campaign + ecobee Enhanced/Premium Launch	November 8-December 5, 2022	Google Nest Thermostat, Google Nest Learning Thermostat, ecobee3 lite smart thermostat, ecobee Smart Thermostat Enhanced, ecobee Smart Thermostat Premium, Emerson Sensi, Emerson Sensi Touch
Holiday Campaign	December 8, 2022-January 6, 2023	Google Nest Thermostat, Google Nest Learning Thermostat, ecobee3 lite smart thermostat, ecobee Smart Thermostat Enhanced, ecobee Smart Thermostat Premium, Emerson Sensi, Emerson Sensi Touch

Table 17.13: Online Marketplace Emails

EMAIL NAME	DATE SENT	SENT	OPEN	OPEN RATE	CLICKS	CLICK-THROUGH RATE
Valentine's Day Promo – Lead Generation	February 9, 2022	56,488	4,792	8.52%	323	6.74%
Valentine's Day Promo – Remarketing	February 16, 2022	55,860	5,142	9.21%	443	8.62%
Earth Day Promo – Lead Generation	April 7, 2022	73,183	6,942	9.51%	629	9.06%
Earth Day Promo – Remarketing 1	April 13, 2022	72,314	7,153	9.90%	671	9.38%
Earth Day Promo – Remarketing 2	April 20, 2022	45,154	4,328	9.59%	486	11.23%
Memorial Day Promo – Lead Generation (STwVC)	May 13, 2022	69,937	6,598	9.45%	233	3.53%
Memorial Day Promo – Lead Generation Group A	May 19, 2022	18,892	1,600	8.48%	134	8.38%
Memorial Day Promo – Lead Generation Group B	May 19, 2022	17,951	1,486	8.28%	97	6.53%
Memorial Day Promo – Lead Generation Group C	May 19, 2022	32,704	2,947	9.02%	240	8.14%
Memorial Day Promo – Remarketing	May 23, 2022	68,254	6,684	9.80%	529	7.91%
Summer Promo– Lead Generation	June 15, 2022	68,769	5,777	8.40%	376	6.50%
Summer Promo – Remarketing 1	June 30, 2022	35,013	4,727	13.50%	246	5.20%
Summer Promo—Remarketing 2	July 6, 2022	31,572	4,957	15.711	320	6.46%
Google Flash Sale—Lead-generation	July 14, 2022	68,396	9,144	13.387	520	5.69%
Summer Promo 2—Lead-generation (STwVC)	August 18, 2022	67,834	6,366	9.402	172	2.70%
Summer Promo 2—Remarketing 1 (STwVC)	August 25, 2022	67,472	6,941	10.292	195	2.81%
Summer Promo 2—Remarketing 2 (STwVC)	August 31, 2022	67,172	6,417	9.557	166	2.59%
Fall Promo—Lead-generation	September 20, 2022	67,339	5,169	7.687	295	5.71%
Fall Promo—Remarketing 1	October 4, 2022	66,836	4,944	7.402	178	3.60%
Fall Promo—Remarketing 2	October 12, 2022	59,936	2,482	4.143	86	3.46%
BF/CM Promo—Lead-generation	November 16, 2022	70,127	5,104	7.28%	249	4.88%
BF/CM Promo—Remarketing	November 22, 2022	63,531	3,968	6.25%	1,049	26.44%
ecobee Launch—Lead-generation	December 2, 2022	63,428	3,926	6.19%	76	1.94%
Holiday Promo—Lead-generation	December 16, 2022	68,021	4,701	6.91%	257	5.47%
Google Nest Promo—Lead-generation	December 19, 2022	12,614	730	5.79%	12	1.64%
Holiday Promo—Remarketing	December 22, 2022	63,896	2,407	3.77%	191	7.94%

Marketing Collateral

- General Energy Smart Overview Brochure.
- General Energy Smart Overview Brochure (Spanish).
- General Energy Smart Handout.
- Residential Customer Authorization Form.
- Rebate Forms.
    - A/C Tune-Up Rebate Form.
    - Central A/C Rebate Form.
    - Duct Efficiency Improvement Rebate Form.
    - HPwES and MF Attic Insulation and Air Infiltration Reeducation Rebate Form.
    - IQW Attic Insulation and Air Infiltration Reeducation Rebate Form.
    - IQW Duct Efficiency Improvement Rebate Form.
    - Dehumidifier Rebate Form.
    - Heat Pump Water Heater Rebate Form.
    - Pool Pump Rebate Form.
    - Refrigerator Rebate Form.
    - Smart Thermostat Rebate Form.
    - Trade Ally Smart Thermostat Rebate Form.
    - Water Cooler Rebate Form.
    - Window A/C Rebate Form.
- Customer Satisfaction Surveys.
    - Home Performance with ENERGY STAR Satisfaction Survey.
    - Income-Qualified Weatherization Satisfaction Survey.
    - A/C Tune-Up Satisfaction Survey.
    - Energy Smart Online Marketplace Satisfaction Survey.
    - Energy Efficiency Kits Satisfaction Survey.
- Sensi Smart Thermostat Leave Behind.
- HPwES Contractor Agreement.
- HPwES and IQW Sorry We Missed You Door Hanger.
- Multifamily Sorry We Missed You Door Hanger.
- Multifamily Broken Item Leave Behind.
- Multifamily Landlord Permission Form.
- Multifamily Direct Install Service Agreement.
- Multifamily Program Sell Sheet.
- Multifamily Tenant Leave Behind.
- Multifamily Tenant Notification Flyer.
- Retail Employee Education Flyer.
- Four-Pack LED Bulb Giveaway Label.
- Energy Efficiency Kit Label.
- Energy Efficiency Kit Insert.
- Smart Thermostat Rebate Landing Page.
- Dehumidifier Rebate Landing Page.
- Water Cooler Rebate Landing Page.
- Trade Ally Rebate Forms Landing Page.
- HERs Reports.
- CEP Widget.
- Vehicle Magnet.

- Point of Purchase Signage.
- Appliance Recycling rack card

Marketing Tactics

- Home Fitness Campaign Materials.
- Circuit E-Newsletters Content.
- EasyCool Switch Removal Letter and Envelope.
- Trade Ally Emails
    - Q1 Newsletter.
- High Energy User Campaign Materials.
- Home Performance with ENERGY STAR® Bill Insert
- Spring into Energy Savings Campaign Materials.
- Trade Ally Emails
    - Save the Date.
    - Q2 Newsletter.
- A/C Tune-Up Customer Reach Back Campaign Materials.
- LED Kit Materials.
- A/C Tune-Up Bill Insert.
- Keep Your Cool Campaign Materials.
- My Rewards Emails.
- Trade Ally Emails – Q3 Newsletter.
- LED Kit Follow Up Email with Customer Survey.
- A/C Tune-Up Customer Reach Back Campaign Materials.
- Energy Awareness Month Campaign Materials.
- Trade Ally Emails – Q4 Newsletter.
- My Rewards Emails.
- Online Marketplace Promotions.
    - Valentine's Day Promotion Materials.
    - Earth Day Promotion Materials.
    - Memorial Day Promotion Materials.
    - Summer Promotion Materials.
    - Postcard (Google Promotion Only).
    - Fall Promotion Materials.
    - Black Friday/Cyber Monday Promotion Materials.
    - Holiday Promotion Materials.
- Appliance Recycling Campaign
    - Paid search
    - Digital display
    - Email

Residential Customer Satisfaction

Understanding program performance and customer satisfaction are vital to the success of the Energy Smart program. The team surveyed customers to gauge satisfaction with various elements such as the program in general, process for participating, the staff or trade ally they worked with and their energy-efficient upgrade. The team reviews customer satisfaction survey results quarterly to ensure that program satisfaction remains high and continuously improves the customer journey. Customer satisfaction across all programs showed positive responses, with most customers highly likely to recommend Energy Smart to their friends or colleagues. Detailed customer responses highlighted their appreciation of the professionalism and knowledge of the Energy Advisor, their satisfaction with the offerings and their interest in additional opportunities to lower their bills and save more energy.

Across the residential offerings, customer satisfaction regarding the service, installation and safety averaged scored between seven and ten, with ten indicating very high satisfaction. The team will use the motivational responses received by customers in PY12 to inform strategies to increase customer engagement in PY13. These motivators included saving money on their utility bill, the no-cost direct install items and assessment and helping the environment. Customer home assessment report emails and Online Marketplace follow-up emails will provide additional opportunities in PY13.

Table 17.14: Customer Satisfaction Survey Results – HPwES/IQW/MF

QUESTION	HPWES*	IQW*	MF*
Overall, how satisfied are you with the offering?	7.5	8	10
How satisfied were you with the professionalism of the energy advisor?	9.2	8.8	10
How satisfied were you with the energy advisor's knowledge about the products installed and ability to answer your questions?	8.8	8.6	10
How satisfied are you with the safety measures taken by the energy advisor? (Used ladder, wore gloves, had on safety glasses, etc.).	9.1	8.5	10
How satisfied were you with the energy-efficient products installed?	7.3	8.3	9.7
How likely are you to implement changes recommended by the energy advisor?	8.6	8.4	N/A
How satisfied were you with the enrollment and scheduling process?	7.5	8.3	N/A
How likely is it that you would recommend the program to a friend or colleague?	8.1	8.5	10
Top motivation to participate in the offering.	Wanted to reduce my utility bill.	Wanted to reduce my utility bill.	Items and audit were free of charge.

*Scoring is based on question response average

Table 17.15: EasyCool Customer Satisfaction Survey Results

QUESTION	EASYCOOL SCORES*
Overall, how satisfied are you with the offering?	8.6

QUESTION	EASYCOOL SCORES*
How satisfied were you with the enrollment process?	8.8
How satisfied were you with the time it took to receive your incentive?	8.6
How likely is it that you would recommend the offering to a friend or family member?	8.8
What was your top motivation for participating in the offering?	Wanted to reduce my utility bill. & Wanted to help the environment.

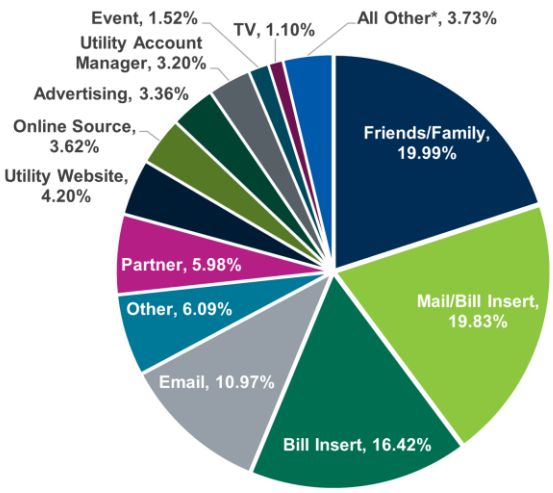
*Scoring is based on question response average

Table 17.16: A/C Tune-Up Customer Satisfaction Survey Results

QUESTION	A/C TUNE-UP SCORES*
Overall, how satisfied are you with the A/C Tune-up offering?	8.8
How satisfied were you with the professionalism of the trade ally?	9.2
How satisfied are you with the safety measures taken by the trade ally? (Used ladder, wore gloves, had on safety glasses, etc.)	9.4
How satisfied were you with the quality of service provided by your trade ally?	9.3
How satisfied were you with the enrollment and scheduling process?	8.8
How likely is it that you would recommend the program to a friend or colleague?	9.4
Top motivation to participate.	Wanted to reduce my energy bill.

*Scoring is based on question response average

Graph 20.17: Lead Sources



*All Other is a combination of Web Request (0.89%), Radio (0.63%),Search Engine (0.63%), Social Media (0.52%), Billboard (0.31%), Newsletter (0.31%), Door to Door Canvassing (0.21%), Newspaper (0.10%), Contractor (0.05%) and Telemarketing (0.05%).

The Energy Smart team tracked residential customer participation using identified lead marketing sources for customers that included community events/outreach, tabling at customer care centers, email, friends and family/word-of-mouth marketing, direct mail, utility referrals, social media, the Energy Smart website and traditional advertising. The highest performing lead sources for PY12 included referral sources such as contractor and family and friends. Bill inserts and mail/bill inserts became more popular in PY12. Bill insert referrals increased from 8.60% in PY11 to 16.42% in PY12. Mail/bill inserts increased from 7.92% in PY11 to 19.83% in PY12. The team will continue to expand customer reach via email and drive traffic to the program website.

Planned or Proposed Changes

A planned change in PY13 is the launch of the Energy Smart public awareness campaign to increase awareness of the benefits of the Energy Smart program to all Entergy New Orleans customers. All creative to support the programs portfolio and offerings will align with new awareness campaign concepts.

EasyCool Demand Response offering will be supported with messaging on the residential online marketplace, cross promoted on residential marketing communications, paid and organic social media and targeted email campaigns. A new tactic the team will test to reach customers that have purchased a smart thermostat but have not enrolled it in EasyCool is text message outreach.

Appliance Recycling marketing will focus on paid search, organic social media posts on Entergy New Orleans social channels, cross promotional opportunities with appliance retailers, charitable, community and government organizations and articles in the Entergy New Orleans Circuit Newsletter.

For the Home Performance with ENERGY STAR, Income Qualified-Weatherization and A/C Solutions offerings, the team will focus on direct mail, email marketing, Google search and display ads, paid social media ads, organic social media posts on Entergy New Orleans social channels, bill inserts and articles in the Entergy New Orleans Circuit Newsletters.

Residential Appliances offering will continue to utilize point-of-purchase signs for in-store lighting discounts for the first half of the year and will add point-of-purchase signs for qualified energy-efficient products. The Energy Smart Online Marketplace will focus on email marketing, onsite banners and Google Shopping ads. The team will also focus increased energy-saving opportunities with manufacturer promotions on the marketplace.

Community Outreach

The PY12 year began with mostly virtual outreach in the first two quarters, returning to mostly in-person engagement towards the end of the second quarter. The PY12 community outreach strategy included attending live and virtual meetings run by community groups, offering additional job training opportunities, inviting community members to monthly Energy Smart-hosted virtual briefings about the program, typical in-person tabling events and small business canvassing. The team offered flexible content options to community groups, ranging from five-minute briefings to 60-minute energy efficiency lessons for maximum community impact. In PY12, community outreach was conducted at over 98 event days, gaining visibility with up to 8,213 community members. The team attended a total of 83 days in person and 24 days virtually.

Several nonprofits and community groups hosted Energy Smart community outreach staff once or twice throughout the year to present to meetings or table at events. These groups included The New Orleans Chamber of Commerce, Central Circle, Jericho Road, Entergy Customer Care Centers, City of New Orleans Rental Assistance events, Joe Brown Park, OC Haley Merchant's Association, Ashe' Cultural Arts Center and Power House, Ephesus SDA Church, Heal Nola Fest, Viet, City of New Orleans Safety and Permits, Alliance Francais, Dillard University, Rebuild Together, The Green Project, The City of New Orleans Resource Fairs, Convoy of Hope food distribution, Energy Fair, JenCare Senior Resource Fair, AmeriHealth, Harmony Oaks, The Mayor's Office of Neighborhood Engagement, and Southern University of New Orleans.

As in previous years, neighborhood associations invited Energy Smart to their regular meetings to provide a five to 15-minute briefing. A highlight this year was returning to VIET (Vietnamese Initiatives in Economic Training) where we were able to generate leads into the Income Qualified Weatherization program, by coordinating with VIET for translation services to better assist and support the New Orleans East community.

Energy Smart partnered with Ephesus SDA Church twice in PY12 with their Convoy of Hope food distribution. Through these efforts 164 leads were generated for Home Performance and Income Qualified Weatherization programs.

Two community groups, Jane's Place and Central Circle, meet monthly, but attendees vary every month. Energy Smart was able to extend the program's reach to new community members by returning to these groups each month, much the same way new students are seen each year in school classes.

Continuing job training opportunities allowed community outreach to go in-depth with students. Quarterly, at Louisiana Green Corps, Energy Smart staff taught opportunity youth professional energy efficiency skills. The classes included at-home activities to practice home energy assessments and content about green job opportunities.

"Power Trip: Your Journey to Energy Efficiency" continued to be offered by the program. Community members were invited to attend a 20-minute webinar on the Energy Smart program, followed by a

question-and-answer session with an energy expert that provided individuals with information specifically for their home energy needs.

The team continued to distribute Small Business Energy Efficiency Kits door-to-door to restaurants, retail stores and offices. The kits contain LED light bulbs, faucet aerators, Smart power strips and exit sign LED retrofit lighting, all for self-installation. Door to door small commercial canvassing reached all City Council Districts, distributing 132 commercial kits in PY12.

Community outreach has been continuing to evolve in the wake of the COVID-19 pandemic. The team continues to adapt to the changing landscape through the in-person approach as well as the virtual approach. Despite fewer outreach events in PY12, the team was able to gain visibility throughout all districts in New Orleans. The team continues to build on the hybrid approach of being available virtually and in person and are seeing greater engagement as a result.

Commercial Marketing and Outreach

Highlights

Marketing initiatives throughout PY12 focused on generating awareness of the Energy Smart commercial offerings and driving participation in the program. The Energy Smart team accomplished this by implementing ten marketing campaigns throughout the year supported with a mix of paid, owned and earned media. The team utilized new media channels, such as digital audio, pre-roll video and podcast sponsorships in PY12 to increase our audience reach. The paid media tactics across the campaigns generate 4,760,000 impressions and 25,926 clicks to the Energy Smart website. The Energy Smart team also initiated non-paid partnerships with associations such as Downtown Development District, New Orleans Chamber of Commerce and New Orleans & Company, to grow awareness of the Energy Smart program.

Marketing campaigns implemented in PY12:

- SEM/Paid Search
- Step-Down Bonus
- Small Business Online Marketplace
- Get Your Business Summer Ready
- New Incentive Customer Caps
- EasyCool for Business
- New Member Benefit for New Orleans Chamber of Commerce
- New Construction
- Lagniappe Fund
- Trade Ally Recruitment

SEM/Paid Search: Launched April 1 and ran through December 31. The SEM tactic supported five sub campaigns and generated 49,853 impressions, 5,818 clicks to the Energy Smart website and 517 calls to the Energy Smart program.

Table 17.18: Paid Search Campaign

CAMPAIGN NAME	IMPRESSIONS	CLICKS	CTR

Small Business Tips	22,906	3,047	13.3%
Products/Thermostats	9,099	280	3.08%
Energy Savings	8,296	1,156	13.9%
Energy Smart	5,111	888	17.4%
Commercial Energy	4,441	447	10.07%

The Step-Down Bonus: Launched January 25 and ran through July 19. Media support includes a mix of digital display, paid social, radio, e-blast features with New Orleans Chamber of Commerce, print, sponsored content with NOLA.com, email and earned media from four media outlets. The paid media tactics generated 1,170,000 total impressions and 3,789 clicks to the Energy Smart website. By the end of Q2, the program received 117 application submissions which was up 46 applications over the same time for PY11.

Table 17.19: Step-Down Bonus Paid Media Campaign Results

TACTIC	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	CLICKS	CTR
Digital Display	March 18-June 30	683,351	N/A	1,035	.19%
Paid Social	March 17-June 30	343,753	54,182	2,168	.89%
Radio	April 11-May 29	130 spots	N/A	N/A	N/A
NOLA Chamber newsletter digital ad	June 13	N/A	7,582	3	N/A
NOLA Chamber newsletter digital ad	June 27	N/A	7,688	2	N/A
Print/Biz Jrnl	May 6	15,000	N/A	N/A	N/A
Print/Biz Jrnl	June 17	15,000	N/A	N/A	N/A
NOLA.COM Sponsored Content	**June 20 – July 19**				
In-Article Ads		1,104	N/A	3	.27%
Promo Ads		86,738	N/A	149	.17%
Social Post		20,581	14,204	429	2.08%

Table 17.20: Step-Down Bonus Email Campaign Results

CUSTOMER LIST	IN-MARKET	OPEN RATE	CTR
C&I	January 25	28.4	1.4%
Facility Director	January 25	28.4%	1.4%
C&I	February 15	28.75	1.5%
Facility Director	February 15	17.7%	6.2%
C&I	March 14	30.8%	.7%
Facility Director	March 14	17.5%	1.4%
Trade Ally	March 14	40%	6.7%
C&I	April 13	35.6%	1.0%
Trade Ally	April 13	39.5%	1.4%

C&I	May 24	38%	1%
Trade Ally	May 24	39%	1.2%
C&I	August 8	34.1%	.8%

Table 17.21: Step-Down Bonus Earned Media

CHANNEL	IN-MARKET	TOPIC
City Business Journal	February 17	Step-Down Bonus
Biz New Orleans	February 21	Step-Down Bonus
Chamber of Commerce	February 23	Step-Down Bonus

Small Business Online Marketplace: Support for the small business online marketplace consisted of paid social media and eblasts to Entergy New Orleans small business customers. Campaigns ran during key retail sales periods throughout the year and promoted the energy-saving products available on the marketplace. Eight paid social media campaigns ran throughout PY12 generating 356,200 total impressions and 4,557 total clicks to the small business online marketplace. The Energy Smart team also secured earned media opportunity for Earth Day on WDSU.

- **President's Day**: The promotion messaged deals on smart thermostats available on the Small Business Online Store. The promotion generated 28 total orders, a 460% increase from the month prior and drove 468 new users to the online marketplace, a 117% increase over January. Social ads generated 24% of the traffic to the store.
- **Earth Day**: The promotion messaged free productions available on the Small Business Online Store. The campaign resulted in 33 total orders, a 371% increase over March with 82% of those orders including a smart thermostat. Social ads drove 22% of the traffic to the store and email drove 18%.
- **Memorial Day**: The promotion messaged deals on smart thermostats on the Small Business Online Store. The campaign resulted in 18 total orders; a 45% decrease compared to April orders. The campaign drove 348 new users to the online marketplace. Social ads drove 28% of the traffic to the store and email drove 11%.
- **July 4**: The promotion messaged deals on smart thermostats on the Small Business Online Store. The secondary message was EasyCool for Business. The campaign resulted in 23 total orders, a 77% increase over June. Social ads drove 42% of the traffic to the online store.
- **Labor Day**: The promotion messaged deals on smart thermostats on the Small Business Online Store. The secondary message was for other great deals available from the Small Business Online Store and the third message was a link for EasyCool for Business. The campaign resulted in 17 orders; a 41% decrease compared to August orders. Social ads drove 29.3% of the traffic to the online store.

- **Energy Awareness Month**: The promotion messaged the Google Nest and Philip LED bundle offer. The campaign resulted in 8 total orders, 3 of which contained the bundle offer. Social ads drove 11.3% of the traffic to the online store.
- **Black Friday**: The promotion messaged deals on smart thermostats on the Small Business Online Store. The campaign resulted in 22 orders, a 175% increase over October. Social ads drove 34% of the traffic to the online store.
- **Holiday**: The promotion messaged aerators, LED bulbs, free small business kits, smart thermostats and power strips available on the Small Business Online Store. The campaign resulted in 9 orders; a 59% decrease compared to November orders. Traffic to the online store was primarily driven by customers navigating from the Energy Smart website. That percentage was 81% and 8.9% of the traffic to the online store was through search.

Table 17.22: Small Business OLM Paid Social Campaign Results

PROMO	IN-MARKET DATE	IMPRESSIONS	AUDIENCE REACH	CLICKS	CTR
Presidents Day	Feb 21-23	12,833	5,146	217	1.69%
Earth Day	April 7-2	14,957	6,016	165	1.38%
Memorial Day	May 26-June 2	21,979	6,618	197	1.13%
July 4	June 30-July 6	23,282	7,316	306	2.03%
Labor Day	Aug 31-Sep 9	16,904	7,416	192	2.01%
Energy Awareness Month	Oct 4-11	23,756	11,496	206	1.03%
Black Friday	Nov 17-30	43,542	13,072	453	1.50%

Table 17.23: Small Business OLM Email Campaign Results

CUSTOMER LIST	IN-MARKET	OPEN RATE	CTR
Presidents Day	February 21	30.5%	1.6%
Earth Day	April 19	29.5%	.9%
Memorial Day	May 26	33.8%	.8%
July 4	June 30	36%	1.5%
Labor Day	August 30	32.5%	1.1%
Energy Awareness Month	October 4	37.6%	1.0%
Black Friday	November 21	41.1%	1.8%
Holiday	December 16	42.6%	1.3%

Table 17.23: Small Business OLM Earned Media

CHANNEL	IN-MARKET	TOPIC
WDSU	April 22	Earth Day

Get Your Business Summer Ready: The campaign was designed and implemented to generate awareness of the Energy Smart program and the many energy-savings offerings available to Entergy New Orleans business customers. This campaign was supported with a sponsored content media buy with NOLA.COM. It consisted of an article in The Advocate as well as the digital NOLA.com and posts on NOLA.COM Facebook page. The campaign ran June 19 – July 19. The team secured an earned media opportunity in the City Business Journal's "Ones to Watch" edition. The article featured APTIM's program director for the Energy Smart program.

Table 17.24: Get Summer Ready NOLA.COM Paid Media Campaign Results

TACTIC	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	CLICKS	CTR
Print Article	June 19	N/A	N/A	N/A	N/A
Digital Article	June 20-July 19	425	391 pg. views	N/A	N/A
Content Promo	June 20-July 19	100,000	N/A	156	.16%
Facebook	June 20-July 19	20,630	14,224	430	N/A

Table 17.25: Get Summer Ready Earned Media

CHANNEL	IN-MARKET	TOPIC
City Business Journal	June	Ones to Watch in Energy

New C&I Incentive Caps: The campaign launched June 22 with an email targeting all Entergy New Orleans commercial accounts. A press release was developed and picked up by Biz New Orleans. The release ran on the Biz New Orleans homepage and in the July 28 Biz New Orleans daily e-blast.

Table 17.26: New Commercial Incentive Caps Email Campaign Results

CUSTOMER LIST	IN-MARKET	OPEN RATE	CTR
C&I	June 22	41.3%	1.0%
Trade Ally	June 22	44.6%	1.5%
Facility Director	June 27	20.1%	1.7%
Leads	June 30	33.2%	1.9%

EasyCool for Business: The first campaign ran March 18 through July 18 and was supported with digital display, paid social and emails to Entergy New Orleans small business customers. The second campaign messaged the limited-time $50 enrollment incentive bonus. That campaign ran July 19 - August 29 and was supported with digital display, paid social, email and earned media with New Orleans Business Alliance. The two campaigns combined resulted in generating 441,000 total impressions and 1,825 clicks to the Energy Smart website.

Table 17.27: EasyCool for Business Paid Media Campaign Results

TACTIC	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	CLICKS	CTR
Digital Display	March 18-July 18	140,907	N/A	379	.39%
Paid Social	April 1 – July 18	98,447	22,896	408	.61%
Digital Display	July 19-Aug 29	92,700	N/A	460	.50%
Paid Social	July 19-Aug 29	109,604	30,507	570	.70%
NOLA Chamber Digital Ad	Aug 22	N/A	7,401	7	N/A

Table 17.28: EasyCool for Business Earned Media

CHANNEL	IN-MARKET	TOPIC
NOLABA	July 27	EasyCool for Business

New Member Benefit for New Orleans Chamber of Commerce: Launched June 1 as a new partnership with the Chamber of Commerce. The Energy Smart team met with the Chamber in March to discuss tactics to increase awareness of the programs business offerings beyond the usual Chamber member meetings and the idea of Energy Smart being a new Chamber member service provider was initiated. The offering to new Chamber members consisted of discounts on products from the Small Business Online Store and a free energy evaluation from an Energy Smart energy advisor. The Chamber introduced the program in an email and sent a pdf of this offering to new members in a new member kit. The Energy Smart logo was also placed on the Chamber's member benefits landing page which redirected members to the offering on the Energy Smart website.

New Construction: The new construction campaign was in-market July – October. It was supported with digital display, paid social media, email and a sponsorship opportunity with American Institute of Architects (AIA) New Orleans, where Energy Smart received verbal recognition and logo placements on all on-site signage and electronic promotions of the AIA New Orleans 2022 Design Awards. The paid media tactics generated 891,000 total impressions and 3,814 clicks to the Energy Smart website.

Table 17.29: New Construction Paid Media Campaign Results

TACTIC	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	CLICKS	CTR
Digital Display	March 18-July 18	140,907	N/A	379	.39%
Paid Social	April 1 – July 18	98,447	22,896	408	.61%
Digital Display	July 19-Aug 29	92,700	N/A	460	.50%
Paid Social	July 19-Aug 29	109,604	30,507	570	.70%
NOLA Chamber Digital Ad	Aug 22	N/A	7,401	7	N/A

Table 17.30: New Construction Email Campaign Results

CUSTOMER LIST	IN-MARKET	OPEN RATE	CTR
Architect List	July 25	18.6%	1.8%

Lagniappe Fund: The Lagniappe Fund campaign launched in October and ran through November 15. It was supported with paid social, digital display, traditional radio, paid sponsorships, digital audio and email – both paid emails with Biz New Orleans targeting their customer list and owned emails targeting Entergy New Orleans business customers. The sponsorship opportunity consisted of Energy Smart tabling at the New Orleans & Company's Sustainability and Accessibility Summit. The event included networking, a panel discussion and exhibitors. This was the program's last campaign in PY12 and was implemented to drive participation and increase kWh savings. The paid media tactics generated 955,300 total impressions and 4,798 clicks to the Energy Smart website.

Table 17.31: Lagniappe Fund Paid Media Campaign Results

TACTIC	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	CLICKS	CTR
Digital Display	Oct 5-Nov 15	581,985	58,193	669	.11%
Home Page Digital	Nov 9-20	N/A	29,298	15	.14%
Biz Dedicated E-blasts	Oct 26	N/A	40,000/8,752	874	N/A
Biz Dedicated E-blasts	Nov 3	N/A	20,000/3,945	329	N/A
Biz Custom E-Newsletter	Nov 9	16,645	N/A	88	N/A
Paid Social	Oct 5-Nov 15	113,72	62,881	2,684	5.70%
Print	Nov 10	N/A	40,000	N/A	N/A
Radio					
WBOK	Oct 18-11/15	245 spots	N/A	N/A	N/A
Saints Radio	Oct 16	21,800	12,400	N/A	N/A
Tommy Tucker	Oct 17-28	120,000	59,700	N/A	N/A
Digital Audio	Oct 14-Nov 15	92,594	14,156	N/A	N/A
Paid E-Blast Ads					
NOLA Chamber	Oct 17	N/A	N/A	17	N/A
NOLA Chamber	Oct 31	N/A	N/A	17	N/A
NOLA Chamber	Nov 14	N/A	N/A	15	N/A
Biz Talks Podcasts					
Episode 122	Oct 11	72 plays	N/A	155	N/A
Episode 123	Oct 18	119 plays	N/A	505	N/A
Episode 124	Oct 25	40 plays	N/A	66	N/A
Episode 125	Nov 8	87 plays	N/A	153	N/A

Table 17.32: Lagniappe Email Campaign Results

CUSTOMER LIST	IN-MARKET	OPEN RATE	CTR
C&I	September 8	35.4%	1.4%
Trade Ally	September 8	36.2%	3.1%
C&I	September 19	33.1%	1.0%
C&I	October 11	39.4%	.7%

Trade Ally Recruitment: This campaign launched in October and was designed and implemented to help with the program's trade ally recruitment efforts. The Energy Smart team produced a trade ally recruitment video for use on the website, digital media buys and paid dedicated e-blast with Louisiana General Contractors Association.

Table 17.33: Trade Ally Recruitment Paid Media Campaign Results

TACTIC	IN-MARKET DATE	IMPRESSIONS/ SENDS	AUDIENCE REACH/ OPENS	CLICKS	CTR
Digital Display	Oct 21-Dec 31	563,162	65,418	1,002	.24%
Pre-Roll Video	Oct 14-Dec 31	167,995	36,657	331	.20%
Biz New Orleans Daily Alert E-Blast	Oct 24-31	73,633	N/A	36	
LAGC E-Blast	Nov 16	N/A	600/198 Opens	8	4%

Customer Surveys and Trade Ally Communications:

Table 17.34: C&I Customer Survey & TA Emails & Newsletters

NAME	IN-MARKET	OPEN RATE	CTR
Small Business EasyCool Survey	January 14	50.0%	0%
Trade Ally Kick-Off & Awards	January 20	53.4%	15.9%
Trade Ally Kick-Off Email #2	February 8	4.3%%	0%
Q1 Trade Ally Newsletter	February 22	36.8%	1.3%
Q2 Trade Ally Newsletter	May 6	45.1%	1.2%
RCx Technical Training	July 6	27.3%	1.5%
DLC Grace Period	July 26	37.0%	1.0%
Q3 Trade Ally Newsletter	September 12	39.4%	1.9%
Trade Ally Holiday Card	December 21	51.0%	0%
2023 Trade Ally Kick-Off & Awards	December 28	47.7%	4.5%
Small Business EasyCool Survey	December 28	64.2%	4.9%

Marketing Collateral/Assets

- Rebranded Energy Smart website
- Case studies
- New customer incentive cap infographic
- Lagniappe Fund poster with QR code
- C&I program overviews
    - General commercial and industrial offering
        - Spanish and English
    - Small Business Solutions
        - Spanish and English
    - Benchmarking
    - New Construction
    - Small Business Direct Install
    - EasyCool for Business OLM inserts
    - Lighting and non-Lighting tiered trade ally customer leave behind
    - General Energy Smart program overview
    - Digital display ads
    - Social media ads
    - Print ads
    - Radio spots
    - Trade Ally video
    - Small Business Online Store
    - Small Business Offering for Chamber of Commerce Members
    - Lighting and non-Lighting tiered trade ally customer leave behind
    - Small Business Offering for Chamber of Commerce Members
    - Trade ally recruitment video.
- Refreshed landing pages and collateral with the new incentive cap infographic.

Marketing Tactics

- Step-Down Bonus
    - Print
    - Radio
    - Social
    - Digital Display
    - Earned Media
    - Email
    - EasyCool for Business
    - Social
    - Digital Display
    - Email
    - Earned Media
- Small Business Online Marketplace
    - President's Day email and social
    - Earth Day email, social and earned media
    - Memorial Day email and social
    - July 4 email and social
    - Labor Day email and social
    - Energy Awareness Month email, social and earned media
    - Black Friday email and social
    - Holiday email, social and digital display
- New Construction

    - Digital Display
    - Social
    - Paid Sponsorship
- Lagniappe Fund
    - Digital Display
    - Social
    - Radio
    - Digital Audio
    - Sponsored Biz Talks Podcasts
    - Print
    - Outreach Event with New Orleans & Company
- Trade Ally Recruitment
    - Digital Display
    - Pre-Roll Video
    - LAGC Dedicated E-Blast
    - New Orleans City Business E-Blast Ad
- Earned Media
    - City Business Journal – Step-Down Bonus
    - Biz New Orleans – Step-Down Bonus
    - Chamber of Commerce – Step-Down Bonus
    - WDSU Earth Day
    - New Orleans City Business "Ones to Watch"
    - Biz New Orleans – Increased Incentive Caps
- Sponsored Content with NOLA.COM
    - ¼ page article "Energy Smart Offers Ways for Commercial Businesses to Get Summer Ready
    - Digital ads for Step-Down Bonus
- New Member Benefit Offering for Chamber of Commerce Members
- Partnership with Downtown Development District
    - Energy Smart offering on their website
- Trade ally recruitment video.

Commercial Customer Outreach

In PY12 the Energy Smart commercial outreach team scheduled 251 customer meetings, of which 122 were with large commercial customers and 129 with small commercial customers. The outreach team also purchased a resouce that provides data on new construction projects sourcing from permit documentation. This resource also provides names of project contacts that will be added to an internal database of potential trade allies and commercial customers.

The focus during the first half of the year the outreach team focused on promoting the Step-Down Bonus and connecting with developers and architectural firms to promote new construction offering. The second half of the year, the outreach team focused on promoting the Lagniappe Fund and working directly with customers that applied for the Lagniappe Fund through the Project Request form.

Approximately 90% of the small commercial outreach was targeted to local churches, restaurants and hotels. Small commercial customers that purchased smart thermostats from the online marketplace were also contacted to enroll them in the EasyCool for Business offering. Large commercial outreach consisted of meetings with engineering firms and contractors as well as meeting directly with large commerical customers from hospitality, hotels and schools. Approximately 17% of PY12 meetings were with contractors, 81% with large commercial customers and 2% with program partners such as LSU Industrail Assessment Center and GNO, Inc.

Table 17.35: C&I Customer Outreach

1/5/2022	Hynes UNO Charter School
1/6/2022	Bethlehem Lutheran Baptist Church
1/18/2022	BlueBox
1/19/2022	Gallo Mech
1/19/2022	LSU Industrial Assessment Center
1/20/2022	Ameresco
1/25/2022	6940 Martin Drive (Sheldon Harris)
1/25/2022	NO Athletic Center
1/26/2022	Joseph Yeager
1/26/2022	NO Maritime Military Academy
1/26/2022	Orleans Parish Sheriff's Office
1/26/2022	Southern Food & Beverage Museum
1/26/2022	Tulane Medical Center
1/27/2022	SUNO Small Business Institute
1/31/2022	NO Lawn & Tennis Club
1/31/2022	Bernhard MCC
1/31/2022	Woodoward Design + Build
2/1/2022	Sean Bruno
2/9/2022	Royal Sonesta
2/10/2022	129 Camp Street
2/10/2022	Omni Hotel
2/10/2022	Trane

2/15/2022	Nola Pediatric Dentistry
2/15/2022	True Love Missionary Baptist Church
2/15/2022	UAL Liquidators
2/16/2022	Xavier University
2/18/2022	Loews Hotel
2/18/2022	Lakefront Airport
2/21/2022	Bethlehem Lutheran Baptist Church
2/22/2022	Wellness & Massage Spa
2/24/2022	Jerusalem Missionary Baptist Church
3/2/2022	Comeaux Furniture
3/3/2022	Trinity Christian Community Center
3/4/2022	Sisters of the Holy Family
3/4/2022	Second Rose of Sharon
3/7/2022	Episcopal Diocese of Louisiana
3/9/2022	Legacy Professional Services
3/9/2022	Flowers Foods
3/10/2022	Blessed Sacrament
3/10/2022	St. Clare's Monastery
3/10/2022	Riverwalk Marketplace
3/14/2022	St. John Lutheran Church
3/14/2022	CIS Architects
3/15/2022	Chevron Gas Station
3/15/2022	Ray Avenue Baptist Church
3/15/2022	Resurrection of Our Lord
3/15/2022	Mater Dolorosa
3/17/2022	People's United Methodist Church
3/17/2022	St. Leo the Great
3/18/2022	NOCHI
3/21/2022	Audubon Institute
3/22/2022	People's United Methodist Church
3/29/2022	Sisters of the Holy Family
3/30/2022	Ochsner
3/31/2022	Fortuna Real Estate
4/1/2022	Alliance Francaise of New Orleans
4/4/2022	Restaurant Depot
4/6/2022	Macedonia Baptist Church
4/6/2022	Berean Bible Church
4/6/2022	Greater New Hope Baptist Church
4/7/2022	Café Reconcile
4/7/2022	Crescent Care
4/8/2022	Lake Vista United Methodist Church
4/11/2022	Gentilly Greater Harvest Baptist Church
4/11/2022	Elan Academy
4/13/2022	Café Reconcile
4/13/2022	Viet

4/18/2022	Frenchmen Street Grocery
4/19/2022	Lakeside Christian Center
4/20/2022	LASPCA
4/21/2022	Hilton Garden Inn
4/21/2022	GNO, Inc.
4/21/2022	NO Fish House
4/21/2022	SWBNO
4/26/2022	Lakeview Presbyterian
4/26/2022	ASM Global
4/26/2022	Zony Mash
4/27/2022	Hotel Peter & Paul
4/28/2022	Carrollton Avenue Church of Christ
4/28/2022	New Orleans Trap Kitchen
4/29/2022	Shrine of St. Jude
4/29/2022	Automated Controls
5/2/2022	Epiphany Missionary Baptist Church
5/4/2022	Holy Trinity Cathedral
5/4/2022	SWBNO
5/5/2022	Shiloh Christian Fellowship
5/6/2022	Asia Baptist Church
5/10/2022	Central City Christian Fellowship
5/11/2022	Lakeview Presbyterian
5/11/2022	Anytime Fitness
5/11/2022	Bell & McCoy
5/16/2022	Ray Avenue Baptist Church
5/18/2022	Immaculate Conception
5/19/2022	Xavier University
5/19/2022	Ben Franklin High School
5/19/2022	Ursuline Academy
5/19/2022	Delgado Community College
5/19/2022	St. Charles Avenue Presbyterian Church
5/24/2022	Live Nation
5/25/2022	Small Business Development Association
5/25/2022	MCCNO
5/26/2022	Xavier University
5/27/2022	Jung Hotel
5/31/2022	Blaze Pizza
6/3/2022	Russell Bertucci
6/3/2022	Creole Cuisine
6/6/2022	St. Luke's Episcopal
6/6/2022	St. Luke's Episcopal Church
6/6/2022	UNO Foundation
6/7/2022	St. Mark Coptic Orthodox Church
6/7/2022	Nick Harris
6/7/2022	NO Fairgrounds

6/9/2022	Dillard University
6/10/2022	Continental Cement
6/10/2022	Matt Ridley Consulting
6/13/2022	Ursuline Convent
6/13/2022	Ursuline Convent
6/14/2022	Horn's Eatery
6/14/2022	Horn's Eatery
6/14/2022	Le Meridien
6/14/2022	Johnstone Supply
6/14/2022	Le Pavilion
6/15/2022	St. James Major Church
6/15/2022	Canseco's Market
6/17/2022	WBOK
6/21/2022	Mount Salem Baptist Church
6/21/2022	Mount Salem Missionary Baptist Church
6/21/2022	Bell & McCoy
6/22/2022	Moses Engineering
6/23/2022	Corpus Christi Church
6/23/2022	Corpus Christi
6/24/2022	Imani Works Dance School
6/24/2022	AirPro Service
6/28/2022	First Pentecostal Church
6/28/2022	Ameresco
6/29/2022	First Grace United Methodist Church
6/29/2022	Property One
6/29/2022	Delgado CC
6/30/2022	First Presbyterian Church
6/30/2022	Ochsner Baptist
7/7/2022	Broadmoor Community Church --- 2021 S. Dupre --
7/7/2022	House of Refuge Apostolic Church
7/7/2022	Broadmoor Community Church
7/7/2022	Hotel Indigo
7/8/2022	Coterie Restaurant
7/12/2022	Calliope Beer Works
7/13/2022	Pleasant Valley Baptist Church
7/13/2022	Harrah's
7/14/2022	St. Charles Avenue Baptist Church
7/14/2022	St. Charles Avenue Presbyterian Church
7/15/2022	Cornerstone United Methodist Church
7/19/2022	Stronger Hope Baptist Church
7/19/2022	Starlight Studios
7/21/2022	Grandma's Touch Childcare Center
7/21/2022	Bernhard MCC
7/25/2022	Please-U Restaurant
7/25/2022	Eliza Jane Hotel

7/27/2022	Cabo's Learning Express
7/27/2022	Intercontinental Hotel
7/27/2022	Westin Hotel
7/28/2022	LFNO
8/1/2022	Greater Little Zion Baptist Church
8/1/2022	Heavenly Sweets Bakery
8/2/2022	Heavenly Sweets Bakery
8/2/2022	De La Salle HS
8/3/2022	The Cupcake Collection
8/3/2022	Chester Development
8/4/2022	We Dat's Chicken and Shrimp
8/5/2022	St. Stephen's Baptist Church
8/5/2022	Crown of Life Lutheran Church
8/8/2022	Tavoli Pizza
8/8/2022	Windsor Court
8/9/2022	James Chapel Baptist Church
8/10/2022	The Backyard
8/10/2022	Barracuda's (two locations Tchoup and Algiers)
8/10/2022	Windowsill Pies
8/10/2022	Deliverance Missionary Baptist Church
8/10/2022	Windowsill Pies
8/11/2022	BlueBox
8/11/2022	Roosevelt Hotel
8/15/2022	St. Paul Lutheran
8/15/2022	Macarty House
8/15/2022	St. Paul Lutheran Church
8/15/2022	Bell & McCoy
8/16/2022	Lambeth House
8/17/2022	Black & Gold Wash and Fold
8/17/2022	Poydras Home
8/23/2022	HRI Properties
8/23/2022	NOPSI Hotel
8/24/2022	Berger Companies
8/25/2022	Poydras Properties
8/25/2022	Hotel Peter & Paul
8/25/2022	Premium Parking
8/31/2022	Cambria Hotel
8/31/2022	Old No. 77 Hotel
9/1/2022	Lakeview Pearl Sushi
9/2/2022	Central City BBQ
9/2/2022	Mandina's
9/2/2022	Central City Barbeque
9/6/2022	Free Church of Annunciation
9/6/2022	The Backyard
9/7/2022	Xavier University

9/8/2022	Crepe's a la Cart
9/13/2022	BlueBox
9/15/2022	Jerusalem Gospel Church
9/15/2022	Aquis Solutions
9/15/2022	Jerusalem Gospel Church
9/15/2022	The Cabildo
9/16/2022	El Camino
9/16/2022	Fresh Market
9/16/2022	BreauxMart
9/16/2022	Goodwill Industries
9/16/2022	SWBNO
9/20/2022	SWBNO
9/21/2022	Nola Royals
9/22/2022	Atchafalaya
9/22/2022	Temple Sinai
9/23/2022	St. Joseph Hotel
9/26/2022	Greater Ebenezer Baptist Church
9/26/2022	Dynamic Performance Training
9/26/2022	Xavier University
9/26/2022	Goodwill Industries
9/27/2022	Hotel Peter & Paul
9/27/2022	Tivoli Place
9/28/2022	Old Zion Baptist Church
9/28/2022	Jewish Community Center
9/28/2022	SUNO
9/28/2022	Berger Companies
9/29/2022	De La Salle HS
9/30/2022	St George's Episcopal School
10/3/2022	Community Academies
10/5/2022	NWW2M
10/6/2022	Christ Church Cathedral
10/7/2022	LFNO
10/7/2022	Southern Energy Technologies
10/10/2022	New Testament Baptist Church
10/14/2022	Baldwin & Co.
10/14/2022	NWW2M
10/14/2022	Goodwill Industries
10/17/2022	Hotel Peter & Paul
10/19/2022	Poydras Properties
10/20/2022	St. George's Episcopal School
10/27/2022	NORD
10/27/2022	Gulf South LGBTQ+ Chamber
10/28/2022	Liberty Bank
11/3/2022	Hilton Riverside
11/3/2022	Piccola Gelateria

11/4/2022	**Milne Park**
11/8/2022	**Beecher Memorial**
11/16/2022	**Devil Moon BBQ**
11/16/2022	**NWW2M**
12/2/2022	**Hilton New Orleans**
12/5/2022	**Industrial Assessment Center**
12/9/2022	**LSUHSC**
12/16/2022	**LCRC**
12/27/2022	**Verret's Bar**

Planned or Proposed Changes

A planned change in PY13 is the launch of the Energy Smart public awareness campaign to increase awareness of the benefits of the Energy Smart program to all Entergy New Orleans customers. All creative to support the programs portfolio and offerings will align with new awareness campaign concepts.

Commercial and Industrial marketing in PY13 will focus on increasing program awareness and participation against small, large, publicly funded institutions and new construction commercial customers. The Energy Smart team will allocate 47% to 50% of the paid media budget in Q1 and Q2 across social, digital, radio, search, print and Simple Texting, a new media tactic to be tested in PY13. Email, earned media and direct customer outreach will continue to be utilized as a tactic to message offerings to business customers. In PY13 the Energy Smart team will launch a Small Business Direct Install marketing campaign. The campaign is anticipated to launch in Q3 and supported with a mix of paid, earned media and direct customer outreach. The Energy Smart team will continue to implement LTO promotions supported with paid social and email campaigns during key retail sales periods to drive sales to the Small Business Online Store. Case study development will continue to be a focus with the goal of developing two case studies per quarter, featuring a mix of small and large commercial projects. The Energy Smart team will develop window clings for commercial customers that participate in the program to display in their storefronts and websites. The window cling will be Energy Smart branded and include a message on how the company is making energy-savings a priority and that they are proud participants in the Energy Smart program. This will serve two purposes 1) generate awareness of the Energy Smart program 2) help participating commercial businesses differentiate themselves from competitors and attract more customers by demonstrating their commitment to sustainability and environmental concerns. Social issues are important to consumers. A survey conducted by the Natural Marketing Institute in 2017, found that 58 percent of consumers took a company’s efforts in implementing sustainability measures into account when deciding on whether to purchase goods or services from them.

Trade Allies

Overview

The overall mission of the Trade Ally Network is to develop and increase the local residential, commercial, and industrial contractor base by facilitating training and marketing engagement opportunities, aiding with program participation and providing support with obtaining supplier diversity certifications.

Engaging the registered Trade Ally Network is a key factor in the success of the Energy Smart program as trade allies bring in a substantial portion of program savings.

Trade Ally Network Development Plan & Highlights

Table 18.1: Residential Trade Ally Tiers

TIER	# OF TRADE ALLIES
Platinum	1
Gold	6
Silver	3
General	6

Table 18.1: C&I Trade Ally Tiers

TIER	# OF TRADE ALLIES
Platinum	2
Gold	6
Silver	29
General	59

Commercial & Industrial Trade Ally Network

In Q1 the Energy Smart team updated the Commercial & Industrial trade ally tier system based on trade ally participation in the prior program year. The designations of Platinum, Gold, Silver or General correspond to benefits such as the option to co-brand marketing materials. Trade allies learned their status prior to the Q1 TAAG meeting. The program also hosted the Motors and Variable Frequency Drive training.

In Q2 the Energy Smart team enhanced the trade ally experience for the providers in the Small Business Direct Install offering. The team began providing warm leads from customers that were generated through direct outreach to small commercial businesses. The program also hosted the Building Automation training.

In Q3 the Energy Smart team announced the creation of the Lagniappe Fund, an increased incentive structure on small and large commercial projects, with increased assistance with project applications on behalf of program staff. The team also hosted the Retro-commissioning training administered by Harris Energy Solutions.

In Q4 the Energy Smart team assisted staff hosted the Advanced Calculations in New Construction training.

Residential Trade Ally Network

The Residential Trade Ally Network held the Trade Ally Kick-Off and Awards on February 8, which served as the Q1 TAAG meeting. During the Q2 TAAG meeting on April 14, a total of 13 individuals from 11 trade ally companies were in attendance. The Energy Smart team discussed the following topics:

- Program Savings to goal.
- Status of the Home Performance with ENERGY STAR® clipboard projects.
- Trade Ally referrals.
- No-shows and missed-appointments discussion.
- Requirements for testing systems before and after every service provided.
- QAQC reminders on clear pictures, calendar invites, and equipment calibration.

Commercial & Industrial Trade Ally Advisory Group

Energy Smart hosted the Commercial & Industrial Trade Ally Kick-Off and Awards Ceremony. Program staff reviewed the following topics:

- Overall budget and goals from PY11 and PY12
- Step-down bonus of 25% in Q1, 15% in Q2 and 5% in Q3.
- Summary of program outreach efforts to small and large commercial customers.
- Updated PY12 trade ally tier rankings and the benefits associated with the tiers.
- Summary of technical training opportunities throughout the year.
- Workforce development efforts with community colleges, LSU, Urban League, LA Green Corps, Youth Force NOLA and other local organizations.
- The opportunity to record audio/video descriptions of trade ally job descriptions which would be promoted within the workforce network.

Energy Smart provided the following awards to trade allies:

- Lighting Trade Ally of the Year
- HVAC Trade Ally of the Year
- Building Automation Trade Ally of the Year
- Retro-commissioning Trade Ally of the Year
- Small Business Trade Ally of the Year
- Customer Service Trade Ally of the Year

On April 19 the team hosted the Q2 C&I Trade Ally Advisory Group meeting. Program staff covered:

- The project pipeline and program status of goals and budget.
- The leaderboard of trade ally participation to that point in the year.
- Updates to the lighting measures and project submission process.
- Emphasis on the step-down bonus and the Q2 15% bonus

On July 19 the team hosted the Q3 C&I Trade Ally Advisory Group meeting. Program staff covered:

- The new Design Lights Consortium requirements for lamps and fixtures.
- The Small Business Direct Install program.
- An introduction to the Technical Education Provider.
- An explanation of the Profiles of Careers in Clean Energy.

On October 18 the team hosted the Q4 C&I Trade Ally Advisory Group meeting. Program staff covered:

- The increased incentive structure via the Lagniappe Fund.
- The leaderboard of trade ally participation to that point in the year.
- Updates to program requirements for photographs of existing equipment.
- Emphasis on staff assistance with Lagniappe applications.

Contractor Engagement

Engagement is defined as contractors who have applied and been approved to become Registered Residential Trade Ally and/or Registered Commercial & Industrial trade ally. Contractors who register with both are counted in both totals.

Table 18.3: Contractor Engagement

CATEGORY	# OF TRADE ALLIES
C&I Network	98
Residential Network	14
Total Engagement	**112**

Contractor Participation

Participation is defined as registered trade allies who have completed and closed out projects in the current program year.

Table 18.4: Contractor Participation

CATEGORY	# OF COMPANIES
C&I Network	34
Residential Network	14
Total Engagement	**48**

Planned or Proposed Changes

Energy Smart has several changes planned regarding trade ally participation, training and workforce development. Whereas in Program Year 12 the program partnered with one technical trainer for multiple topics, in Program Year 13 Energy Smart will partner with multiple trainers. These new trainers include:

- The Association of Energy Engineers (AEE) will lead webinar training on topics related to utility bill terminology and energy efficiency. The partnership with AEE has the potential to lead to the creation of a local AEE chapter.
- Mark Jewell of Selling Energy will lead a 4-hour live training geared to properly prepare contractors to sell energy solutions effectively.
- David Bonaventure, former president of the Baton Rouge chapter of the American Society of Heating, Refrigeration and Ventilation (ASHRAE) will educate attendees on updates to the state Building Energy Code.
- Harris Energy Solutions will lead a training on retro-commissioning, with support from Green Coast Enterprises.

Energy Smart also plans to expand its trade ally portal. Currently existing as a database for trade allies to confirm project stages, the portal will expand to include pertinent announcements and program updates.

The program plans to build upon its efforts in workforce development. Energy Smart staff will:

- Become official members of the LA Green Corps Employee Advisory Council.
- Facilitate a relationship between the LSU Industrial Assessment Center and Delgado Community College, with the goal that LSU will train Delgado staff and students to conduct energy audits.
- Introduce trade allies directly to local workforce development partners such as LA Green Corps and the New Orleans Technical Education Provider, with the goal of encouraging internships and entry-level employment in building automation.

Energy Smart will also re-institute its networking events which bring both trade allies and facility directors together in one setting.

Program Training

Audiences Trained

Energy Smart provided technical training to:

- Commercial & industrial trade allies
- Residential trade allies
- Facility directors
- Architecture firms
- Commercial business owners
- Workforce agency staff and students
- Program staff

Training Topics

Energy Smart provided onboarding training to 26 new Commercial & Industrial trade allies in Program Year 12. The onboarding of individual Commercial & Industrial trade allies consisted of the following overview of the application process:

- Instructions on using the incentive application.
- An overview of the items required for project submission, such as a utility bill and a verification the equipment meets industry specifications.
- A review of the custom and prescriptive measure incentive rates.
- Training on communicating effectively about all Energy Smart offerings, including services which the individual trade allies do not offer themselves.

On March 22 Harris Energy Solutions provided a training encompassing a general overview of motors and their commercial applications, as well as most common energy conservation measures associated with enhancing motor efficiency. The session placed a particular emphasis on variable frequency drive (VFD) implementation and controls. The training addressed:

- How motors work.
- Best practices and upgrades for saving energy and money on motor-driven systems.
- How variable frequency drives can be implemented to save energy.
- How trade allies can leverage financial incentives to maximize the financial savings associated with upgrading my motors.

On May 19 Harris Energy Solutions provided training titled Building Automation System (BAS) and Lighting Control. The training addressed an overview of BAS architecture and the commercial applications of these systems, as well as the most common end cases associated with optimizing BAS controls in a facility. The training addressed:

- How building automation system technology works.
- The ways that BAS and automatic lighting controls can be programmed and implemented in a commercial space to save time, energy and money.

- How to leverage incentives to maximize financial savings associated with using and optimizing BAS technology and lighting controls.

On July 20 Harris Energy Solutions provided an overview of the retro-commissioning process with a specific focus on best practices associated with conducting measurement and verification. This session emphasized:

- What is involved in the process of measurement and verification.
- What equipment is available to collect measurements of building systems.
- How a technician can practically apply measurement and verification procedures to real-life scenarios.

On October 19 Harris Energy Solutions hosted a commercial Building Envelope training detailing how to save energy and improve occupant comfort through upgrading a building's walls, foundation, roof and windows. The training was approved by the Louisiana State Board of Architectural Examiners for Health Safety and Wellness credits. The session emphasized:

- Calculations that determine energy savings via common envelope retrofits.
- How the building envelope benefits occupants.
- How to improve comfort in a building via envelope improvements.
- How to determine which envelope upgrades yield the best results in energy efficiency.
- How to leverage incentives to maximize financial savings.

19.1: Training by Investment by Audience Type

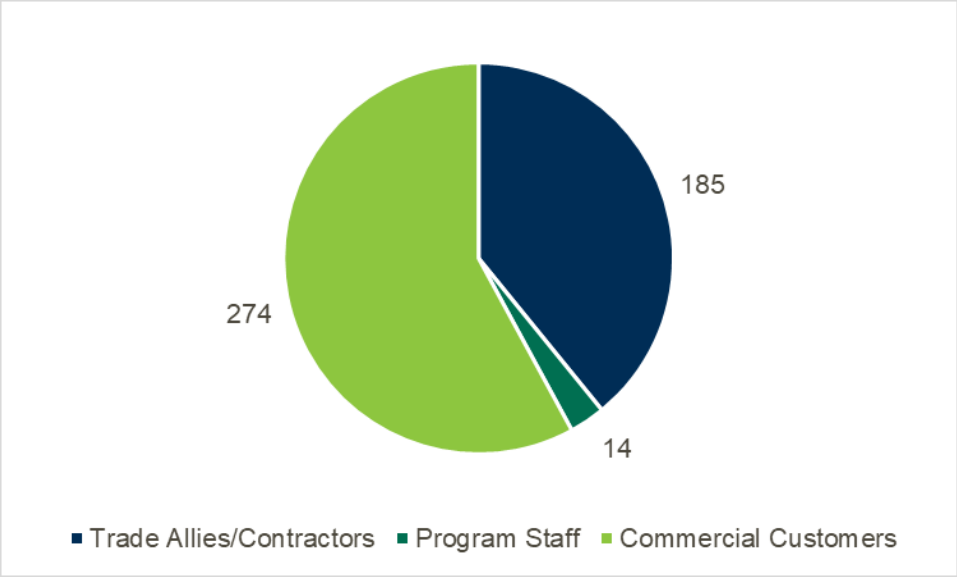
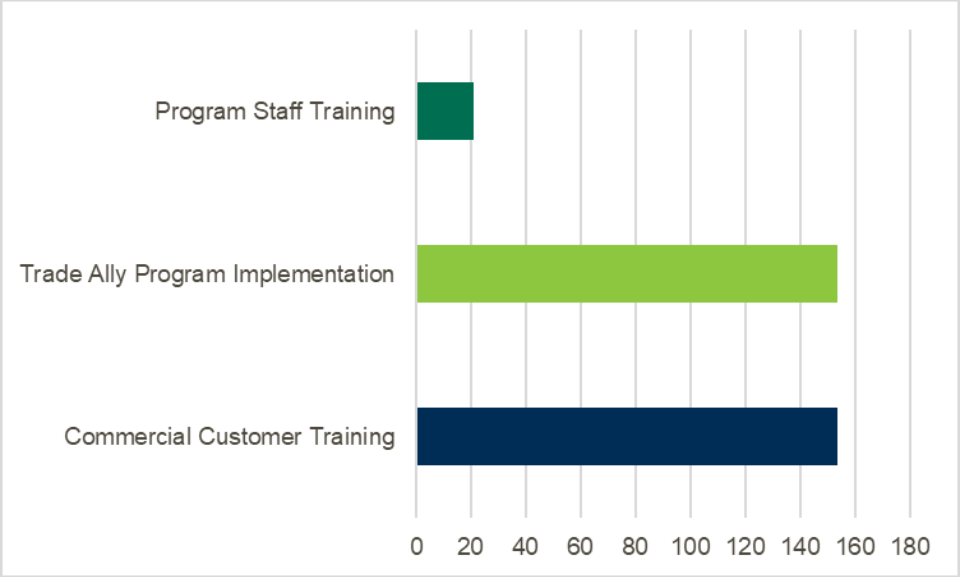


Chart 19.2: Training by Participation Type



Market Segmentation Training Highlights

Program staff focused its training evenly on commercial customers and trade allies. Customer training consisted of program overviews to a wide variety of stakeholders: church pastors, restaurant owners, health providers, facility directors, and corporate executives. Whereas larger commercial properties were typically familiar with the program in advance, the smaller businesses typically discovered the program's benefits through direct outreach that program staff conducted. Customers reviewed the steps to submit a project and receive incentives, as well as how to connect with trade allies. Trade ally training consisted of individual meetings with trade allies to review specific or potential projects, quarterly advisory group meetings and technical training.

Training Objective

The objective of commercial trade ally training is to review the steps for customers to submit projects to the program, understand the timeline for incentives and to assist commercial customers in securing products and services from trade allies. The objective of trade ally training is to ensure that trade allies are confident in their ability to communicate accurately and effectively about the program and to submit projects efficiently with the appropriate documentation.

Initiatives

Supplier Diversity & Inclusion

Energy Smart partners with multiple small and disadvantaged businesses to help deliver the program. These partners create a dynamic and diverse program delivery model. Energy Smart invests in the development of these businesses, providing them with necessary experience to thrive and grow in the energy efficiency sector. These small, minority, and/or disadvantaged businesses that supported Energy Smart are meaningful contributors to the program design and delivery. Their scopes are developed to increase their skills and capabilities in the energy efficiency field.

In total, Energy Smart spent over $2.2 million of non-incentive program funds on diverse suppliers in PY12.

Workforce Development

A key component of Energy Smart's delivery model is to continuously improve and elevate trade ally skills and capabilities through training and workforce development initiatives. Energy Smart's core training and workforce development partner is the Urban League of Louisiana (ULLA), a national organization with significant experience with workforce development and training initiatives.

The ULLA serves an integral role in the New Orleans community as an advocate, a service provider and a trusted source of information for communities of color and underserved populations on a variety of topics. As such, the ULLA plays a pivotal role in engaging these communities on behalf of Energy Smart, reaching minority contractors to prepare them to provide energy efficiency services for clients and to prepare them for green industry opportunities in the region. Additionally, ULLA's Contractor Resource Center provides support and training to local contractors who may not have previous experience performing energy efficiency upgrades or who haven't worked with a utility incentive program in the past.

Energy Smart coordinates program trainings through the program's partnership with the Urban League of Louisiana's Contractor Resource Center that provides year-round training for contractors at their multiple Louisiana locations.

In addition to the partnership with the ULLA, Energy Smart team coordinates with other local workforce development agencies, including:

- YouthForce Nola
- Delgado Community College
- YouthWorks in the City of New Orleans
- New Orleans Business Alliance
- Louisiana Green Corps
- Vietnamese Initiatives in Economic Training

In Program Year 12 Energy Smart worked with trade allies on several workforce objectives:

- Energy Smart offered trade allies who have job openings the ability to conduct audio recordings describing the job openings. Energy Smart then sent these recordings to the numerous workforce development partners to expand the potential audience of job applicants.

- Energy Smart staff facilitated connections between workforce organizations and the trade allies who were open to consider internships and entry-level employees.

- Energy Smart created four cards that profile professionals working in clean-energy jobs. The professionals who were featured were three trade allies and one facility director. These profile cards are used in efforts to explain career paths to students and adults looking to transition to career paths.

- Energy Smart exhibited at the Tech2Talent Career Festival on Saturday, April 9. This festival showcases tech jobs, training opportunities, and business ventures to youth, young adults and adults transitioning careers.

- Energy Smart presented to electrical students at Nunez Community College on February 16. These students learned about career opportunities in energy efficiency and learned how trade allies work alongside the program to pass savings to their customers.

- Energy Smart staff led a panel discussion at the New Orleans Entrepreneur Week about careers in clean energy. Discussions from this event resulted in the hiring of a new employee by a trade ally of a conference attendee.

- Energy Smart staff attended the LA Green Corps Spring Cohort graduation on July 1.

- Energy Smart introduced the New Orleans Technical Education Provider director to trade allies during the Q3 Trade Ally Advisory Group meeting.

- Energy Smart staff presented to energy efficiency professionals from throughout North America on August 24 on the program's workforce initiatives at the biannual American Council for an Energy-Efficient Economy.

- Energy Smart staff tabled at the LSU Career Day on September 16, promoting job openings of trade allies and explaining career fields in energy efficiency.

- Energy Smart staff participated in the LA Green Corps Employer Advisory Council on November 16.

FINANCIAL PERFORMANCE

Incentive Budget Highlights

Table 21.1

OFFERING	INCENTIVES	BUDGET*	% TO BUDGET
Small Commercial & Industrial Solutions	$909,072	$1,189,931	76%
Large Commercial & Industrial Solutions	$3,273,623	$4,264,094	77%
Publicly Funded Institutions	$477,363	$435,147	110%
Commercial & Industrial Construction Solutions	$15,261	$418,479	4%
Home Performance with ENERGY STAR	$430,869	$1,517,071	28%
Retail Lighting & Appliances	$1,315,375	$1,285,720	102%
Multifamily Solutions	$511,210	$359,750	142%
Income Qualified Weatherization	$1,330,917	$759,461	175%
A/C Solutions	$241,886	$439,100	55%
Appliance Recycling & Replacement Pilot	$148,950	$220,000	68%
School Kits & Community Outreach	$108,325	$105,400	103%
Behavioral Rewards	$65,755	$150,000	44%
TOTAL	**$8,828,606**	**$11,144,153**	**79%**

**Energy Efficiency Budgets are reflective of the revised Energy Smart Implementation Plan PY 10-12 approved 2/13/2020.*

Summary table shows energy efficiency incentive spend from January 1, 2022 through December 31, 2022.

Table 21.2

ENERGY SMART EXPENSES/INVOICES							FUNDING SOURCES	
YEAR	Month	Program Year 10	Program Year 11	Program Year 12	Program Year 13*	Total	EECR	Total Ending Balance
2022	January		$ 751,172	$ 304,262		$ 1,055,435	$ 1,608,154	($4,925,669)
2022	February		$ 619,315	$ 512,310		$ 1,131,625	$ 1,587,348	($5,381,392)
2022	March		$ 107,209	$ 1,567,619		$ 1,674,828	$ 1,541,703	($5,248,267)
2022	April		$ 852,071	$ 786,649		$ 1,638,720	$ 1,420,329	($5,029,876)
2022	May		$ 9,283	$ 163,514		$ 172,797	$ 1,608,370	($6,465,449)
2022	June		$ 148,353	$ 1,865,910		$ 2,014,263	$ 1,956,262	($6,407,448)
2022	July		$ 29,862	$ 465,407		$ 495,269	$ 2,082,335	($7,994,515)
2022	August	$ 207,040	$ 451,615	$ 1,862,624		$ 2,521,278	$ 1,969,151	($7,442,388)
2022	September			$ 1,044,905		$ 1,044,905	$ 1,665,392	($8,062,875)
2022	October			$ 155,600		$ 155,600	$ 2,172,969	($10,080,244)
2022	November			$ 2,002,433		$ 2,002,433	$ 1,537,437	($9,615,248)
2022	December			$ 4,127,373		$ 4,127,373	$ 1,623,144	($7,111,019)
2023	January			$ 1,857,381		$ 1,857,381	$ 1,413,564	($6,667,203)
2023	February			$ 68,094		$ 68,094	$ 1,208,735	($7,807,845)
2023	March				$ 1,920,487	$ 1,920,487	$ 1,244,079	($7,131,437)
2023	April			$ 674,911	$ 1,908,053	$ 2,582,964	$ 1,217,807	($5,766,280)
2023	May			$ 380,298	$ 1,250,753	$ 1,631,051	$ 1,314,890	($5,450,120)
2023	June			$ 17,718	$ 2,326,116	$ 2,343,834	$ 1,587,406	($4,693,692)
2023	July				$ 1,116,883	$ 1,116,883	$ 1,828,572	($5,405,381)
2023	August			$ 44,537	$ 2,094,277	$ 2,138,814	$ 1,968,707	($5,235,274)
2023	September			$ 13,444	$ 1,269,436	$ 1,282,880	$ 1,960,402	($5,912,796)

**The Energy Smart team anticipates additional costs for Program Year 12 to come in over the next couple of months. These costs are related to verification of the at-risk portion of implementation costs.*

Net Savings Summary

Entergy's Third-Party Evaluator, ADM Associates, conducted the program evaluation to verify the gross energy savings of each offering. Additionally, ADM estimated program net-to-gross ratios (NTGRs) through evaluation of free-ridership and spillover effects.

The Energy Smart program achieved 67,835,206 in Net kWh savings and 14,552 in Net kW reductions, reaching 70% of the kWh goal and 106% of the kW target. These values represent savings net-of-free-ridership, compared to the filed goals.

Table 21.1

	NET kWh SAVINGS**	kWh GOAL*	% TO SAVINGS GOAL	NET kW REDUCTIONS**	kW TARGET*	% TO kW TARGET
Small Commercial & Industrial Solutions	5,125,542	8,830,250	58%	1,225.28	1,948	63%
Large Commercial & Industrial Solutions	31,972,242	38,041,497	84%	6,605.21	6,048	109%
Publicly Funded Institutions	3,910,812	3,592,744	109%	100.49	498	20%
Commercial & Industrial Construction Solutions	130,053	3,172,427	4%	36.35	603	6%
Home Performance with ENERGY STAR	1,611,427	4,870,449	33%	375.54	1,384	27%
Retail Lighting & Appliances	12,542,577	8,131,626	154%	2,063.69	1,102	187%
Multifamily Solutions	2,441,936	1,616,270	151%	547.37	470	116%
Income-Qualified Weatherization	3,068,747	1,850,708	166%	2,133.62	623	342%
A/C Solutions	1,271,648	2,388,674	53%	545.36	687	79%
Appliance Recycling & Replacement	103,117	1,897,900	5%	13.28	233	6%
School Kits & Community Outreach	596,196	681,132	88%	84.18	81	104%
Behavioral & Rewards	5,060,909	21,700,000	23%	821.84	-	N/A
Total	**67,835,206**	**96,773,677**	**70%**	**14,552.20**	**22,351**	**106%**

**Energy Efficiency Goals are reflective of the revised Energy Smart Implementation Plan PY 10-12 approved 2/13/2020.*

***Savings reflect verified net energy savings as documented in TPE's Evaluation, Measurement and Verification (EM&V) report.*

The Energy Smart program achieved a Net-to-Gross Ratio (NTGR) of 88% in Net kWh savings relative to the verified gross kWh savings and a kW NTGR of 90%.

Table 21.2

	VERIFIED GROSS KWH	NET KWH SAVINGS*	KWH NTGR	VERIFIED GROSS KW	NET KW REDUCTION*	KW NTGR
Small Commercial & Industrial Solutions	5,451,890	5,125,542	94%	1,286.62	1,225.28	95%
Large Commercial & Industrial Solutions	32,655,323	31,972,242	98%	6,815.61	6,605.21	97%
Publicly Funded Institutions	4,147,387	3,910,812	94%	105.00	100.49	96%
Commercial & Industrial Construction Solutions	135,938	130,053	96%	38.00	36.35	96%
Home Performance with ENERGY STAR	2,108,669	1,611,427	76%	410.72	375.54	91%
Retail Lighting & Appliances	19,806,949	12,542,577	63%	3,370.75	2,063.69	61%
Multifamily Solutions	2,530,865	2,441,936	96%	571.02	547.37	96%
Income-Qualified Weatherization	3,068,747	3,068,747	100%	2,133.62	2,133.62	100%
A/C Solutions	1,402,624	1,271,648	91%	598.59	545.36	91%
Appliance Recycling & Replacement Pilot	168,470	103,117	61%	21.35	13.28	62%
School Kits & Community Outreach	596,196	596,196	100%	84.18	84.18	100%
Behavioral & Rewards	5,060,909	5,060,909	100%	821.84	821.84	100%
Total	**77,133,968**	**67,835,206**	**88%**	**16,257.30**	**14,552.20**	**90%**

**Net savings as documented in TPE's Evaluation, Measurement and Verification (EM&V) report.*

Appendices

Appendix A: School Kits & Education Summary
Appendix B: Community Outreach Summary
Appendix C: Training and Education
Appendix D: Marketing Collateral

Appendix A: School Kits & Education Summary

SCHOOL NAME	DATE	KITS DISTRIBUTED	ENROLLMENT OFFERING
Lusher Charter School	1/10/2022	152	Charter
Eleanor Mcmain Secondary School	1/25/2022	75	Charter
Lawrence D. Crocker	2/2/2022	50	Charter
Andrew Wilson Charter School	2/16/2022	75	Charter
Success At Thurgood Marshall	2/21/2022	48	Charter
Kipp East	2/22/2022	212	Charter
Firstline Live Oak Academy	3/9/2022	136	Charter
Audubon Charter School	3/24/2022	27	Charter
St. Stephen Catholic School	3/24/2022	52	Private
Élan Academy	3/28/2022	18	Charter
New Orleans Charter Science and Mathematics High School	3/28/2022	85	Charter
Noble Minds Institute for Whole Child Learning	3/28/2022	10	Charter
St. Mary's Academy	3/29/2022	52	Private
Martin Behrman Charter School	3/31/2022	95	Charter
Edna Karr High School	4/14/2022	383	Charter
Morris Jeff Community School	4/21/2022	131	Charter
A Desire for Change Summer Camp	6/1/2022	100	Camp
Electric Girls Summer Camp	6/6/2022	200	Camp
Bishop Mcmanus Academy	7/28/2022	18	Private
Andrew Wilson Charter School	8/9/2022	80	Charter
St. Joan Of Arc School	8/9/2022	25	Private
The Bridge Middle School	8/19/2022	40	Charter
G.W. Carver High School	9/2/2022	100	Charter
Lawrence D. Crocker	9/2/2022	33	Charter
Arthur Ashe Charter School	9/2/2022	86	Charter
Noble Minds Institute For Whole Child Learning	9/8/2022	35	Charter
New Orleans Charter Science And Mathematics High School	9/15/2022	91	Charter
Willow Charter Middle School	9/21/2022	155	Charter
Edna Karr High School	9/21/2022	50	Charter
IGL Foundation	10/28/2022	51	Camp
Kipp Believe	11/10/2022	86	Charter
Elan Academy	11/15/2022	77	Charter
L.B. Landry High School	11/15/2022	180	Charter
Alice Harte Charter School	11/15/2022	85	Charter
Einstein At Village De L'est Elementary	11/17/2022	58	Charter
Dwight D. Eisenhower Charter School	11/18/2022	65	Charter
Morris Jeff Community School	11/30/2022	180	Charter
St. Mary's Academy	12/1/2022	104	Private
TOTAL		**3,500**	

Appendix B: Community Outreach Summary

GROUP	DATE	ATTENDEES
Power Trip	1/11/2022	5
Chamber Power Hour	1/11/2022	22
Hoffman Triangle NA	1/11/2022	27
CCC Westbank	1/25/2022	115
Central Circle	1/26/2022	17
Renter's Rights assembly	2/2/2022	15
CCC Westbank	2/3/2022	100
Power Trip	2/8/2022	4
East New Orleans Neighborhood Advisory Committee (ENONAC)	2/8/2022	68
CCC Eastbank	2/18/2022	120
Entergy CCC's	3/7/2022	200
Ephesus SDA Church	3/6/2022	250
Hoffman Triangle	3/8/2022	32
Power Trip	3/8/2022	4
ENONAC	3/8/2022	35
Home and Garden Show	3/11/2022	500
Home and Garden Show	3/12/2022	500
Home and Garden Show	3/13/2022	500
Central City Community Care Day	3/19/2022	150
Heal Nola Fest	3/26/2022	200
Central Circle	3/30/2022	18
Viet	3/31/2022	30
CCC Eastbank	4/5/2022	300
Tech2Talent	4/9/2022	220
LAGC	4/11/2022	9
LAGC	4/12/2022	9
Power Trip	4/12/2022	4
LAGC	4/13/2022	9
LAGC	4/14/2022	9
CCC Westbank	4/19/2022	150
Entergy CCC	5/3/2022	250
City of NO Department of Safely and Permits	5/4/2022	43
Power Trip	5/10/2022	2
Central circle	5/11/2022	18
Hazardous Waste Day	5/14/2022	500
Rock of Ages Crawfish Boil	5/14/2022	60
Alliance Francais	5/14/2022	40
Dillard - Protecting your place of worship	5/17/2022	44
Entergy CCC	5/17/2022	125
Entergy Customer Appreciation Day	6/1/2022	300
Power Trip	6/14/2022	3

GROUP	DATE	ATTENDEES
Hoffman Triangle NA	6/14/2022	27
LAGC	6/15/2022	6
LAGC	6/16/2022	6
Councilmember Thomas event @ Dillard	6/16/2022	12
Rebuild Together	6/24/2022	4
Central Circle@ Cafe Roma	6/29/2022	14
Jane Place Renter's Rights Meeting	7/7/2022	18
Power Trip	7/12/2022	3
Entergy CCC - WB	7/25/2022	145
Entergy CCC - Canal St	7/26/2022	220
Central Circle	7/27/2022	17
CNO Back to School Event	8/5/2022	200
Power Trip	8/9/2022	5
Mayor's Budget Town Hall	8/9/2022	50
CNO Resource Fair	8/11/2022	50
CNO Resource Fair	8/15/2022	70
CNO Resource Fair	8/16/2022	45
Coffee on your Corner - Neighborhood Engagement office	8/18/2022	18
CNO Resource Fair	8/18/2022	50
Convoy of Hope Food Distribution event	8/21/2022	300
Energy Fair	8/27/2022	150
Central Circle	8/31/2022	16
Power Trip	9/13/2022	6
Hoffman Triangle N/A	9/13/2022	21
Joe Brown Park - Nola East Festival	9/17/2022	150
Dillard AARP	9/17/2022	16
District C Community Outreach Event	9/21/2022	30
District C Community Outreach Event	9/28/2022	25
JenCare Senior Resources event	9/29/2022	100
Entergy CCC	10/5/2022	150
District A Community Outreach Event	10/6/2022	50
Mayor's Neighborhood Engagement	10/8/2022	20
Power Trip	10/11/2022	3
Entergy CCC	10/12/2022	80
District D Community Outreach Event	10/13/2022	25
LA Green Corps	10/18/2022	14
Senior Voters Caucus (Entergy New Orleans)	10/19/2022	50
Entergy CCC	10/19/2022	120
LA Green Corps	10/19/2022	14
AmeriHealth	10/20/2022	60
District E Community Outreach Event	10/20/2022	40
Harmony Oaks	10/25/2022	15
Central Circle	10/26/2022	12
Entergy CCC	10/26/2022	50

GROUP	DATE	ATTENDEES
District B Community Outreach Event	10/27/2022	50
District E Community Outreach Event 5620 Read Blvd	11/3/2022	40
People Program Algiers Phyllis 504-394-5433	11/8/2022	8
Power Trip	11/8/2022	2
Our Diversity is Our Strength: Inspiring LA's Next Generation of Leaders	11/10/2022	200
Entergy Customer Appreciation Day	11/14/2022	300
Energy Efficiency at Rebuild Together	11/18/2022	10
Dillard AARP	11/19/2022	20
Power Trip	12/13/2022	4
Mingle and Jingle - Amerihealth	12/17/2022	60
Central Circle - senior lunch	12/14/2022	35

Appendix C: Training and Education

Date	Title	Audience	Attendees	Length	Objective	Description
1/4/2022	Contractor -- Gravel Road Contractors	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
1/5/2022	Customer -- Hynes UNO Charter School	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive incentives and the process for submitting applications
1/6/2022	Customer Training -- Bethlehem Lutheran Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
1/7/2022	Customer Training -- Next Generation Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
1/11/2022	Contractor -- GWJ Construction	C&I Trade Allies/Contractors	1	30	Provide a program overview to an existing trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
1/12/2022	Contractor -- WKA Lighting	C&I Trade Allies/Contractors	1	60	Provide a program overview to an existing trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
1/13/2022	Contractor -- Southeast LED	C&I Trade Allies/Contractors	1	60	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
1/17/2022	Contractor -- Optimum Air Solutions	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
1/18/2022	Contractor -- Blue Box Air	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom non-lighting application process

1/19/2022	Contractor -- Gallo Mechanical	C&I Trade Allies/Contractors	1	30	Provide a program overview to an external partner	Train trade ally on prescriptive and custom non-lighting application process
1/19/2022	Stakeholder -- LSU Industrial Assessment Center	Program Partner	1	45	Calculator/application training for a specific project	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
1/20/2022	Contractor -- Ameresco	C&I Trade Allies/Contractors	1	45	Calculator/application training for a specific project	Train trade ally on prescriptive and custom non-lighting application process
1/25/2022	Customer -- 2940 Martin Drive (Sheldon Harris)	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
1/25/2022	Customer - NO Athletic Center	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive incentives and the process for submitting applications
1/26/2022	Customer - NO Maritime Military Academy	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive incentives and the process for submitting applications
1/26/2022	Customer - Tulane Medical Center	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive incentives and the process for submitting applications
1/26/2022	Customer - Southern Food & Beverage Museum	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
1/26/2022	Customer - Orleans Parish Sheriff's Office	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
1/27/2022	Customer -- SUNO Small Business Management Institute	Commercial Customer	10	15	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

1/31/2022	Contractor - Woodward Design + Build	C&I Trade Allies/Contractors	1	45	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
1/31/2022	Contractor - Bernhard MCC	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom non-lighting application process
1/31/2022	Customer - NO Lawn & Tennis Club	Commercial Customer	1	30	Calculator/application training for a specific project	Train customer on prescriptive and custom non-lighting application process
2/1/2022	Customer -- Sean Bruno	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
2/3/2022	Contractor -- Siener Air	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
2/8/2022	Contractor -- Trade Ally Kick-Off	C&I Trade Allies/Contractors	20	90	Provide program updates for Program Year 12	Announce trade ally award winners and announce new incentive structures and ways to participate in the program
2/9/2022	Customer -- Royal Sonesta	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive incentives and the process for submitting applications
2/10/2022	Customer -- 129 Camp Street	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
2/10/2022	Contractor - Trane	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
2/10/2022	Customer - Omni Hotel	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications

2/14/2022	Contractor -- Dependable Air	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
2/15/2022	Contractor -- Window Tint	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
2/15/2022	Customer -- Nola Pediatric Dentistry	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
2/15/2022	Customer -- True Love Missionary Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
2/15/2022	Customer -- UAL Liquidators	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
2/16/2022	Customer - Xavier University	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
2/18/2022	Customer - Lakefront Airport	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
2/18/2022	Customer - Loews Hotel	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
2/21/2022	Customer -- Bethlehem Lutheran Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
2/22/2022	Customer -- Wellness and Massage Spa	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

2/24/2022	Customer -- Jerusalem Missionary Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/2/2022	Customer - Comeaux Furniture	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
3/3/2022	Customer -- Trinity Christian Community Center	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/4/2022	Customer -- Sisters of the Holy Family	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/4/2022	Customer -- Second Rose of Sharon	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/7/2022	Customer -- Episcopal Diocese of Louisiana	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/9/2022	Customer -- Legacy Professional Services	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/9/2022	Customer - Flowers Foods	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
3/10/2022	Customer -- Blessed Sacrament	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/10/2022	Customer -- St. Clare's Monastery	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

3/10/2022	Customer - Riverwalk Marketplace	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
3/14/2022	Contractor -- Southeast LED	C&I Trade Allies/Contractors	1	60	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
3/14/2022	Customer -- St. John Lutheran Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/14/2022	Contractor - CIS Architects	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
3/15/2022	Customer -- Chevron gas station	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/15/2022	Customer -- Ray Avenue Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/15/2022	Customer -- Resurrection of Our Lord	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/15/2022	Customer -- Mater Dolorosa	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/17/2022	Customer -- People's United Methodist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/18/2022	Customer - NOCHI	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications

3/21/2022	Contractor -- Snappy Tint	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
3/21/2022	Customer - Audubon Institute	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
3/22/2022	Contractor Group Training -- commercial trade allies	C&I Trade Allies/Contractors	16	90	Overview of motors and their commercial applications	How motors work, best practices and upgrades for saving energy on motor-driven systems and how VFDs can be leveraged to save energy
3/29/2022	Customer -- Sisters of the Holy Family	Commercial Customer	1	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
3/30/2022	Contractor -- Gasket Guy of Louisiana	C&I Trade Allies/Contractors	1	60	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
3/30/2022	Customer - Ochsner	Commercial Customer	4	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
3/31/2022	Customer -- Fortuna Real Estate	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/1/2022	Customer -- Alliance Francaise of New Orleans	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/4/2022	Contractor -- Servpro	C&I Trade Allies/Contractors	1	60	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
4/4/2022	Customer - Restaurant Depot	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications

4/6/2022	Customer -- Macedonia Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/6/2022	Customer -- Berean Bible Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/6/2022	Customer -- Greater New Hope Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/7/2022	Customer -- Cafe Reconcile	Commercial Customer	1	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/7/2022	Customer - Crescent Care	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
4/8/2022	Customer -- Lake Vista United Methodist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/11/2022	Customer -- Greater Gentilly Harvest Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/11/2022	Customer - Elan Academy	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
4/12/2022	Contractor -- Daikin	C&I Trade Allies/Contractors	1	60	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
4/13/2022	Customer -- VIET	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

4/13/2022	Customer -- Cafe Reconcile	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/15/2022	Contractor -- Blue Box Air	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
4/18/2022	Customer -- Frenchmen Street Grocery	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/19/2022	Contractor -- Trade Ally Advisory Group Q2	C&I Trade Allies/Contractors	20	30	Program updates and feedback from trade allies	Announce lighting measure updates regarding 24/7 lighting and receive feedback on the program's step-down bonus structure
4/19/2022	Customer - Lakeside Christian Center	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
4/20/2022	Customer - LASPCA	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
4/21/2022	Customer -- Hilton Garden Inn	Commercial Customer	1	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/21/2022	Stakeholder - GNO, Inc.	Program Partner	1	45	Provide a program overview to an external partner	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
4/21/2022	Customer - NO Fish House	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
4/21/2022	Customer - SWBNO	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications

4/26/2022	Customer -- Lakeview Presbyterian	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/26/2022	Customer - ASM Global	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
4/26/2022	Customer - Zony Mash	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/27/2022	Customer - Hotel Peter & Paul	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
4/28/2022	Contractor -- AC Mechanics	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
4/28/2022	Customer -- New Orleans Trap Kitchen	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/29/2022	Customer -- Shrine of St. Jude	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
4/29/2022	Contractor - Automated Controls	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
5/2/2022	Customer -- Epiphany Missionary Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/4/2022	Customer -- Holy Trinity Cathedral	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

5/4/2022	Customer - SWBNO	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
5/5/2022	Shiloh Christian Fellowship	Commercial Customer	1	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/6/2022	Asia Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/10/2022	Central City Christian Fellowship	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/11/2022	Lakeview Presbyterian	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/11/2022	Anytime Fitness	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/11/2022	Contractor - Bell & McCoy	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
5/17/2022	Contractor -- Gaskets Rock	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
5/18/2022	Customer -- Immaculate Conception	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/19/2022	Contractor Group Training -- commercial trade allies	C&I Trade Allies/Contractors	16	90	Overview of Building Automation System and Lighting Controls	Leverage incentives to maximize financial savings associated with using and optimizing a BAS and automatic lighting controls

5/19/2022	Customer -- Ben Franklin High School	Commercial Customer	1	90	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/19/2022	Customer -- Ursuline Academy	Commercial Customer	1	90	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/19/2022	Customer -- Delgado Community College	Commercial Customer	1	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/19/2022	Customer -- St. Charles Avenue Presbyterian Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/24/2022	Contractor -- Eco-Lite	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
5/24/2022	Customer -- Live Nation	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/25/2022	Customer -- Small Business Development Management Institute	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
5/25/2022	Customer - MCCNO	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
5/26/2022	Customer - Xavier University	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
5/27/2022	Customer - Jung Hotel	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications

5/31/2022	Customer -- Blaze Pizza	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/3/2022	Customer -- Creole Cuisine	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/6/2022	Contractor -- Elan Studio Lighting	C&I Trade Allies/Contractors	1	60	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
6/6/2022	Customer - UNO Foundation	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
6/7/2022	Customer -- St. Mark Coptic Orthodox Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/7/2022	Contractor -- Battco Construction	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/7/2022	Stakeholder - Nick Harris	Program Partner	1	30	Provide a program overview to an external partner	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/7/2022	Customer - NO Fairgrounds	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
6/9/2022	Customer – Dillard University	Commercial Customer	1	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/10/2022	Contractor -- Matt Ridley Consulting	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program

6/10/2022	Customer - Continental Cement	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
6/13/2022	Contractor -- Elan Studio Lighting	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
6/14/2022	Customer -- Horn's Eatery	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/14/2022	Customer - Le Pavilion	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
6/14/2022	Customer - Le Meridien	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
6/14/2022	Contractor - Johnstone Supply	C&I Trade Allies/Contractors	2	45	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/15/2022	Customer -- St. James Major Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/15/2022	Customer - Canseco's Market	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
6/17/2022	Customer -- WBOK	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/20/2022	Contractor -- Made Design	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program

6/21/2022	Contractor -- Ice King	C&I Trade Allies/Contractors	1	60	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
6/21/2022	Contractor -- Window Genie	C&I Trade Allies/Contractors	1	30	Provide a program overview to an existing trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/21/2022	Contractor - Bell & McCoy	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/22/2022	Contractor - Moses Engineering	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/23/2022	Customer -- Corpus Christi	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/24/2022	Customer -- Imani Works Dance School	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/24/2022	Contractor - AirPro Service	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/27/2022	Contractor -- WKA Lighting	C&I Trade Allies/Contractors	1	45	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
6/28/2022	Contractor -- Louisiana Statewide Air	C&I Trade Allies/Contractors	1	45	Provide a program overview to an existing trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/28/2022	Customer -- First Grace United Methodist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

6/28/2022	Contractor - Ameresco	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
6/29/2022	Contractor -- Bell & McCoy	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/29/2022	Customer -- Property One	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/29/2022	Customer - Delgado CC	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
6/30/2022	Contractor -- Bell Butler Design & Architecture	C&I Trade Allies/Contractors	1	60	Provide a program overview to an existing trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
6/30/2022	Customer -- First Presbyterian Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
6/30/2022	Customer - Ochsner Baptist	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
7/1/2022	Contractor -- Bernhard MCC	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
7/5/2022	Contractor -- OnPeak Energy	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
7/5/2022	Contractor -- Global Air	C&I Trade Allies/Contractors	1	60	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program

7/6/2022	Contractor -- Gallo Mechanical	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
7/7/2022	Customer -- House of Refuge	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/7/2022	Customer -- Broadmoor Community Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/7/2022	Customer - Hotel Indigo	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
7/8/2022	Customer -- Coterie	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/12/2022	Customer -- Calliope Beer Works	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/13/2022	Customer -- Pleasant Valley Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/13/2022	Customer - Harrah's	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
7/14/2022	Customer -- St. Charles Avenue Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/15/2022	Customer -- Cornerstone United Methodist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/13/2022	Trade Ally Advisory Group meeting Q3	C&I Trade Allies/Contractors	20	30	Provide an update to trade allies regarding program incentives and application process	Covered the Lagniappe Fund, upcoming training and the leaderboard of project submissions

7/19/2022	Contractor -- Optimum Air Solutions	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
7/19/2022	Customer -- Stronger Hope Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/19/2022	Customer - Starlight Studios	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
7/20/2022	Contractor Group Training -- commercial trade allies	C&I Trade Allies/Contractors	6	90	Provide an overview of the retro-commissioning process and incentive structure	Overview of measurement and verification and what equipment is available to collect measurements of building systems
7/21/2022	Customer -- Grandma's Touch	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/21/2022	Contractor - Bernhard MCC	C&I Trade Allies/Contractors	1	45	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
7/25/2022	Customer -- Please-U Restaurant	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/25/2022	Customer - Eliza Jane Hotel	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
7/27/2022	Customer -- Cabo's Learning Express	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
7/27/2022	Customer - Westin Hotel	Commercial Customer	2	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
7/27/2022	Customer - Intercontinental Hotel	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications

7/28/2022	Customer - LFNO	Commercial Customer	2	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/1/2022	Customer -- Greater Little Zion Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/1/2022	Customer -- Heavenly Sweets Bakery	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/2/2022	Customer - De La Salle HS	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/3/2022	Customer -- The Cupcake Collection	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/3/2022	Customer - Chester Development	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/4/2022	Customer -- We Dat's Chicken and Shrimp	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/5/2022	Customer -- St. Stephen's Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/5/2022	Customer -- Crown of Life Lutheran Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/8/2022	Customer -- Tavoli Pizza	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/8/2022	Customer - Windsor Court	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications

8/9/2022	Customer -- James Chapel Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/10/2022	Customer -- Barracuda	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/10/2022	Customer -- Deliverance Missionary Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/10/2022	Customer -- Windowsill Pies	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/11/2022	Customer - Roosevelt Hotel	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/11/2022	Contractor - BlueBox	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
8/15/2022	Customer -- St. Paul Lutheran Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/15/2022	Customer -- Macarty House	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
8/15/2022	Contractor - Bell & McCoy	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
8/16/2022	Customer - Lambeth House	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/17/2022	Customer -- Black & Gold Wash Fold	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

8/17/2022	Customer - Poydras Home	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/19/2022	Contractor -- Yeates & Mancil Architects	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
8/23/2022	Customer - HRI Properties	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/23/2022	Customer - NOPSI Hotel	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/24/2022	Customer - Berger Companies	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/25/2022	Customer - Poydras Properties	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/25/2022	Customer - Premium Parking	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/25/2022	Customer - Hotel Peter & Paul	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
8/31/2022	Customer - Old No. 77 Hotel	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
8/31/2022	Customer - Cambria Hotel	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/1/2022	Contractor -- LED Supply Plus	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process

9/1/2022	Customer -- Lakeview Sushi	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/2/2022	Customer -- Mandina's	Commercial Customer	1	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/2/2022	Customer -- Central City Barbeque	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/6/2022	Customer -- Free Church of Annunciation	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/6/2022	Customer -- The Backyard	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/7/2022	Contractor -- Hembco	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
9/7/2022	Customer - Xavier University	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
9/8/2022	Customer -- Crepes a la Carte	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/13/2022	Contractor - BlueBox	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
9/15/2022	Contractor -- Trane Technologies	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
9/15/2022	Customer -- Jerusalem Gospel Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

9/15/2022	Customer - The Cabildo	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/16/2022	Customer -- El Camino	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/16/2022	Customer - BreauxMart	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/16/2022	Customer - Fresh Market	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/16/2022	Customer - Goodwill Industries	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/16/2022	Customer - SWBNO	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/20/2022	Customer - SWBNO	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/21/2022	Customer -- NOLA Royals	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/22/2022	Customer - Atchafalaya	Commercial Customer	2	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/22/2022	Customer - Temple Sinai	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/23/2022	Contractor -- New Krewe Electric	C&I Trade Allies/Contractors	1	60	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process

9/23/2022	Customer - St. Joseph Hotel	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/26/2022	Customer -- Greater Ebenezer Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/26/2022	Customer -- Dynamic Performance Training	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/26/2022	Customer - Goodwill Industries	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
9/26/2022	Customer - Xavier University	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
9/27/2022	Customer - Hotel Peter & Paul	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
9/27/2022	Customer - Tivoli Place	Commercial Customer	2	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
9/28/2022	Customer -- Old Zion Baptist Church	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
9/28/2022	Customer - Jewish Community Center	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/28/2022	Customer - SUNO	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
9/28/2022	Customer - Berger Companies	Commercial Customer	2	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications

9/29/2022	Customer - De La Salle HS	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
9/30/2022	Customer - St George's Episcopal School	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
10/3/2022	Customer - Community Academies	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
10/5/2022	Customer - NWW2M	Commercial Customer	1	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
10/6/2022	Customer -- Christ Church Cathedral	Commercial Customer	1	45	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
10/7/2022	Contractor - Southern Energy Technologies	C&I Trade Allies/Contractors	2	45	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
10/7/2022	Customer - LFNO	Commercial Customer	2	45	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
10/10/2022	Customer -- New Testament Baptist Church	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
10/11/2022	Contractor -- Flash Tech	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
10/13/2022	Contractor -- E.P. Breaux	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
10/14/2022	Customer - Baldwin & Co.	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

10/14/2022	Customer - Goodwill Industries	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
10/14/2022	Customer - NWW2M	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
10/17/2022	Customer - Hotel Peter & Paul	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
10/18/2022	Contractor -- Trade Ally Advisory Group Q4	C&I Trade Allies/Contractors	20	30	Provide an update to trade allies regarding program incentives and application process	Covered the Lagniappe Fund, upcoming training and the leaderboard of project submissions
10/18/2022	Contractor -- M3 Services	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
10/19/2022	Contractor Group Training -- commercial trade allies	C&I Trade Allies/Contractors	5	90	Technical training provide to trade allies	The training covered how building envelope benefits occupants, how to determine which envelope upgrades yield the best results and how to leverage incentives
10/19/2022	Customer - Poydras Properties	Commercial Customer	1	45	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
10/20/2022	Customer - St. George's Episcopal School	Commercial Customer	1	45	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
10/21/2022	Contractor -- New Krewe Electric	C&I Trade Allies/Contractors	1	30	Calculator/application training for a specific project	Train trade ally on prescriptive and custom lighting application process
10/24/2022	Contractor -- Matt Ridley Consulting	C&I Trade Allies/Contractors	1	30	Provide a program overview to a potential trade ally	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
10/27/2022	Stakeholder - NORD	Program Partner	1	30	Provide a program overview to an external partner	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program

10/27/2022	Stakeholder - Gulf South LGBTQ+ Chamber	Commercial Customer	1	30	Provide a program overview to an external partner	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
10/28/2022	Customer - Liberty Bank	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
11/3/2022	Customer - Piccola Gelateria	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
11/3/2022	Customer - Hilton Riverside	Commercial Customer	2	45	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
11/4/2022	Customer -- Milne Park	Commercial Customer	1	90	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
11/8/2022	Customer -- Beecher Memorial	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
11/16/2022	Customer - NWW2M	Commercial Customer	1	30	Calculator/application training for a specific project	Reviewed prescriptive and custom incentives and the process for submitting applications
12/2/2022	Customer - Hilton New Orleans	Commercial Customer	1	30	Provide a program overview to a large commercial customer	Reviewed prescriptive and custom incentives and the process for submitting applications
12/5/2022	Stakeholder - Industrial Assessment Center	Commercial Customer	1	30	Provide a program overview to an external partner	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
12/9/2022	Customer - LSUHSC	Commercial Customer	1	30	Provide a program overview to an external partner	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program
12/16/2022	Customer - LCRC	Commercial Customer	1	30	Provide a program overview to an external partner	Reviewed prescriptive incentives, the process for submitting applications and effective communication about the program

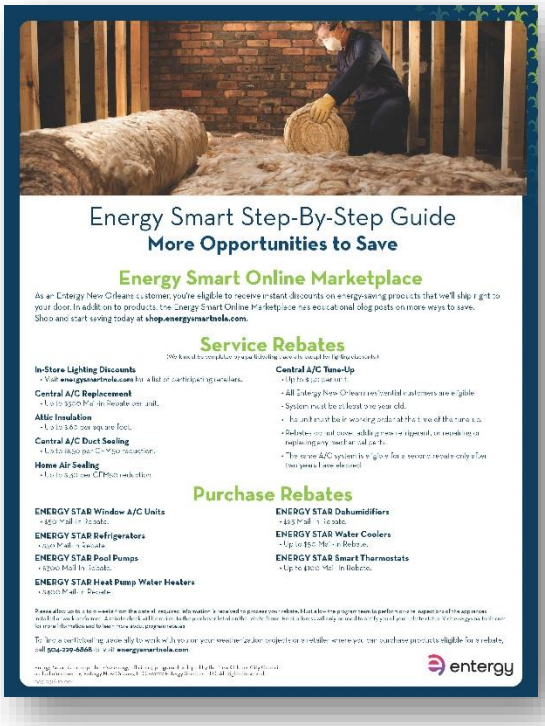
12/27/2022	Customer -- Verret's Bar	Commercial Customer	1	30	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store
1/26/2022	Customer -- Joseph Yeager	Commercial Customer	2	60	Provide a program overview to a small commercial customer	Reviewed prescriptive incentives, the process for submitting applications and the online store

Appendix D: Marketing Collateral

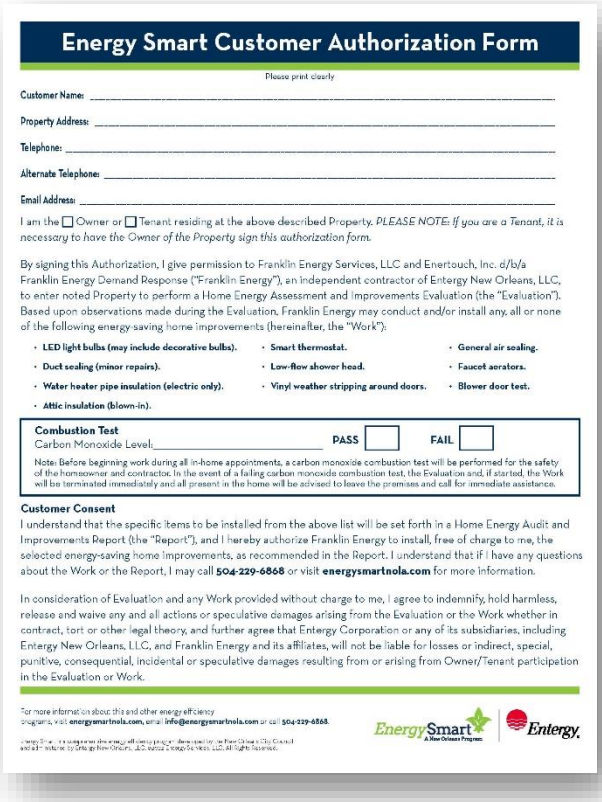
General Energy Smart Overview Brochure

General Energy Smart Overview Brochure (Spanish)

General Energy Smart Handout



Residential Customer Authorization Form



Energy Smart Customer Authorization Form

Please print clearly

Customer Name: _____

Property Address: _____

Telephone: _____

Alternate Telephone: _____

Email Address: _____

I am the ☐ Owner or ☐ Tenant residing at the above described Property. *PLEASE NOTE: If you are a Tenant, it is necessary to have the Owner of the Property sign this authorization form.*

By signing this Authorization, I give permission to Franklin Energy Services, LLC and Enertouch, Inc. d/b/a Franklin Energy Demand Response ("Franklin Energy"), an independent contractor of Entergy New Orleans, LLC, to enter noted Property to perform a Home Energy Assessment and Improvements Evaluation (the "Evaluation"). Based upon observations made during the Evaluation, Franklin Energy may conduct and/or install any, all or none of the following energy-saving home improvements (hereinafter, the "Work"):

- **LED light bulbs (may include decorative bulbs).**
- **Smart thermostat.**
- **General air sealing.**
- **Duct sealing (minor repairs).**
- **Low-flow shower head.**
- **Faucet aerators.**
- **Water heater pipe insulation (electric only).**
- **Vinyl weather stripping around doors.**
- **Blower door test.**
- **Attic insulation (blown-in).**

Combustion Test
Carbon Monoxide Level:_____ **PASS** ☐ **FAIL** ☐

Note: Before beginning work during all in-home appointments, a carbon monoxide combustion test will be performed for the safety of the homeowner and contractor. In the event of a failing carbon monoxide combustion test, the Evaluation and, if started, the Work will be terminated immediately and all present in the home will be advised to leave the premises and call for immediate assistance.

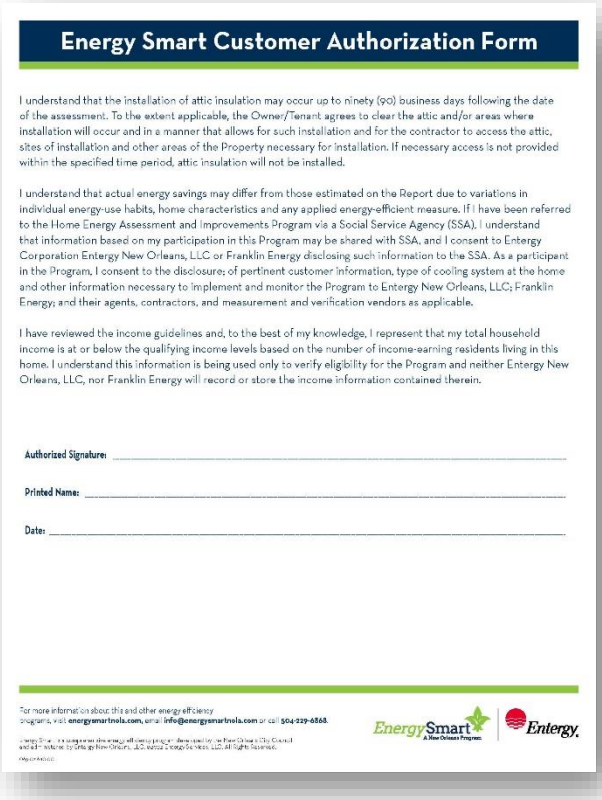
Customer Consent

I understand that the specific items to be installed from the above list will be set forth in a Home Energy Audit and Improvements Report (the "Report"), and I hereby authorize Franklin Energy to install, free of charge to me, the selected energy-saving home improvements, as recommended in the Report. I understand that if I have any questions about the Work or the Report, I may call **504-229-6868** or visit **energysmartnola.com** for more information.

In consideration of Evaluation and any Work provided without charge to me, I agree to indemnify, hold harmless, release and waive any and all actions or speculative damages arising from the Evaluation or the Work whether in contract, tort or other legal theory, and further agree that Entergy Corporation or any of its subsidiaries, including Entergy New Orleans, LLC, and Franklin Energy and its affiliates, will not be liable for losses or indirect, special, punitive, consequential, incidental or speculative damages resulting from or arising from Owner/Tenant participation in the Evaluation or Work.

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

EnergySmart A New Orleans Program | Entergy.



Energy Smart Customer Authorization Form

I understand that the installation of attic insulation may occur up to ninety (90) business days following the date of the assessment. To the extent applicable, the Owner/Tenant agrees to clear the attic and/or areas where installation will occur and in a manner that allows for such installation and for the contractor to access the attic, sites of installation and other areas of the Property necessary for installation. If necessary access is not provided within the specified time period, attic insulation will not be installed.

I understand that actual energy savings may differ from those estimated on the Report due to variations in individual energy-use habits, home characteristics and any applied energy-efficient measure. If I have been referred to the Home Energy Assessment and Improvements Program via a Social Service Agency (SSA), I understand that information based on my participation in this Program may be shared with SSA, and I consent to Entergy Corporation Entergy New Orleans, LLC or Franklin Energy disclosing such information to the SSA. As a participant in the Program, I consent to the disclosure; of pertinent customer information, type of cooling system at the home and other information necessary to implement and monitor the Program to Entergy New Orleans, LLC; Franklin Energy; and their agents, contractors, and measurement and verification vendors as applicable.

I have reviewed the income guidelines and, to the best of my knowledge, I represent that my total household income is at or below the qualifying income levels based on the number of income-earning residents living in this home. I understand this information is being used only to verify eligibility for the Program and neither Entergy New Orleans, LLC, nor Franklin Energy will record or store the income information contained therein.

Authorized Signature: _____

Printed Name: _____

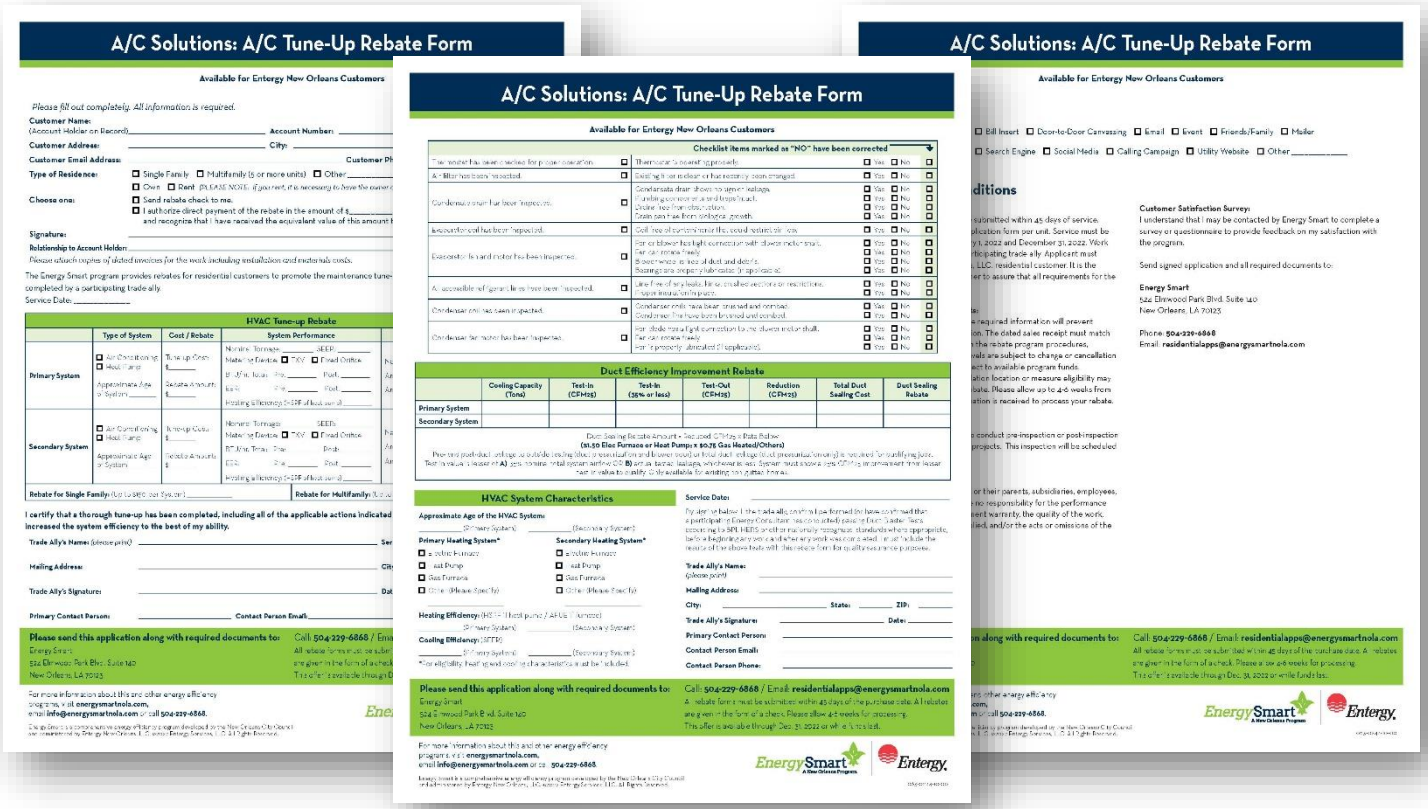
Date: _____

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

EnergySmart A New Orleans Program | Entergy.

Rebate Forms

A/C Tune-Up Rebate Form



A/C Solutions: A/C Tune-Up Rebate Form

Available for Entergy New Orleans Customers

Please fill out completely. All information is required.

Customer Name:
(Account Holder on Record)_____ Account Number: _____
Customer Address: _____ City: _____
Customer Email Address: Customer Ph
Type of Residence: ☐ Single Family ☐ Multifamily (5 or more units) ☐ Other_____
☐ Own ☐ Rent (PLEASE NOTE: If you rent, it is necessary to have the owner
Choose one: ☐ Send rebate check to me.
☐ I authorize direct payment of the rebate in the amount of $_____
and recognize that I have received the equivalent value of this amount
Signature:
Relationship to Account Holder:
Please attach copies of dated invoices for the work including installation and material costs.
The Energy Smart program provides rebates for residential customers to promote the maintenance tune-
completed by a participating trade ally.
Service Date: _____

HVAC Tune-up Rebate

	Type of System	Cost / Rebate	System Performance
Primary System	☐ Air Conditioning ☐ Heat Pump Approximate Age of System: _____	Tune-up Cost: $_____ Rebate Amount: $_____	Nameplate Tonnage: _____ SEER: _____ Matching Electric ☐ TXV ☐ Fixed Orifice BT...Mfct. Tonn: Pre: _____ Post: _____ EER: Pre: _____ Post: _____ Heating Efficiency (COP if Heat pump): _____
Secondary System	☐ Air Conditioning ☐ Heat Pump Approximate Age of System: _____	Tune-up Cost: $_____ Rebate Amount: $_____	Nameplate Tonnage: _____ SEER: _____ Matching Electric ☐ TXV ☐ Fixed Orifice BT...Mfct. Tonn: Pre: _____ Post: _____ EER: Pre: _____ Post: _____ Heating Efficiency (COP if Heat pump): _____

Rebate for Single Family (Up to $850 per System): _____ Rebate for Multifamily (Up to

I certify that a thorough tune-up has been completed, including all of the applicable actions indicated
increased the system efficiency to the best of my ability.

Trade Ally's Name: (please print) _____ Se
Mailing Address: _____ Ci
Trade Ally's Signature: _____ Da
Primary Contact Person: _____ Contact Person Email: _____

Please send this application along with required documents to:
Energy Smart
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123

Call: 504-229-6868 / Ema
All rebate forms must be sub
are given in the form of a check
This offer is available through D

For more information about this and other energy efficiency
programs, visit energysmartnola.com,
email info@energysmartnola.com or call 504-229-6868.

Ener

A/C Solutions: A/C Tune-Up Rebate Form

Available for Entergy New Orleans Customers

Checklist items marked as "NO" have been corrected

Thermostat has been checked for proper operation.	☐	Thermostat is level (if applicable).	☐ Yes ☐ No ☐
A - Blue fins been inspected.	☐	Existing fins are clean or has recently been changed.	☐ Yes ☐ No ☐
Condensate drain line has been inspected.	☐	Condensate drain shows no signs of leakage. Condensate pan is clean and drains freely. Drain line is free from obstructions. Drain pan is free from biological growth.	☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐
Evaporator coil has been inspected.	☐	Coil free of excessive dirt, mold, debris, or algae.	☐ Yes ☐ No ☐
Evaporator blower has been inspected.	☐	Fan or blower has light correction with shown motor shaft. Fan can rotate freely. Blower wheel is free of dust and debris. Bearings are properly lubricated (if applicable).	☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐
All accessible refrigerant lines have been inspected.	☐	Line free of any leaks, kinks, crushed sections or restrictions. Proper insulation in place.	☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐
Condenser coil has been inspected.	☐	Condenser coil is free from dirt and corrosion. Condenser fins have been brushed and combed.	☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐
Condenser fan motor has been inspected.	☐	Fan blade has a tight connection to the shown motor shaft. Fan can rotate freely. Fan is properly attached (if applicable).	☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐ ☐ Yes ☐ No ☐

Duct Efficiency Improvement Rebate

	Cooling Capacity (Tons)	Test-In (CFM25)	Test-In (25% or less)	Test-Out (CFM25)	Reduction (CFM25)	Total Duct Sealing Cost	Duct Sealing Rebate
Primary System							
Secondary System							

Duct Sealing Rebate Amount = Test-out CFM25 x Rate Below
($0.50 Elec Furnace or Heat Pump; x $0.75 Gas Heated/Others)
Pre-test post-duct sealing, outside cooling (duct reinstallation and blower door) or total duct leakage (duct pressurization) is required for qualifying jobs.
Post-test value is lesser of A) 25% of total system airflow OR B) or an actual leakage, whichever is less. System must show a 25% CFM25 improvement (pre-test value - post-test value) to qualify. Or available for existing 25% or less.

HVAC System Characteristics

Approximate Age of the HVAC System:
_____ (Primary System) _____ (Secondary System)

Primary Heating System*
☐ Electric Furnace
☐ Heat Pump
☐ Gas Furnace
☐ Other (Please Specify)

Secondary Heating System*
☐ Electric Furnace
☐ Heat Pump
☐ Gas Furnace
☐ Other (Please Specify)

Heating Efficiency: (HSPF (Heat pump) / AFUE (Furnace))
_____ (Primary System) _____ (Secondary System)

Cooling Efficiency: (SEER)
_____ (Primary System) _____ (Secondary System)
*For eligibility, heating and cooling characteristics must be included.

Service Date: _____

By signing below, I the trade ally, confirm I performed/have confirmed that a participating Energy Consultant has conducted pre-Duct Sealer Tests (ensuring the BPI, HERS and/or nationally recognized standards where appropriate, before beginning any work and after any work was completed. It must include the results of the above tests with this rebate form for quality assurance purposes.

Trade Ally's Name: (please print) _____
Mailing Address: _____
City: _____ State: _____ ZIP: _____
Trade Ally's Signature: _____ Date: _____
Primary Contact Person: _____
Contact Person Email: _____
Contact Person Phone: _____

Please send this application along with required documents to:
Energy Smart
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123

Call: 504-229-6868 / Email: residentialapps@energysmartnola.com
A rebate form must be submitted within 45 days of the purchase date. A rebate
are given in the form of a check. Please allow 4-6 weeks for processing.
This offer is available through Dec. 31, 2022 or while funds last.

For more information about this and other energy efficiency
programs, visit energysmartnola.com,
email info@energysmartnola.com or call 504-229-6868.

EnergySmart A New Orleans Program
Entergy.

A/C Solutions: A/C Tune-Up Rebate Form

Available for Entergy New Orleans Customers

☐ Bill Insert ☐ Door-to-Door Canvassing ☐ Email ☐ Event ☐ Friends/Family ☐ Mailer
☐ Search Engine ☐ Social Media ☐ Calling Campaign ☐ Utility Website ☐ Other: _____

ditions

submitted within 45 days of service.
y 1, 2022 and December 31, 2022. Work
ticipating trade ally. Applicant must
LLC residential customer. It is the
er to assure that all requirements for the

required information will prevent
on. The dated sales receipt must match
the rebate program procedures,
vals are subject to change or cancellation
act to available program funds.
elect location or measure eligibility may
bate. Please allow up to 4-6 weeks from
ation is received to process your rebate.

Customer Satisfaction Survey:
I understand that I may be contacted by Energy Smart to complete a survey or questionnaire to provide feedback on my satisfaction with the program.

Send signed application and all required documents to:

Energy Smart
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123

Phone: 504-229-6868
Email: residentialapps@energysmartnola.com

conduct pre-inspection or post-inspection
projects. This inspection will be scheduled

or their parents, subsidiaries, employees,
no responsibility for the performance
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ied, and/or the acts or omissions of the

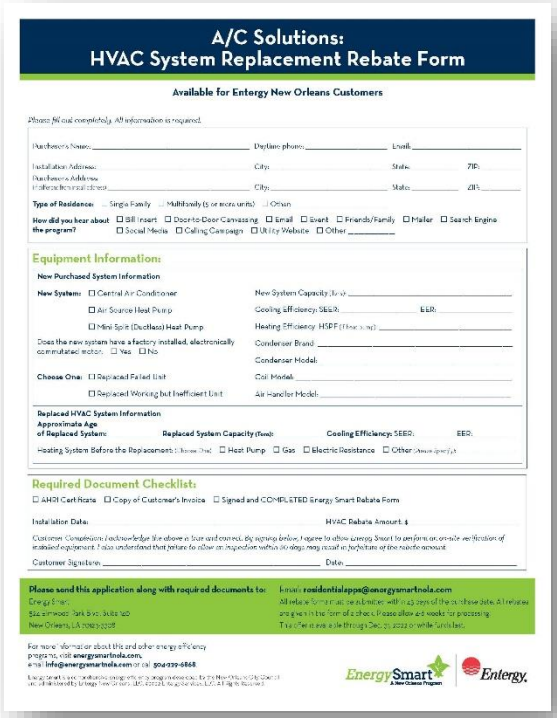
n along with required documents to:
All rebate forms must be submitted within 45 days of the purchase date. A rebate
This offer is available through Dec. 31, 2022 or while funds last.

Call: 504-229-6868 / Email: residentialapps@energysmartnola.com

ers other energy efficiency
com,
or call 504-229-6868.

EnergySmart A New Orleans Program
Entergy.

Central A/C Rebate Form



A/C Solutions: HVAC System Replacement Rebate Form

Available for Entergy New Orleans Customers

Please fill out completely. All information is required.

Purchaser's Name: _____ Daytime phone: _____ Email: _____

Installation Address: _____ City: _____ State: _____ ZIP: _____

Purchaser's Address (if different from above): _____ City: _____ State: _____ ZIP: _____

Type of Residence: ☐ Single Family ☐ Multifamily (5 or more units) ☐ Other

How did you hear about the program? ☐ Bill Insert ☐ Door-to-Door Canvassing ☐ Email ☐ Event ☐ Friends/Family ☐ Mailer ☐ Search Engine ☐ Social Media ☐ Calling Campaign ☐ Utility Website ☐ Other _____

Equipment Information:

New Purchased System Information

New System: ☐ Central Air Conditioner ☐ Air Source Heat Pump ☐ Mini-Split (Ductless) Heat Pump

New System Capacity (Tons): _____

Cooling Efficiency: SEER: _____ EER: _____

Heating Efficiency: HSPF (Heat pump): _____

Does the new system have a factory installed, electronically commutated motor: ☐ Yes ☐ No

Condenser Brand: _____

Condenser Model: _____

Choose One: ☐ Replaced Failed Unit ☐ Replaced Working but Inefficient Unit

Coil Model: _____

Air Handler Model: _____

Replaced HVAC System Information

Approximate Age of Replaced System: **Replaced System Capacity (Tons):** **Cooling Efficiency:** SEER: EER:

Heating System Before the Replacement: (Choose One) ☐ Heat Pump ☐ Gas ☐ Electric Resistance ☐ Other (Please specify)

Required Document Checklist:

☐ AHRI Cert Rate ☐ Copy of Customer's Invoice ☐ Signed and COMPLETED Energy Smart Rebate Form

Installation Date: **HVAC Rebate Amount: $**

Customer Completion: I acknowledge the above is true and correct. By signing below, I agree to allow Energy Smart to perform an on-site verification of installed equipment. I also understand that failure to allow an inspection within 30 days, may result in forfeiture of the rebate amount.

Customer Signature: _____ Date: _____

Please send this application along with required documents to:

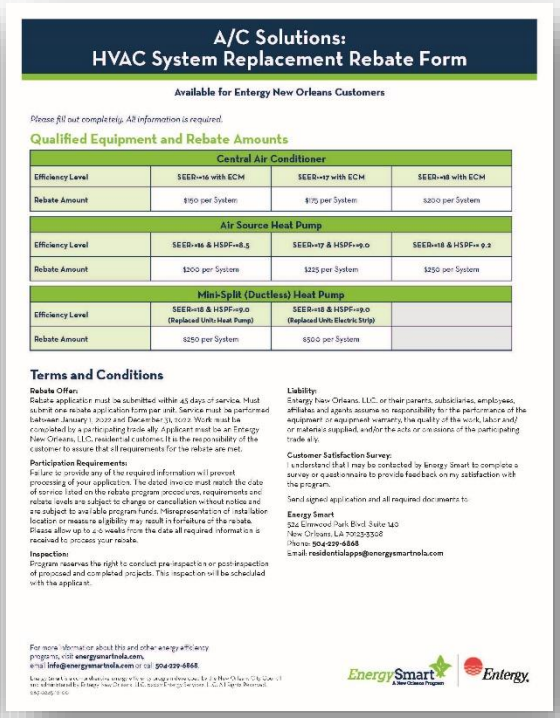
Energy Smart
324 Elmwood Park Blvd, Suite 140
New Orleans, LA 70123-3308

Email: residentialapps@energysmartnola.com

All rebate forms must be submitted within 45 days of the purchase date. A rebate program in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022 or while funds last.

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

EnergySmart A New Orleans Program | Entergy.



A/C Solutions: HVAC System Replacement Rebate Form

Available for Entergy New Orleans Customers

Please fill out completely. All information is required.

Qualified Equipment and Rebate Amounts

Central Air Conditioner			
Efficiency Level	**SEER=16 with ECM**	**SEER=17 with ECM**	**SEER=18 with ECM**
Rebate Amount	$150 per System	$175 per System	$200 per System

Air Source Heat Pump			
Efficiency Level	**SEER=16 & HSPF=8.5**	**SEER=17 & HSPF=9.0**	**SEER=18 & HSPF= 9.2**
Rebate Amount	$200 per System	$225 per System	$250 per System

Mini-Split (Ductless) Heat Pump			
Efficiency Level	**SEER=18 & HSPF=9.0 (Replaced Unit: Heat Pump)**	**SEER=18 & HSPF=9.0 (Replaced Unit: Electric Strip)**	
Rebate Amount	$250 per System	$300 per System	

Terms and Conditions

Rebate Offer:
Rebate application must be submitted within 45 days of service. Must submit one rebate application form per unit. Service must be performed between January 1, 2022 and December 31, 2022. Work must be completed by a participating trade ally. Applicant must be an Entergy New Orleans, LLC residential customer. It is the responsibility of the customer to assure that all requirements for the rebate are met.

Participation Requirements:
Failure to provide any of the required information will prevent processing of your application. The dated invoice must match the date of service listed on the rebate program provisions, requirements and rebate levels are subject to change or cancellation without notice and are subject to available program funds. Misrepresentation of installation location or measure eligibility may result in forfeiture of the rebate. Please allow up to 4-6 weeks from the date all required information is received to process your rebate.

Inspection:
Program reserves the right to conduct pre-inspection or post-inspection of processed and completed projects. This inspection will be scheduled with the applicant.

Liability:
Entergy New Orleans, LLC, or their parents, subsidiaries, employees, affiliates and agents assume no responsibility for the performance of the equipment or equipment warranty, the quality of the work, labor and/or materials supplied, and/or the acts or omissions of the participating trade ally.

Customer Satisfaction Survey:
I understand that I may be contacted by Energy Smart to complete a survey or questionnaire to provide feedback on my satisfaction with the program.

Send signed application and all required documents to:

Energy Smart
324 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123-3308
Phone: **504-229-6868**
E-mail: **residentialapps@energysmartnola.com**

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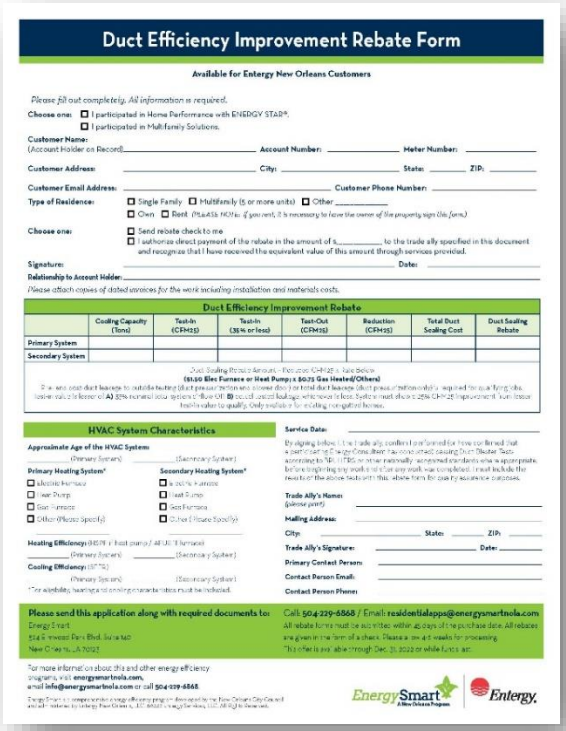
EnergySmart A New Orleans Program | Entergy.

Duct Efficiency Improvement Rebate Form



Duct Efficiency Improvement Rebate Form

Available for Entergy New Orleans Customers

Please fill out completely. All information is required.

Choose one: ☐ I participated in Home Performance with ENERGY STAR®.
☐ I participated in Multifamily Solutions.

Customer Name: (Account Holder on Record)_____ **Account Number:** _____ **Meter Number:** _____

Customer Address: _____ **City:** _____ **State:** _____ **ZIP:** _____

Customer Email Address: _____ **Customer Phone Number:** _____

Type of Residence: ☐ Single Family ☐ Multifamily (5 or more units) ☐ Other _____
☐ Own ☐ Rent *(PLEASE NOTE: If you rent, it is necessary to have the owner of the property sign this form.)*

Choose one:
☐ Send rebate check to me
☐ I authorize direct payment of the rebate in the amount of $_____ to the trade ally specified in this document and recognize that I have received the equivalent value of this amount through services provided.

Signature: _____ **Date:** _____

Relationship to Account Holder: _____

Please attach copies of dated invoices for the work including installation and materials costs.

Duct Efficiency Improvement Rebate

	Cooling Capacity (Tons)	Test-In (CFM25)	Test-In (3% or less)	Test-Out (CFM25)	Reduction (CFM25)	Total Duct Sealing Cost	Duct Sealing Rebate
Primary System							
Secondary System							

Duct Sealing Rebate Amount – Per Ton CFM25 + Table Below
($0.60 Elec Furnace or Heat Pump; $0.75 Gas Heated/Others)
Evidence post duct leakage to outside testing (duct pressurization and blower door) or total duct blaster (duct pressurization only) is required for qualifying jobs. Testing value is lesser of: **A)** 33% nominal total system CFM25 OR **B)** post duct sealed leakage reduction is less. System must show a 25% CFM25 improvement from initial test to value to qualify. Only available for existing, non-gutted homes.

HVAC System Characteristics

Approximate Age of the HVAC System:
_____ (Primary System) _____ (Secondary System)

Primary Heating System* ☐ Electric Furnace ☐ Heat Pump ☐ Gas Furnace ☐ Other (Please Specify) _____
Secondary Heating System* ☐ Electric Furnace ☐ Heat Pump ☐ Gas Furnace ☐ Other (Please Specify) _____

Heating Efficiency: (HSPF if heat pump / AFUE if furnace)
_____ (Primary System) _____ (Secondary System)

Cooling Efficiency: (SEER)
_____ (Primary System) _____ (Secondary System)

*For eligibility, heating and cooling characteristics must be indicated.

Service Date: _____

By signing below, I, the trade ally, confirm I performed (or have confirmed that a participating Energy Smart Trade Ally conducted) Duct Blaster Tests according to BPI, HERS or other nationally recognized standards where appropriate, before beginning any work and after any work was completed. I must include the results of the above tests with this rebate form for quality assurance purposes.

Trade Ally's Name: (please print) _____
Mailing Address: _____
City: _____ **State:** _____ **ZIP:** _____
Trade Ally's Signature: _____ **Date:** _____
Primary Contact Person: _____
Contact Person Email: _____
Contact Person Phone: _____

Please send this application along with required documents to:
Energy Smart
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123

Call: 504-229-6868 / Email: residentialapps@energysmartnola.com
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing.
*This offer is available through Dec. 31, 2022 or while funds last.

For more information about this and other energy efficiency programs, visit: energysmartnola.com,
email info@energysmartnola.com or call 504-229-6868.

Duct Efficiency Improvement Rebate Form

Available for Entergy New Orleans Customers

How did you hear about Energy Smart? ☐ Bill Insert ☐ Door-to-Door Canvassing ☐ Email ☐ Event ☐ Friends/Family ☐ Mailer ☐ Search Engine ☐ Social Media ☐ Calling Campaign ☐ Utility Website ☐ Other _____

Terms and Conditions

Rebate Offer:
Rebate application must be submitted within 45 days of service. Must submit one rebate application form per unit. Service must be performed between January 1, 2022 and Dec. 31, 2022. Work must be completed by a participating trade ally. Applicant must be an Entergy New Orleans, LLC. residential customer. It is the responsibility of the customer to assure that all requirements for the rebate are met.

Participation Requirements:
Failure to provide any of the required information will prevent processing of your application. The dated sales receipt must match the date of service listed on the rebate program procedures, requirements and rebate levels are subject to change or cancellation without notice and are subject to available program funds. Misrepresentation of installation location or measure eligibility may result in forfeiture of the rebate. Please allow up to 4-6 weeks from the date all required information is received to process your rebate.

Inspection:
Program reserves the right to conduct pre-inspection or post-inspection of proposed and completed projects. This inspection will be scheduled with the applicant.

Liability:
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Customer Satisfaction Survey:
I understand that I may be contacted by Energy Smart to complete a survey or questionnaire to provide feedback on my satisfaction with the program.

Send signed application and all required documents to:

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524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123
Phone: **504-229-6868**
Email: **residentialapps@energysmartnola.com**

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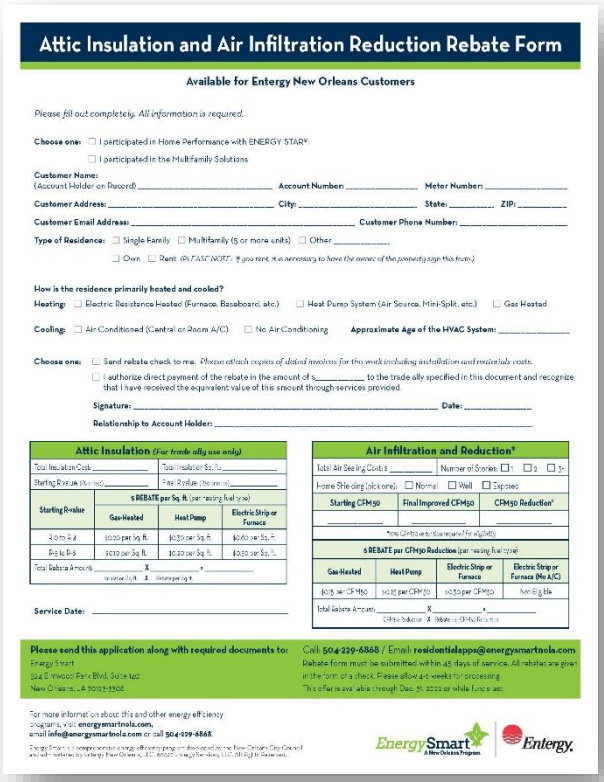
email info@energysmartnola.com or call 504-229-6868.

HPwES and MF Attic Insulation and Air Infiltration Reeducation Rebate Form



Attic Insulation and Air Infiltration Reduction Rebate Form

Available for Entergy New Orleans Customers

Please fill out completely. All information is required.

Choose one: ☐ I participated in Home Performance with ENERGY STAR®.
☐ I participated in the Multifamily Solutions

Customer Name: (Account Holder on Record) _____ **Account Number:** _____ **Meter Number:** _____

Customer Address: _____ **City:** _____ **State:** _____ **ZIP:** _____

Customer Email Address: _____ **Customer Phone Number:** _____

Type of Residence: ☐ Single Family ☐ Multifamily (5 or more units) ☐ Other _____
☐ Own ☐ Rent *(PLEASE NOTE: If you rent, it is necessary to have the owner of the property sign this form.)*

How is the residence primarily heated and cooled?

Heating: ☐ Electric Resistance Heated (Furnace, Baseboard, etc.) ☐ Heat Pump System (Air Source, Mini-Split, etc.) ☐ Gas Heated

Cooling: ☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning **Approximate Age of the HVAC System:** _____

Choose one: ☐ Send rebate check to me. *Please attach copies of dated invoices for the work including installation and materials costs.*
☐ I authorize direct payment of the rebate in the amount of $_____ to the trade ally specified in this document and recognize that I have received the equivalent value of this amount through services provided.

Signature: _____ **Date:** _____

Relationship to Account Holder: _____

Attic Insulation *(For trade ally use only)*

Total Insulation Cost: _____ Total Insulation Sq. Ft.: _____
Starting R-value (Number): _____ Final R-value (Desired): _____

Starting R-value	$ REBATE per Sq. ft. (per existing final cycle)		
	Gas-Heated	Heat Pump	Electric Strip or Furnace
2.0 to 2.9	$0.20 per Sq. ft.	$0.30 per Sq. ft.	$0.60 per Sq. ft.
3.0 to 8.9	$0.10 per Sq. ft.	$0.20 per Sq. ft.	$0.30 per Sq. ft.

Total Rebate Amount: _____ = _____ X _____
Insulation Sq. ft. X Rebate per Sq. ft.

Air Infiltration and Reduction*

Total Air Sealing Cost: $ _____ Number of Stories: ☐ 1 ☐ 2 ☐ 3+
Home Shielding (click one): ☐ Normal ☐ Well ☐ Exposed

Starting CFM50	Final Improved CFM50	CFM50 Reduction*

*Min. 25% to verify as required for eligibility

$ REBATE per CFM50 Reduction (per existing final cycle)

Gas-Heated	Heat Pump	Electric Strip or Furnace	Electric Strip or Furnace (No A/C)
$0.15 per CFM50	$0.25 per CFM50	$0.30 per CFM50	Not Eligible

Total Rebate Amount: _____ = _____ X _____
CFM50 Reduction X Rebate per CFM50 Reduction

Service Date: _____

Please send this application along with required documents to:
Energy Smart
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123-3308

Call: 504-229-6868 / Email: residentialapps@energysmartnola.com
Rebate form must be submitted within 45 days of service. All rebates are given in the form of a check. Please allow 4-6 weeks for processing.
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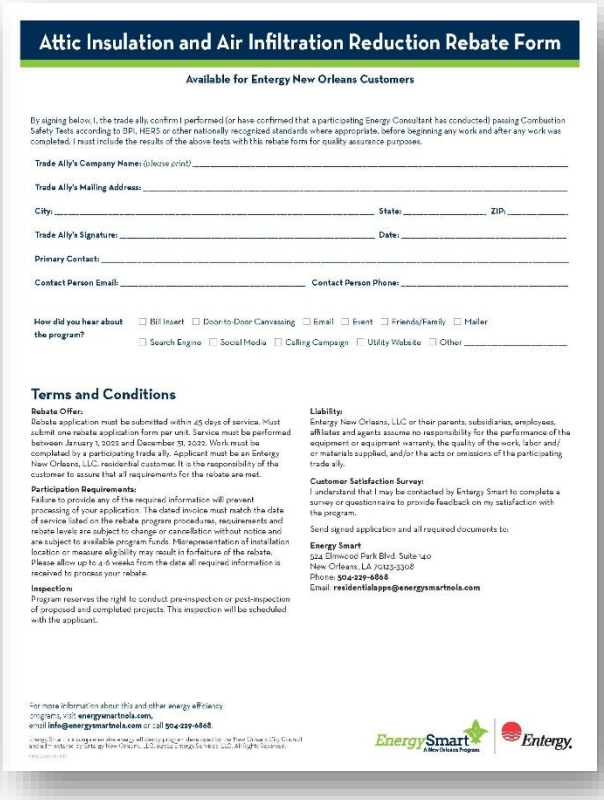

Attic Insulation and Air Infiltration Reduction Rebate Form

Available for Entergy New Orleans Customers

By signing below, I, the trade ally, confirm I performed (or have confirmed that a participating Energy Consultant has conducted) passing Combustion Safety Tests according to BPI, HERS or other nationally recognized standards where appropriate, before beginning any work and after any work was completed. I must include the results of the above tests with this rebate form for quality assurance purposes.

Trade Ally's Company Name: (please print) _____
Trade Ally's Mailing Address: _____
City: _____ **State:** _____ **ZIP:** _____
Trade Ally's Signature: _____ **Date:** _____
Primary Contact: _____
Contact Person Email: _____ **Contact Person Phone:** _____

How did you hear about the program? ☐ Bill Insert ☐ Door-to-Door Canvassing ☐ Email ☐ Event ☐ Friends/Family ☐ Mailer ☐ Search Engine ☐ Social Media ☐ Calling Campaign ☐ Utility Website ☐ Other _____

Terms and Conditions

Rebate Offer:
Rebate application must be submitted within 45 days of service. Must submit one rebate application form per unit. Service must be performed between January 1, 2022 and December 31, 2022. Work must be completed by a participating trade ally. Applicant must be an Entergy New Orleans, LLC. residential customer. It is the responsibility of the customer to assure that all requirements for the rebate are met.

Participation Requirements:
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Inspection
Program reserves the right to conduct pre-inspection or post-inspection of proposed and completed projects. This inspection will be scheduled with the applicant.

Liability:
Entergy New Orleans, LLC or their parents, subsidiaries, employees, affiliates and agents assume no responsibility for the performance of the equipment or equipment warranty, the quality of the work, labor and/or materials supplied, and/or the acts or omissions of the participating trade ally.

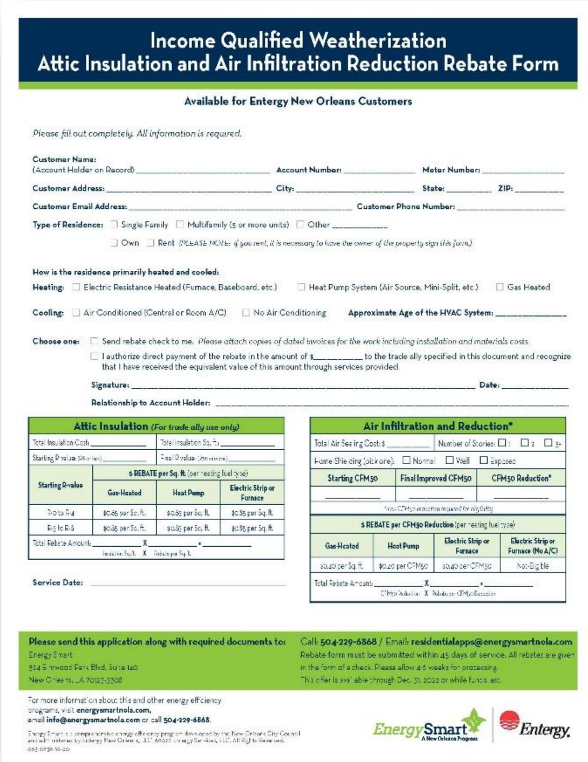
Customer Satisfaction Survey:
I understand that I may be contacted by Entergy Smart to complete a survey or questionnaire to provide feedback on my satisfaction with the program.

Send signed application and all required documents to:

Energy Smart
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123-3308
Phone: **504-229-6868**
Email: **residentialapps@energysmartnola.com**

For more information about this and other energy efficiency programs, visit: energysmartnola.com,
email info@energysmartnola.com or call 504-229-6868.

IQW Attic Insulation and Air Infiltration Reeducation Rebate Form



Income Qualified Weatherization Attic Insulation and Air Infiltration Reduction Rebate Form

Available for Entergy New Orleans Customers

Please fill out completely. All information is required.

Customer Name: (Account Holder on Record) ____ **Account Number:** ____ **Meter Number:** ____

Customer Address: ____ **City:** ____ **State:** ____ **ZIP:** ____

Customer Email Address: ____ **Customer Phone Number:** ____

Type of Residence: ☐ Single Family ☐ Multifamily (5 or more units) ☐ Other ____

☐ Own ☐ Rent *(PLEASE NOTE: if you rent, it is necessary to have the owner of the property sign this form.)*

How is the residence primarily heated and cooled:

Heating: ☐ Electric Resistance Heated (Furnace, Baseboard, etc.) ☐ Heat Pump System (Air Source, Mini-Split, etc.) ☐ Gas Heated

Cooling: ☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning **Approximate Age of the HVAC System:** ____

Choose one: ☐ Send rebate check to me. *Please attach copies of dated invoices for the work including installation and materials costs.*

☐ I authorize direct payment of the rebate in the amount of $____ to the trade ally specified in this document and recognize that I have received the equivalent value of this amount through services provided.

Signature: ____ **Date:** ____

Relationship to Account Holder: ____

Attic Insulation *(For trade ally use only)*

Total Insulation Cost: ____ Total Insulation Sq. Ft.: ____

Starting R-value ____ Final R-value ____

Starting R-value	$ REBATE per Sq. ft (per heating fuel type)		
	Gas-Heated	Heat Pump	Electric Strip or Furnace
R-0 to R-4	$0.65 per Sq. ft.	$0.65 per Sq. ft.	$0.95 per Sq. ft.
R-5 to R-8	$0.65 per Sq. ft.	$0.65 per Sq. ft.	$0.95 per Sq. ft.

Total Rebate Amount: ____ X ____ = ____

Service Date: ____

Air Infiltration and Reduction*

Total Air Sealing Cost: $ ____ Number of Stories: ☐ 1 ☐ 2 ☐ 3+

Home Shielding (pick one): ☐ Normal ☐ Well ☐ Exposed

Starting CFM50	Final Improved CFM50	CFM50 Reduction*

$ REBATE per CFM50 Reduction (per heating fuel type)			
Gas-Heated	Heat Pump	Electric Strip or Furnace	Electric Strip or Furnace (No A/C)
$0.40 per Sq. ft.	$0.20 per CFM50	$0.40 per CFM50	Not Eligible

Total Rebate Amount: ____ X ____ = ____

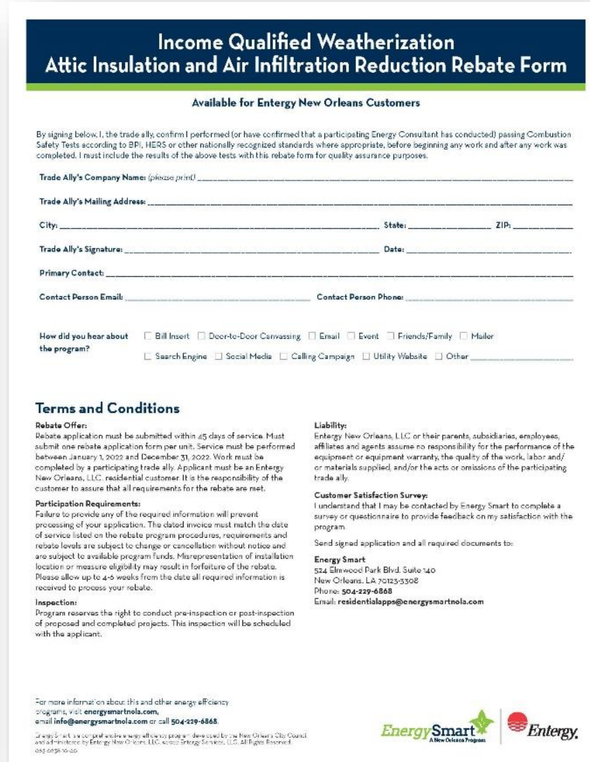
Please send this application along with required documents to: Energy Smart, 524 Elmwood Park Blvd. Suite 140, New Orleans, LA 70123-3308

Call: 504-229-6868 / Email: **residentialapps@energysmartnola.com**

Rebate form must be submitted within 45 days of service. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022 or while funds last.

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

EnergySmart A New Orleans Program | Entergy.



Income Qualified Weatherization Attic Insulation and Air Infiltration Reduction Rebate Form

Available for Entergy New Orleans Customers

By signing below, I, the trade ally, confirm I performed (or have confirmed that a participating Energy Consultant has conducted) passing Combustion Safety Tests according to BPI, HERS or other nationally recognized standards where appropriate, before beginning any work and after any work was completed. I must include the results of the above tests with this rebate form for quality assurance purposes.

Trade Ally's Company Name: *(please print)* ____

Trade Ally's Mailing Address: ____

City: ____ **State:** ____ **ZIP:** ____

Trade Ally's Signature: ____ **Date:** ____

Primary Contact: ____

Contact Person Email: ____ **Contact Person Phone:** ____

How did you hear about the program? ☐ Bill Insert ☐ Door-to-Door Canvassing ☐ Email ☐ Event ☐ Friends/Family ☐ Mailer ☐ Search Engine ☐ Social Media ☐ Calling Campaign ☐ Utility Website ☐ Other ____

Terms and Conditions

Rebate Offer: Rebate application must be submitted within 45 days of service. Must submit one rebate application form per unit. Service must be performed between January 1, 2022 and December 31, 2022. Work must be completed by a participating trade ally. Applicant must be an Entergy New Orleans, LLC. residential customer. It is the responsibility of the customer to assure that all requirements for the rebate are met.

Participation Requirements: Failure to provide any of the required information will prevent processing of your application. The dated invoice must match the date of service listed on the rebate program procedures, requirements and rebate levels are subject to change or cancellation without notice and are subject to available program funds. Misrepresentation of installation location or measure eligibility may result in forfeiture of the rebate. Please allow up to 4-6 weeks from the date all required information is received to process your rebate.

Inspection: Program reserves the right to conduct pre-inspection or post-inspection of proposed and completed projects. This inspection will be scheduled with the applicant.

Liability: Entergy New Orleans, LLC or their parents, subsidiaries, employees, affiliates and agents assume no responsibility for the performance of the equipment or equipment warranty, the quality of the work, labor and/or materials supplied, and/or the acts or omissions of the participating trade ally.

Customer Satisfaction Survey: I understand that I may be contacted by Energy Smart to complete a survey or questionnaire to provide feedback on my satisfaction with the program.

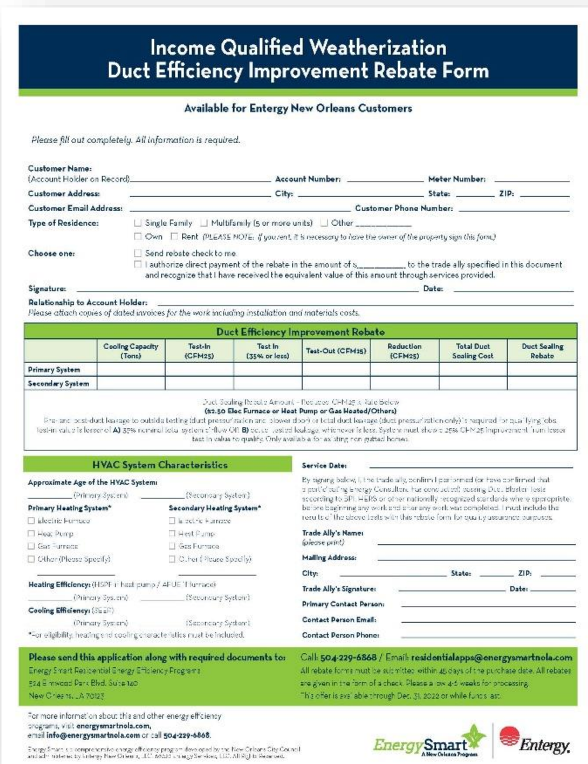
Send signed application and all required documents to:

Energy Smart
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123-3308
Phone: **504-229-6868**
Email: **residentialapps@energysmartnola.com**

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

EnergySmart A New Orleans Program | Entergy.

IQW Duct Efficiency Improvement Rebate Form



Income Qualified Weatherization Duct Efficiency Improvement Rebate Form

Available for Entergy New Orleans Customers

Please fill out completely. All information is required.

Customer Name: (Account Holder on Record) ____ **Account Number:** ____ **Meter Number:** ____

Customer Address: ____ **City:** ____ **State:** ____ **ZIP:** ____

Customer Email Address: ____ **Customer Phone Number:** ____

Type of Residence: ☐ Single Family ☐ Multifamily (5 or more units) ☐ Other ____

☐ Own ☐ Rent *(PLEASE NOTE: if you rent, it is necessary to have the owner of the property sign this form.)*

Choose one: ☐ Send rebate check to me.

☐ I authorize direct payment of the rebate in the amount of $____ to the trade ally specified in this document and recognize that I have received the equivalent value of this amount through services provided.

Signature: ____ **Date:** ____

Relationship to Account Holder: ____

Please attach copies of dated invoices for the work including installation and materials costs.

Duct Efficiency Improvement Rebate

	Cooling Capacity (Tons)	Test-In (CFM25)	Test In (35% or less)	Test-Out (CFM25)	Reduction (CFM25)	Total Duct Sealing Cost	Duct Sealing Rebate
Primary System							
Secondary System							

Duct Sealing Rebate Amount = Reduced CFM25 x Rate Below

($2.50 Elec Furnace or Heat Pump or Gas Heated/Others)

HVAC System Characteristics

Approximate Age of the HVAC System: ____ (Primary System) ____ (Secondary System)

Primary Heating System* ☐ Electric Furnace ☐ Heat Pump ☐ Gas Furnace ☐ Other (Please Specify)

Secondary Heating System* ☐ Electric Furnace ☐ Heat Pump ☐ Gas Furnace ☐ Other (Please Specify)

Heating Efficiency: ____ (Primary System) ____ (Secondary System)

Cooling Efficiency: ____ (Primary System) ____ (Secondary System)

*For eligibility, heating and cooling characteristics must be included.

Service Date: ____

Trade Ally's Name: *(please print)* ____

Mailing Address: ____

City: ____ **State:** ____ **ZIP:** ____

Trade Ally's Signature: ____ **Date:** ____

Primary Contact Person: ____

Contact Person Email: ____

Contact Person Phone: ____

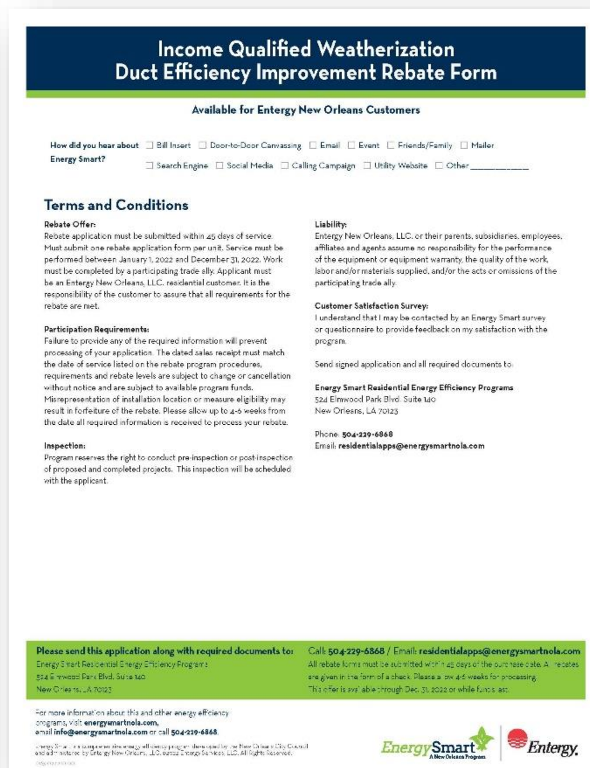
Please send this application along with required documents to: Energy Smart Residential Energy Efficiency Programs, 524 Elmwood Park Blvd. Suite 140, New Orleans, LA 70123

Call: 504-229-6868 / Email: **residentialapps@energysmartnola.com**

All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022 or while funds last.

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

EnergySmart A New Orleans Program | Entergy.



Income Qualified Weatherization Duct Efficiency Improvement Rebate Form

Available for Entergy New Orleans Customers

How did you hear about Energy Smart? ☐ Bill Insert ☐ Door-to-Door Canvassing ☐ Email ☐ Event ☐ Friends/Family ☐ Mailer ☐ Search Engine ☐ Social Media ☐ Calling Campaign ☐ Utility Website ☐ Other ____

Terms and Conditions

Rebate Offer: Rebate application must be submitted within 45 days of service. Must submit one rebate application form per unit. Service must be performed between January 1, 2022 and December 31, 2022. Work must be completed by a participating trade ally. Applicant must be an Entergy New Orleans, LLC. residential customer. It is the responsibility of the customer to assure that all requirements for the rebate are met.

Participation Requirements: Failure to provide any of the required information will prevent processing of your application. The dated sales receipt must match the date of service listed on the rebate program procedures, requirements and rebate levels are subject to change or cancellation without notice and are subject to available program funds. Misrepresentation of installation location or measure eligibility may result in forfeiture of the rebate. Please allow up to 4-6 weeks from the date all required information is received to process your rebate.

Inspection: Program reserves the right to conduct pre-inspection or post-inspection of proposed and completed projects. This inspection will be scheduled with the applicant.

Liability: Entergy New Orleans, LLC. or their parents, subsidiaries, employees, affiliates and agents assume no responsibility for the performance of the equipment or equipment warranty, the quality of the work, labor and/or materials supplied, and/or the acts or omissions of the participating trade ally.

Customer Satisfaction Survey: I understand that I may be contacted by an Energy Smart survey or questionnaire to provide feedback on my satisfaction with the program.

Send signed application and all required documents to:

Energy Smart Residential Energy Efficiency Programs
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123

Phone: **504-229-6868**
Email: **residentialapps@energysmartnola.com**

Please send this application along with required documents to: Energy Smart Residential Energy Efficiency Programs, 524 Elmwood Park Blvd. Suite 140, New Orleans, LA 70123

Call: 504-229-6868 / Email: **residentialapps@energysmartnola.com**

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

EnergySmart A New Orleans Program | Entergy.

Dehumidifier Rebate Form

EnergySmart
A New Orleans Program

Get a $25 Rebate

Energy Smart Dehumidifier Rebate

Available for Entergy New Orleans Customers

Complete this form and mail to the address listed on the back with a copy of your dated sales receipt, or email to **residentialapps@energysmartnola.com.** Limit four rebates per customer per year. See reverse side for complete terms and conditions. Submitted product must be **ENERGY STAR® qualified** to receive a rebate.

ENERGY STAR

$25 Rebate on ENERGY STAR Qualified Dehumidifier

To search for qualified products and verify eligibility, go to: energystar.gov/productfinder/product/certified-dehumidifiers.

For more information about this and other Energy Smart programs, visit **energysmartnola.com** or call **504-229-6868.**

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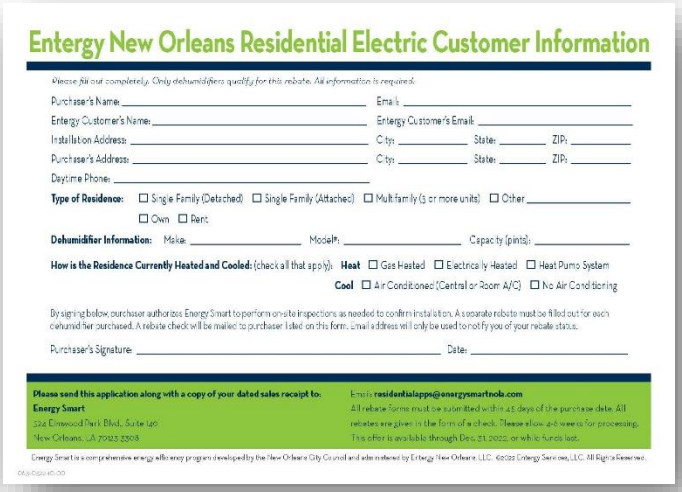

Entergy New Orleans Residential Electric Customer Information

Please fill out completely. Only dehumidifiers qualify for this rebate. All information is required.

Purchaser's Name: _____ Email: _____

Entergy Customer's Name: _____ Entergy Customer's Email: _____

Installation Address: _____ City: _____ State: _____ ZIP: _____

Purchaser's Address: _____ City: _____ State: _____ ZIP: _____

Daytime Phone: _____

Type of Residence: ☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Multifamily (3 or more units) ☐ Other _____
☐ Own ☐ Rent

Dehumidifier Information: Make: _____ Model#: _____ Capacity (pints): _____

How is the Residence Currently Heated and Cooled: (check all that apply): **Heat** ☐ Gas Heated ☐ Electrically Heated ☐ Heat Pump System
Cool ☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning

By signing below, purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm installation. A separate rebate must be filled out for each dehumidifier purchased. A rebate check will be mailed to purchaser listed on this form. Email address will only be used to notify you of your rebate status.

Purchaser's Signature: _____ Date: _____

Please send this application along with a copy of your dated sales receipt to:
Energy Smart
322 Elmwood Park Blvd., Suite 140
New Orleans, LA 70123-3308

Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022, or while funds last.

Heat Pump Water Heater Rebate Form

EnergySmart
A New Orleans Program

Get a $400 Rebate

Energy Smart Heat Pump Water Heater Rebate

Available for Entergy New Orleans Customers

Complete this form and mail to the address listed on the back with a copy of your dated sales receipt, or email to **residentialapps@energysmartnola.com.** Limit four rebates per customer per year. See reverse side for complete terms and conditions. Submitted product must be **ENERGY STAR® qualified** to receive a rebate.

ENERGY STAR

$400 Rebate on ENERGY STAR Qualified Heat Pump Water Heater

To search for qualified products and to verify eligibility, go to: energystar.gov/productfinder/product/certified-water-heaters.

For more information about this and other Energy Smart programs, visit **energysmartnola.com** or call **504-229-6868.**

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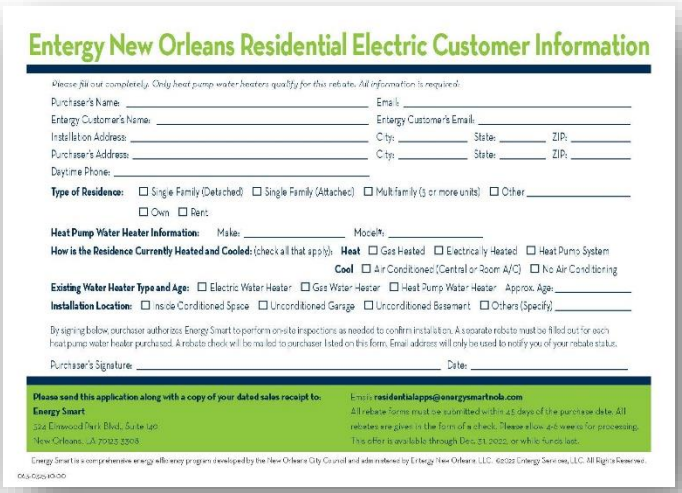

Entergy New Orleans Residential Electric Customer Information

Please fill out completely. Only heat pump water heaters qualify for this rebate. All information is required.

Purchaser's Name: _____ Email: _____

Entergy Customer's Name: _____ Entergy Customer's Email: _____

Installation Address: _____ City: _____ State: _____ ZIP: _____

Purchaser's Address: _____ City: _____ State: _____ ZIP: _____

Daytime Phone: _____

Type of Residence: ☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Multifamily (3 or more units) ☐ Other _____
☐ Own ☐ Rent

Heat Pump Water Heater Information: Make: _____ Model#: _____

How is the Residence Currently Heated and Cooled: (check all that apply): **Heat** ☐ Gas Heated ☐ Electrically Heated ☐ Heat Pump System
Cool ☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning

Existing Water Heater Type and Age: ☐ Electric Water Heater ☐ Gas Water Heater ☐ Heat Pump Water Heater Approx. Age: _____

Installation Location: ☐ Inside Conditioned Space ☐ Unconditioned Garage ☐ Unconditioned Basement ☐ Others (Specify) _____

By signing below, purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm installation. A separate rebate must be filled out for each heat pump water heater purchased. A rebate check will be mailed to purchaser listed on this form. Email address will only be used to notify you of your rebate status.

Purchaser's Signature: _____ Date: _____

Please send this application along with a copy of your dated sales receipt to:
Energy Smart
322 Elmwood Park Blvd., Suite 140
New Orleans, LA 70123-3308

Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022, or while funds last.

Pool Pump Rebate Form

EnergySmart
A New Orleans Program

Get a $300 Rebate

Energy Smart In-ground Pool Pump Rebate

Available for Entergy New Orleans Customers

Complete this form and mail to the address listed on the back with a copy of your dated sales receipt, or email to **residentialapps@energysmartnola.com**. Limit four rebates per customer per year. See reverse side for the complete terms and conditions. Submitted product must be **ENERGY STAR® qualified** to receive a rebate.

ENERGY STAR

$300 Rebate on ENERGY STAR Qualified In-ground Pool Pump

To search for qualified products and verify eligibility, go to: energystar.gov/productfinder/product/certified-pool-pumps.

For more information about this and other Energy Smart programs, visit **energysmartnola.com** or call **504-229-6868.**

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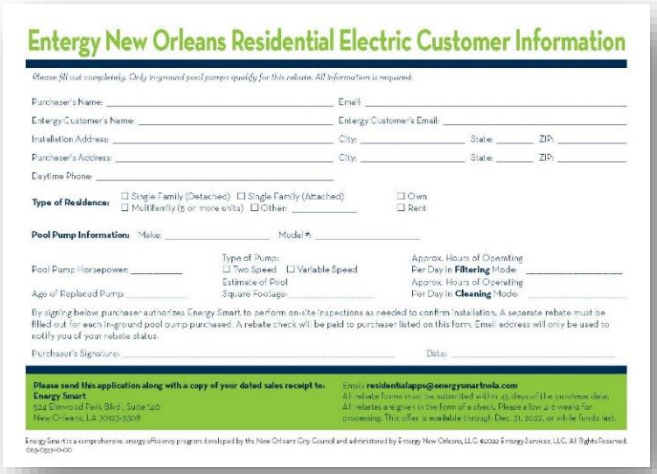

Entergy New Orleans Residential Electric Customer Information

Please fill out completely. Only in-ground pool pumps qualify for this rebate. All information is required.

Purchaser's Name: _____ Email: _____

Entergy Customer's Name: _____ Entergy Customer's Email: _____

Installation Address: _____ City: _____ State: _____ ZIP: _____

Purchaser's Address: _____ City: _____ State: _____ ZIP: _____

Daytime Phone: _____

Type of Residence: ☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Own
☐ Multifamily (5 or more units) ☐ Other: _____ ☐ Rent

Pool Pump Information: Make: _____ Model #: _____

Pool Pump Horsepower: _____ Type of Pump: ☐ Two Speed ☐ Variable Speed Approx. Hours of Operating Per Day in **Filtering** Mode: _____

Age of Replaced Pump: _____ Estimate of Pool Square Footage: _____ Approx. Hours of Operating Per Day in **Cleaning** Mode: _____

By signing below, purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm installation. A separate rebate must be filled out for each in-ground pool pump purchased. A rebate check will be paid to purchaser listed on this form. Email address will only be used to notify you of your rebate status.

Purchaser's Signature: _____ Date: _____

Please send this application along with a copy of your dated sales receipt to:
Energy Smart
524 Elmwood Park Blvd., Suite 120
New Orleans, LA 70123-2308

Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 2-6 weeks for processing. This offer is available through Dec. 31, 2022, or while funds last.

Refrigerator Rebate Form

EnergySmart
A New Orleans Program

Get a $50 Rebate

Energy Smart Refrigerator Rebate

Available for Entergy New Orleans Customers

Complete this form and mail to the address listed on the back with a copy of your dated sales receipt, or email to **residentialapps@energysmartnola.com**. Limit four rebates per customer per year. See reverse side for complete terms and conditions. Submitted product must be **ENERGY STAR® qualified** to receive a rebate.

ENERGY STAR

$50 Rebate on ENERGY STAR Qualified Refrigerators

To search for qualified products and to verify eligibility, go to: energystar.gov/productfinder/product/certified-residential-refrigerators. Compact refrigerators and freezers less then 7.75 cubic feet do not qualify.

For more information about this and other Energy Smart programs, visit **energysmartnola.com** or call **504-229-6868.**

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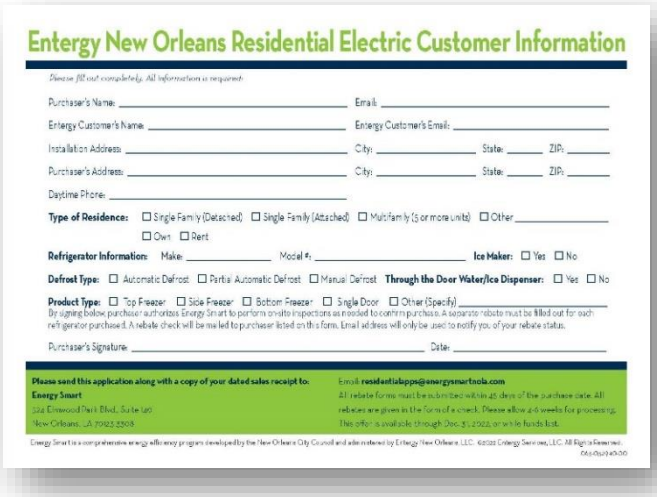

Entergy New Orleans Residential Electric Customer Information

Please fill out completely. All information is required.

Purchaser's Name: _____ Email: _____

Entergy Customer's Name: _____ Entergy Customer's Email: _____

Installation Address: _____ City: _____ State: _____ ZIP: _____

Purchaser's Address: _____ City: _____ State: _____ ZIP: _____

Daytime Phone: _____

Type of Residence: ☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Multifamily (5 or more units) ☐ Other _____
☐ Own ☐ Rent

Refrigerator Information: Make: _____ Model #: _____ **Ice Maker:** ☐ Yes ☐ No

Defrost Type: ☐ Automatic Defrost ☐ Partial Automatic Defrost ☐ Manual Defrost **Through the Door Water/Ice Dispenser:** ☐ Yes ☐ No

Product Type: ☐ Top Freezer ☐ Side Freezer ☐ Bottom Freezer ☐ Single Door ☐ Other (Specify) _____

By signing below, purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm purchase. A separate rebate must be filled out for each refrigerator purchased. A rebate check will be mailed to purchaser listed on this form. Email address will only be used to notify you of your rebate status.

Purchaser's Signature: _____ Date: _____

Please send this application along with a copy of your dated sales receipt to:
Energy Smart
524 Elmwood Park Blvd., Suite 120
New Orleans, LA 70123-2308

Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 2-6 weeks for processing. This offer is available through Dec. 31, 2022, or while funds last.

Smart Thermostat Rebate Form

EnergySmart — A New Orleans Program

Get a $100 Rebate

Energy Smart Smart Thermostat Rebate

Available for Entergy New Orleans Customers

Complete this form and mail to the address listed on the back with a copy of your dated sales receipt, or email to **residentialapps@energysmartnola.com**. Limit two rebates per customer per year. This rebate offer cannot be used toward purchases from the Energy Smart Online Marketplace. See reverse side for complete terms and conditions. Submitted product must be **ENERGY STAR® qualified** to receive a rebate.

ENERGY STAR

$100 Rebate on ENERGY STAR Qualified Smart Thermostats

To search for qualified products and to verify eligibility, go to: energystar.gov/productfinder/product/certified-connected-thermostats.

For more information about this and other Energy Smart programs, visit **energysmartnola.com** or call **504-229-6868.**

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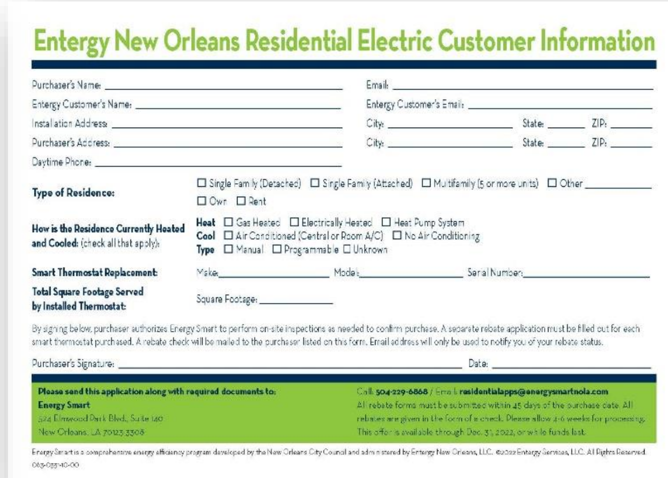

Entergy New Orleans Residential Electric Customer Information

Purchaser's Name: ____ Email: ____

Entergy Customer's Name: ____ Entergy Customer's Email: ____

Installation Address: ____ City: ____ State: ____ ZIP: ____

Purchaser's Address: ____ City: ____ State: ____ ZIP: ____

Daytime Phone: ____

Type of Residence: ☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Multifamily (5 or more units) ☐ Other ____ ☐ Own ☐ Rent

How is the Residence Currently Heated and Cooled: (check all that apply):
Heat ☐ Gas Heated ☐ Electrically Heated ☐ Heat Pump System
Cool ☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning
Type ☐ Manual ☐ Programmable ☐ Unknown

Smart Thermostat Replacement: Make: ____ Model: ____ Serial Number: ____

Total Square Footage Served by Installed Thermostat: Square Footage: ____

By signing below, purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm purchase. A separate rebate application must be filled out for each smart thermostat purchased. A rebate check will be mailed to the purchaser listed on this form. Email address will only be used to notify you of your rebate status.

Purchaser's Signature: ____ Date: ____

Please send this application along with required documents to:
Energy Smart
524 Elmwood Park Blvd., Suite 140
New Orleans, LA 70123-3308

Call: **504-229-6868** / Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022, or while funds last.

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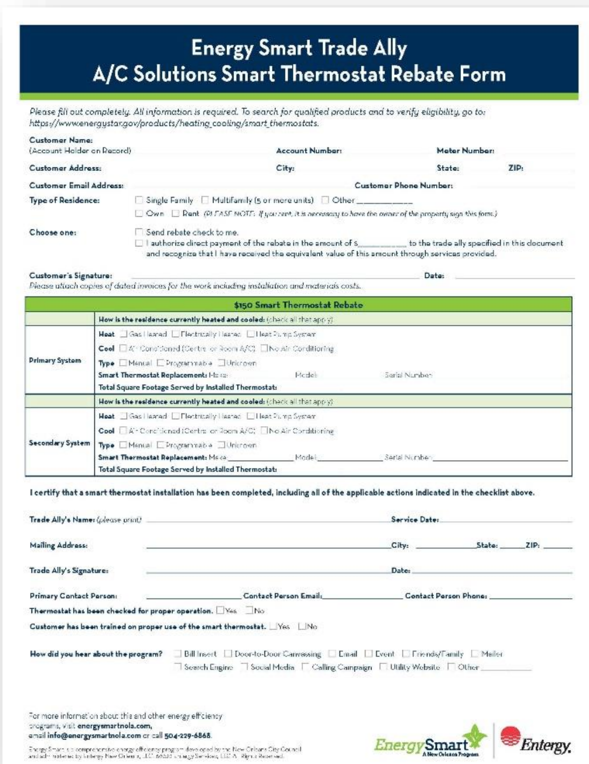
063-0551-10-00

Trade Ally Smart Thermostat Rebate Form



Energy Smart Trade Ally A/C Solutions Smart Thermostat Rebate Form

Please fill out completely. All information is required. To search for qualified products and to verify eligibility, go to: https://www.energystar.gov/products/heating_cooling/smart_thermostats.

Customer Name: (Account Holder on Record) **Account Number:** **Meter Number:**

Customer Address: **City:** **State:** **ZIP:**

Customer Email Address: **Customer Phone Number:**

Type of Residence: ☐ Single Family ☐ Multifamily (5 or more units) ☐ Other ____
☐ Own ☐ Rent *(PLEASE NOTE: If you rent, it is necessary to have the owner of the property sign this form.)*

Choose one: ☐ Send rebate check to me.
☐ I authorize direct payment of the rebate in the amount of $____ to the trade ally specified in this document and recognize that I have received the equivalent value of this amount through services provided.

Customer's Signature: ____ **Date:** ____
Please attach copies of dated invoices for the work including installation and materials costs.

$150 Smart Thermostat Rebate	
	How is the residence currently heated and cooled: (check all that apply)
Primary System	**Heat** ☐ Gas Heated ☐ Electrically Heated ☐ Heat Pump System **Cool** ☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning **Type** ☐ Manual ☐ Programmable ☐ Unknown **Smart Thermostat Replacement:** Make: Model: Serial Number: **Total Square Footage Served by Installed Thermostat:**
	How is the residence currently heated and cooled: (check all that apply)
Secondary System	**Heat** ☐ Gas Heated ☐ Electrically Heated ☐ Heat Pump System **Cool** ☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning **Type** ☐ Manual ☐ Programmable ☐ Unknown **Smart Thermostat Replacement:** Make: ____ Model: ____ Serial Number: ____ **Total Square Footage Served by Installed Thermostat:**

I certify that a smart thermostat installation has been completed, including all of the applicable actions indicated in the checklist above.

Trade Ally's Name: *(please print)* ____ **Service Date:** ____

Mailing Address: ____ **City:** ____ **State:** ____ **ZIP:** ____

Trade Ally's Signature: ____ **Date:** ____

Primary Contact Person: ____ **Contact Person Email:** ____ **Contact Person Phone:** ____

Thermostat has been checked for proper operation. ☐ Yes ☐ No

Customer has been trained on proper use of the smart thermostat. ☐ Yes ☐ No

How did you hear about the program? ☐ Bill Insert ☐ Door-to-Door Canvassing ☐ Email ☐ Event ☐ Friends/Family ☐ Mailer ☐ Search Engine ☐ Social Media ☐ Calling Campaign ☐ Utility Website ☐ Other ____

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC. ©2022 Entergy Services, LLC. All Rights Reserved.

EnergySmart — A New Orleans Program | Entergy.

Energy Smart Trade Ally A/C Solutions Smart Thermostat Rebate Form

Terms and Conditions

Rebate Offer:
Rebate application must be submitted within 25 days of service. Must submit one rebate application form per unit. Service must be performed between January 1, 2022 and December 31, 2022. Work must be completed by a participating trade ally. Applicant must be an Entergy New Orleans, LLC. residential customer. It is the responsibility of the customer to assure that all requirements for the rebate are met.

Participation Requirements:
Failure to provide any of the required information will prevent processing of your application. The dated sales receipt must match the date of service listed on the rebate. Program procedures, requirements and rebate levels are subject to change or cancellation without notice and are subject to available program funds. Misrepresentation of installation location or measure eligibility may result in forfeiture of the rebate. Please allow up to 4-6 weeks from the date all required information is received to process your rebate.

Inspection:
Program reserves the right to conduct pre-inspection or post inspection of proposed and completed projects. This inspection will be scheduled with the applicant.

Liability:
Entergy New Orleans, LLC. or their parents, subsidiaries, employees, affiliates and agents assume no responsibility for the performance of the equipment or equipment warranty, the quality of the work, labor and/or materials supplied, and/or the acts or omissions of the participating trade ally.

Customer Satisfaction Survey:
I understand that I may be contacted by an Energy Smart survey or questionnaire to provide feedback on my satisfaction with the program.

Send signed application and all required documents to:

Energy Smart Residential Energy Efficiency Program
524 Elmwood Park Blvd. Suite 120
New Orleans, LA 70123

Phone: **504-229-6868**
Email: **residentialapps@energysmartnola.com**

Please send this application along with required documents to:
Energy Smart Residential Energy Efficiency Program
524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123

Call: **504-229-6868** / Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022 or while funds last.

For more information about this and other energy efficiency programs, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC. ©2022 Entergy Services, LLC. All Rights Reserved.
063-0248-10-00

EnergySmart — A New Orleans Program | Entergy.

Water Cooler Rebate Form

EnergySmart
A New Orleans Program

Get up to $50 Rebate

Energy Smart Water Cooler Rebate

Available for Entergy New Orleans Customers

Fill out the reverse side of this form and mail to the address listed on the back with a copy of your dated sales receipt, or email to **residentialapps@energysmartnola.com.** Limit four rebates per customer per year. See reverse side for complete terms and conditions. Submitted product must be **ENERGY STAR® qualified** to receive a rebate.

ENERGY STAR

Up to a $50 Rebate on ENERGY STAR Qualified Water Coolers

To search for qualified products and verify eligibility, go to: energystar.gov/productfinder/product/certified-water-coolers

For more information about this and other Energy Smart programs, visit **energysmartnola.com** or call **504-229-6868.**

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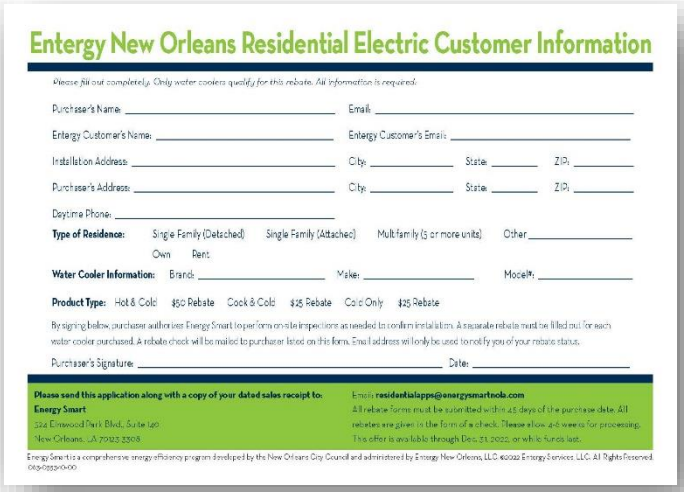

Entergy New Orleans Residential Electric Customer Information

Please fill out completely. Only water coolers qualify for this rebate. All information is required.

Purchaser's Name: _____ Email: _____

Entergy Customer's Name: _____ Entergy Customer's Email: _____

Installation Address: _____ City: _____ State: _____ ZIP: _____

Purchaser's Address: _____ City: _____ State: _____ ZIP: _____

Daytime Phone: _____

Type of Residence: Single Family (Detached) Single Family (Attached) Multifamily (5 or more units) Other _____
Own Rent

Water Cooler Information: Brand: _____ Make: _____ Model#: _____

Product Type: Hot & Cold $50 Rebate Cook & Cold $25 Rebate Cold Only $25 Rebate

By signing below, purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm installation. A separate rebate must be filled out for each water cooler purchased. A rebate check will be mailed to purchaser listed on this form. Email address will only be used to notify you of your rebate status.

Purchaser's Signature: _____ Date: _____

Please send this application along with a copy of your dated sales receipt to:
Energy Smart
524 Elmwood Park Blvd., Suite 140
New Orleans, LA 70123-2508

Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022, or while funds last.

Window A/C Rebate Form

EnergySmart
A New Orleans Program

Get a $50 Rebate

Energy Smart Window Air Conditioner Rebate

Available for Entergy New Orleans Customers

Complete this form and mail to the address listed on the back with a copy of your dated sales receipt, or email to **residentialapps@energysmartnola.com.** Limit four rebates per customer per year. See reverse side for complete terms and conditions. Submitted product must be **ENERGY STAR® qualified** to receive a rebate.

ENERGY STAR

$50 Rebate on ENERGY STAR Qualified Air Conditioner Units

To search for qualified products and to verify eligibility, go to: energystar.gov/productfinder/product/certified-room-air-conditioners.

For more information about this and other Energy Smart programs, visit **energysmartnola.com** or call **504-229-6868.**

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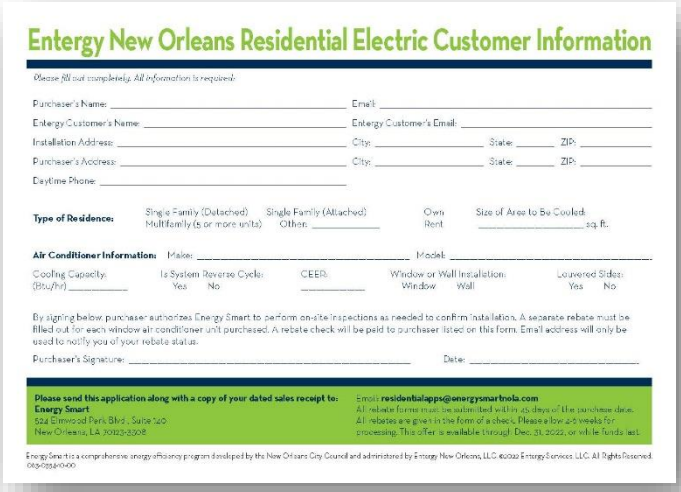

Entergy New Orleans Residential Electric Customer Information

Please fill out completely. All information is required.

Purchaser's Name: _____ Email: _____

Entergy Customer's Name: _____ Entergy Customer's Email: _____

Installation Address: _____ City: _____ State: _____ ZIP: _____

Purchaser's Address: _____ City: _____ State: _____ ZIP: _____

Daytime Phone: _____

Type of Residence: Single Family (Detached) Single Family (Attached) Own Size of Area to Be Cooled:
Multifamily (5 or more units) Other: _____ Rent _____ sq. ft.

Air Conditioner Information: Make: _____ Model: _____

Cooling Capacity: (Btu/hr) _____ Is System Reverse Cycle: Yes No CEER: _____ Window or Wall Installation: Window Wall Louvered Sides: Yes No

By signing below, purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm installation. A separate rebate must be filled out for each window air conditioner unit purchased. A rebate check will be paid to purchaser listed on this form. Email address will only be used to notify you of your rebate status.

Purchaser's Signature: _____ Date: _____

Please send this application along with a copy of your dated sales receipt to:
Energy Smart
524 Elmwood Park Blvd., Suite 140
New Orleans, LA 70123-2508

Email: **residentialapps@energysmartnola.com**
All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through Dec. 31, 2022, or while funds last.

Customer Satisfaction Surveys

Home Performance with ENERGY STAR Satisfaction Survey

EnergySmart
A New Orleans Program

Hi Energy Smart Customer,

Thank you for participating in the Home Performance with ENERGY STAR® offering. Energy Smart would like your feedback regarding your installation and customer service experience. Simply click here or on the button below to complete a brief survey.

Complete the survey

Please call **504-229-6868** if you have any questions. Be sure to tell your family and friends about participating in Energy Smart.

Sincerely,
Nate Wolf
Program Manager

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Income-Qualified Weatherization Satisfaction Survey

EnergySmart
A New Orleans Program

Hi Energy Smart Customer,

Thank you for participating in the Income-Qualified Weatherization offering. Energy Smart would like your feedback regarding your installation and customer service experience. Simply click here or on the button below to complete a brief survey.

Complete the survey

Please call **504-229-6868** if you have any questions. Be sure to tell your family and friends about participating in Energy Smart.

Sincerely,
Nate Wolf
Program Manager

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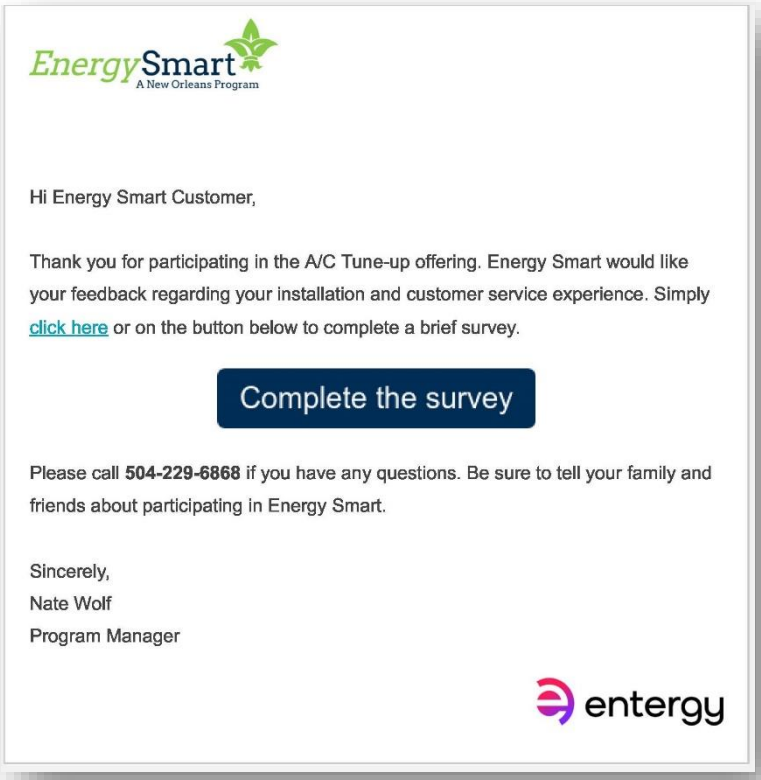
A/C Tune-Up Satisfaction Survey



EnergySmart
A New Orleans Program

Hi Energy Smart Customer,

Thank you for participating in the A/C Tune-up offering. Energy Smart would like your feedback regarding your installation and customer service experience. Simply click here or on the button below to complete a brief survey.

Complete the survey

Please call **504-229-6868** if you have any questions. Be sure to tell your family and friends about participating in Energy Smart.

Sincerely,
Nate Wolf
Program Manager

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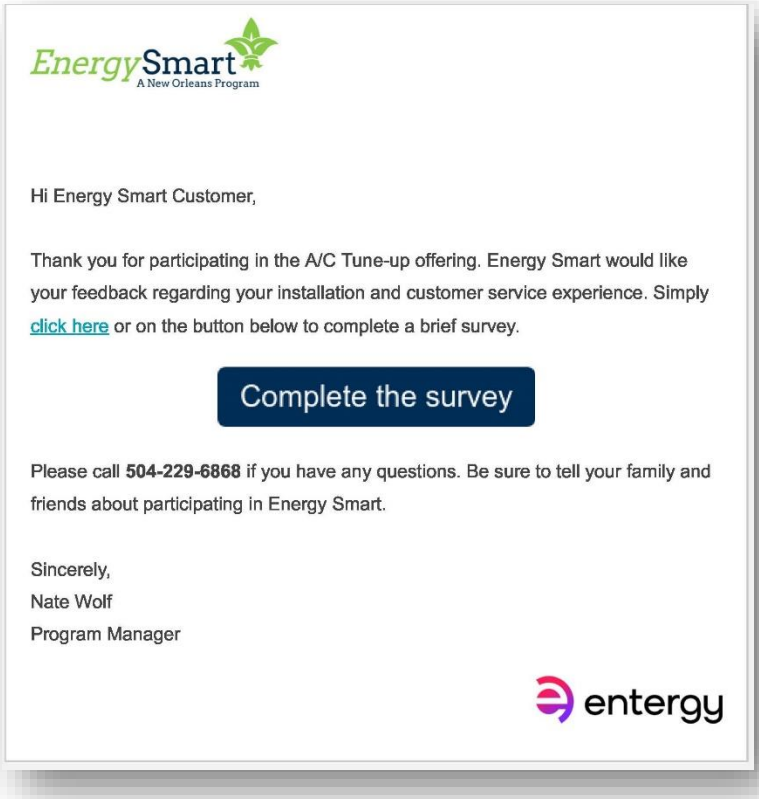
Energy Smart Online Marketplace Satisfaction Survey



EnergySmart
A New Orleans Program

Hi Energy Smart Customer,

Thank you for participating in the A/C Tune-up offering. Energy Smart would like your feedback regarding your installation and customer service experience. Simply click here or on the button below to complete a brief survey.

Complete the survey

Please call **504-229-6868** if you have any questions. Be sure to tell your family and friends about participating in Energy Smart.

Sincerely,
Nate Wolf
Program Manager

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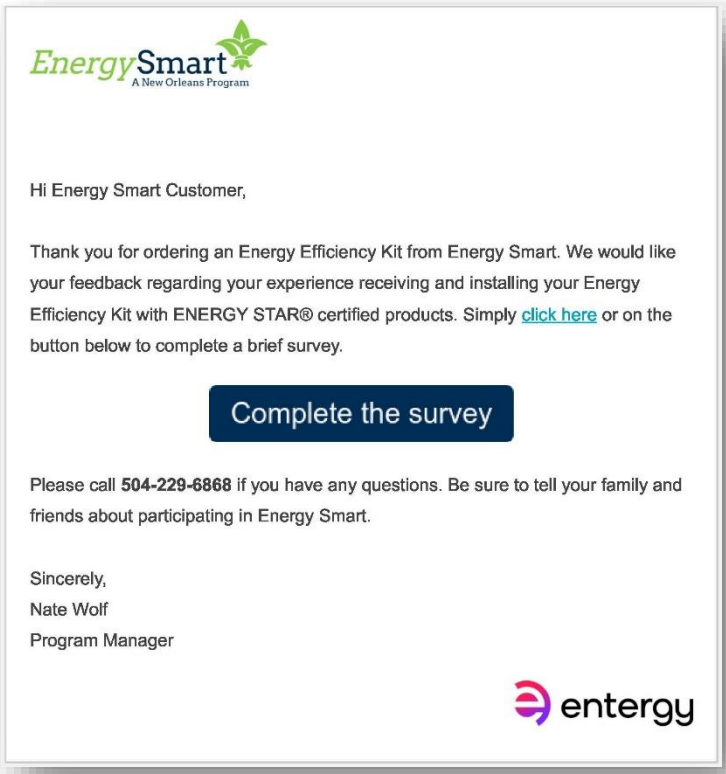
Energy Efficiency Kit Satisfaction Survey



EnergySmart
A New Orleans Program

Hi Energy Smart Customer,

Thank you for ordering an Energy Efficiency Kit from Energy Smart. We would like your feedback regarding your experience receiving and installing your Energy Efficiency Kit with ENERGY STAR® certified products. Simply click here or on the button below to complete a brief survey.

Complete the survey

Please call **504-229-6868** if you have any questions. Be sure to tell your family and friends about participating in Energy Smart.

Sincerely,
Nate Wolf
Program Manager

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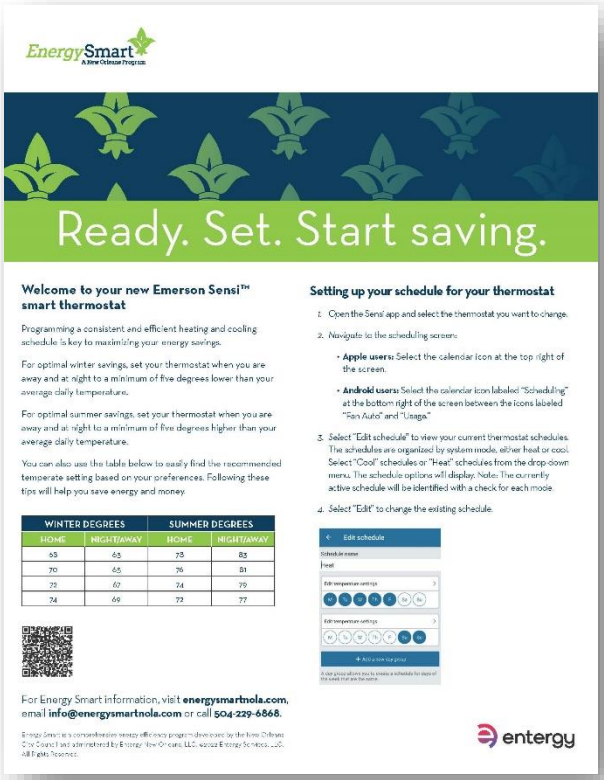
Sensi Smart Thermostat Leave Behind



EnergySmart
A New Orleans Program

Ready. Set. Start saving.

Welcome to your new Emerson Sensi™ smart thermostat

Programming a consistent and efficient heating and cooling schedule is key to maximizing your energy savings.

For optimal winter savings, set your thermostat when you are away and at night to a minimum of five degrees lower than your average daily temperature.

For optimal summer savings, set your thermostat when you are away and at night to a minimum of five degrees higher than your average daily temperature.

You can also use the table below to easily find the recommended temperate setting based on your preferences. Following these tips will help you save energy and money.

WINTER DEGREES		SUMMER DEGREES	
HOME	NIGHT/AWAY	HOME	NIGHT/AWAY
68	65	73	83
70	65	76	81
72	67	74	79
74	69	72	77

Setting up your schedule for your thermostat

1. Open the Sensi app and select the thermostat you want to change.
2. Navigate to the scheduling screen:
   - **Apple users:** Select the calendar icon at the top right of the screen.
   - **Android users:** Select the calendar icon labeled "Scheduling" at the bottom right of the screen between the icons labeled "Fan Auto" and "Usage."
3. Select "Edit schedule" to view your current thermostat schedules. The schedules are organized by system mode, either heat or cool. Select "Cool" schedules or "Heat" schedules from the drop-down menu. The schedule options will display. Note: The currently active schedule will be identified with a check for each mode.
4. Select "Edit" to change the existing schedule.

For Energy Smart information, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

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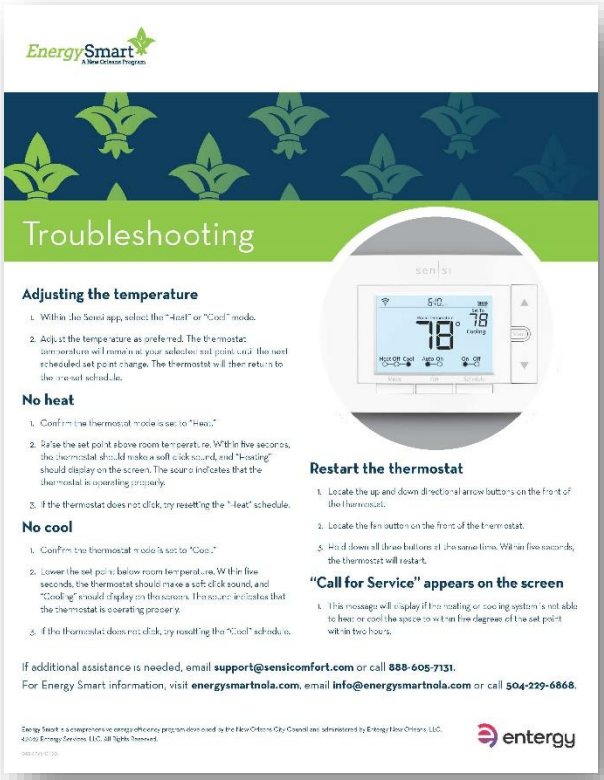

EnergySmart
A New Orleans Program

Troubleshooting

Adjusting the temperature

1. Within the Sensi app, select the "Heat" or "Cool" mode.
2. Adjust the temperature as preferred. The thermostat temperature will remain at your selected set point until the next scheduled set point change. The thermostat will then return to the normal schedule.

No heat

1. Confirm the thermostat mode is set to "Heat."
2. Raise the set point above room temperature. Within five seconds, the thermostat should make a soft click sound, and "Heating" should display on the screen. The source indicates that the thermostat is operating properly.
3. If the thermostat does not click, try resetting the "Heat" schedule.

No cool

1. Confirm the thermostat mode is set to "Cool."
2. Lower the set point below room temperature. Within five seconds, the thermostat should make a soft click sound, and "Cooling" should display on the screen. The source indicates that the thermostat is operating properly.
3. If the thermostat does not click, try resetting the "Cool" schedule.

Restart the thermostat

1. Locate the up and down directional arrow buttons on the front of the thermostat.
2. Locate the fan button on the front of the thermostat.
3. Hold down all three buttons at the same time. Within five seconds, the thermostat will restart.

"Call for Service" appears on the screen

1. This message will display if the heating or cooling system is not able to heat or cool the space to within five degrees of the set point within two hours.

If additional assistance is needed, email **support@sensicomfort.com** or call **888-605-7131**.
For Energy Smart information, visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868**.

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HPwES Contractor Agreement

Energy Smart Home Performance with ENERGY STAR® Offering

Terms & Conditions (cont.)

- Vehicle accident while performing project work (regardless of party at fault).
- Condition that draws negative media attention.

Failure to notify Program Implementer of occurrence of these incidents may result in suspension from the program per the Participation Requirements section.

Program Incentives:

The Program Implementer will pay Participating Trade Allies within forty-five (45) days of submission of complete application materials. The Participating Trade Ally will be eligible for monetary incentive.

Program Referrals:

When the Program Implementer identifies customers that have qualifying central Level II and Level III upgrade opportunities, the Program Implementer will provide the customer with a list of Participating Trade Ally contact information. The Participating Trade Ally will respond to customers referred by other programs and provide services in accordance with the requirements of this Participation Agreement. Participating Trade Ally recognizes that the customers received from the program constitute a benefit and the Participating Trade Ally agrees to respond to these customers in a timely manner.

Program Warranty:

The Participating Trade Ally must provide the customer with a written warranty on labor and materials for a minimum of one (1) year from the date the work is substantially complete and accepted by the customer. All installed equipment shall carry manufacturer's warranty.

Independent Trade Ally Status:

The Participating Trade Ally is an independent contractor under this HPwES Program and has the sole right and obligation to supervise, manage, contract, direct, procure, perform or cause to be performed, all work to be provided to customers in connection with the program. All personnel who perform any portion of the work for the Participating Trade Ally (or its subcontractors) shall be, and remain, employees of the Participating Trade Ally (or its subcontractors). Neither Entergy New Orleans, LLC nor the Program Implementer, or their respective affiliates, subsidiaries, and successors are, or shall be construed to be, an employer (common law or otherwise), co-employer, or joint employer of any Participating Trade Ally personnel. Neither Entergy New Orleans, LLC (nor its subcontractors) nor any Participating Trade Ally personnel is an agent of Entergy New Orleans, LLC or the Program Implementer, and no such party or person has any authority to represent Entergy New Orleans, LLC or the Program Implementer as to any matters. The Participating Trade Ally will assume full responsibility for payment of all federal, state, provincial, and local taxes, withholding or contributions imposed or required under unemployment insurance, social security, and income tax laws with respect to all Participating Trade Ally personnel. Should Entergy New Orleans, LLC or the Program Implementer be required to pay any amount for failure by the Participating Contractor (or its subcontractors) to withhold or pay any amount as may be required by law or agreement, the Participating Trade Ally agrees to indemnify Entergy New Orleans, LLC and Program Implementer, as the case may be, for any amount so paid, including interest, penalties, attorney's fees, court costs, and fines.

Limitation of Liability:

In no event shall Entergy New Orleans, LLC or the Program Implementer or their respective affiliates, officers, directors, agents, employees, and representatives have any liability for claims of any kind, whether based on contract, tort (including negligence and strict liability), or otherwise, for any loss or damage sustained or incurred by any third party relating to this Participation Agreement including the performance of services or participation by the Participating Trade Ally in the HPwES Program.

The Participating Trade Ally hereby releases and discharges Entergy New Orleans, LLC and the Program Implementer from all liability for such claims. The Participating Trade Ally shall, indemnify, defend, and hold harmless Entergy New Orleans, LLC and Program Implementer and their respective affiliates, officers, directors, agents, employees, and representatives from and against losses, claims, damages, expenses (including reasonable attorney's fees and actual costs), and liabilities for property damage or bodily injury to any person, resulting from the performance of the services or participation by the Participating Trade Ally in the HPwES Program.

Term of this Participation Agreement:

Regardless of the date the signatories execute this Participation Agreement, no Participating Trade Ally shall be eligible for an incentive for any work performed prior to April 1, 2017. Regardless of the execution date, this Participation Agreement will expire on December 31, 2022, unless otherwise extended in writing by the parties or Participating Trade Ally is terminated as provided herein.

Tax Liability:

Incentives may be taxable as gross income. Neither Entergy New Orleans, LLC nor Program Implementer are responsible for any taxes that may be imposed on Participating Trade Ally business as a result of participating in this program.

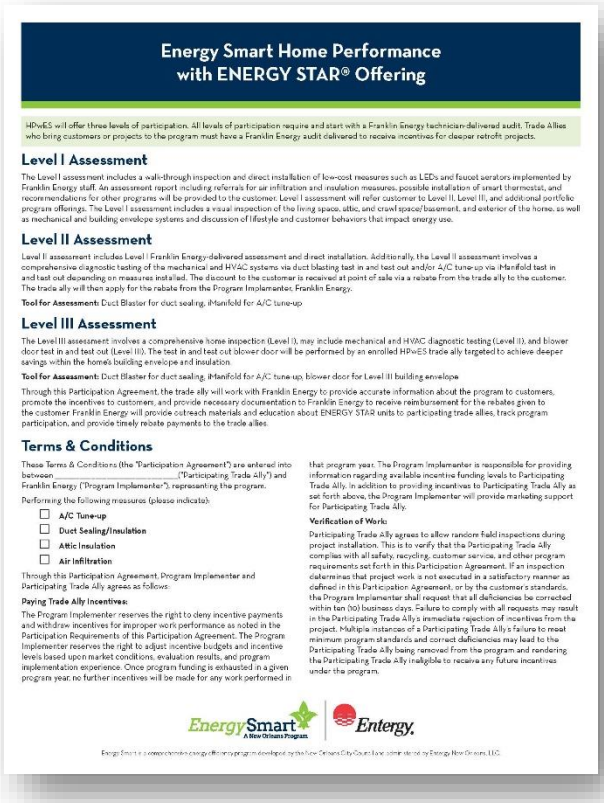
Trademarks and Other Intellectual Property:

Except as expressly provided in this Participation Agreement, Entergy New Orleans, LLC and Program Implementer do not transfer or license any trademark or other intellectual property right to Participating Trade Ally.

The Participating Trade Ally shall not register, apply to register, or claim any rights to any trademark that contains Entergy New Orleans, LLC or Program Implementer's trademarks. All uses by the Participating Trade Ally of Entergy New Orleans, LLC's trademarks shall inure solely to the benefit of Entergy New Orleans, LLC and this program. Any use by Participating Trade Ally of Entergy New Orleans, LLC's trademarks is subject to the prior written consent of the program.

EnergySmart A New Orleans Program | Entergy.

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC.



Energy Smart Home Performance with ENERGY STAR® Offering

HPwES will offer three levels of participation. All levels of participation require and start with a Franklin Energy technician-delivered audit. Trade Allies who bring customers or projects to the program must have a Franklin Energy audit delivered to receive incentives for deeper retrofit projects.

Level I Assessment

The Level I assessment includes a walk-through inspection and direct installation of low-cost measures such as LEDs and faucet aerators implemented by Franklin Energy staff. An assessment report including referrals for air infiltration and insulation measures, possible installation of smart thermostat, and recommendations for other programs will be provided to the customer. Level I assessment will refer customer to Level II, Level III, and additional portfolio program offerings. The Level I assessment includes a visual inspection of the living space, attic, and crawl space/basement, and exterior of the home, as well as mechanical and building envelope systems and discussion of lifestyle and customer behaviors that impact energy use.

Level II Assessment

Level II assessment includes Level I Franklin Energy-delivered assessment and direct installation. Additionally, the Level II assessment involves a comprehensive diagnostic testing of the mechanical and HVAC systems via duct blasting test in and test out and/or A/C tune-up via iManifold test in and test out depending on measures installed. The discount to the customer is received at point of sale via a rebate from the trade ally to the customer. The trade ally will then apply for the rebate from the Program Implementer, Franklin Energy.

Tool for Assessment: Duct Blaster for duct sealing, iManifold for A/C tune-up

Level III Assessment

The Level III assessment involves a comprehensive home inspection (Level I), may include mechanical and HVAC diagnostic testing (Level II), and blower door test in and test out (Level III). The test in and test out blower door will be performed by an enrolled HPwES trade ally targeted to achieve deeper savings within the home's building envelope and insulation.

Tool for Assessment: Duct Blaster for duct sealing, iManifold for A/C tune-up, blower door for Level III building envelope

Through this Participation Agreement, the trade ally will work with Franklin Energy to provide accurate information about the program to customers, promote the incentives to customers, and provide necessary documentation to Franklin Energy to receive reimbursement for the rebates given to the customer. Franklin Energy will provide outreach materials and education about ENERGY STAR units to participating trade allies, track program participation, and provide timely rebate payments to the trade allies.

Terms & Conditions

These Terms & Conditions (the "Participation Agreement") are entered into between _____ ("Participating Trade Ally") and Franklin Energy ("Program Implementer"), representing the program.

Performing the following measures (please indicate):

- ☐ **A/C Tune-up**
- ☐ **Duct Sealing/Insulation**
- ☐ **Attic Insulation**
- ☐ **Air Infiltration**

Through this Participation Agreement, Program Implementer and Participating Trade Ally agrees as follows:

Paying Trade Ally Incentives:

The Program Implementer reserves the right to deny incentive payments and withdraw incentives for improper work performance as noted in the Participation Requirements of this Participation Agreement. The Program Implementer reserves the right to adjust incentive budgets and incentive levels based upon market conditions, evaluation results, and program implementation experience. Once program funding is exhausted in a given program year, no further incentives will be made for any work performed in that program year. The Program Implementer is responsible for providing information regarding available incentive funding levels to Participating Trade Ally. In addition to providing incentives to Participating Trade Ally as set forth above, the Program Implementer will provide marketing support for Participating Trade Ally.

Verification of Work:

Participating Trade Ally agrees to allow random field inspections during project installation. This is to verify that the Participating Trade Ally complies with all safety, recycling, customer service, and other program requirements set forth in this Participation Agreement. If an inspection determines that project work is not executed in a satisfactory manner as defined in this Participation Agreement, or by the customer's standards, the Program Implementer shall request that all deficiencies be corrected within ten (10) business days. Failure to comply with all requests may result in the Participating Trade Ally's immediate rejection of incentives from the project. Multiple instances of a Participating Trade Ally's failure to meet minimum program standards and correct deficiencies may lead to the Participating Trade Ally being removed from the program and rendering the Participating Trade Ally ineligible to receive any future incentives under the program.

EnergySmart A New Orleans Program | Entergy.

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC.

Energy Smart Home Performance with ENERGY STAR® Offering

Terms & Conditions (cont.)

Upon expiration or termination of this Participation Agreement, Participating Trade Ally agrees to immediately cease the use of and shall not thereafter use Entergy New Orleans, LLC's trademarks.

For purposes of this Participation Agreement, "the trademarks" shall include any trademarks, service marks, names, logos, and designs of Entergy New Orleans, LLC (including the HPwES program marketing materials) that are now or hereafter owned, claimed, adopted, acquired, or used by Entergy New Orleans and Algiers, the Energy Smart Programs, and affiliated or related companies.

Confidentiality:

For purposes of this Participation Agreement, the term "Confidential Information" is defined to mean any Entergy New Orleans, LLC customer information, knowledge, data, statistics, business plans, records, trade secrets, business secrets, operational methods, customer lists, concepts, ideas, policies, any social security numbers, and/or other personal identifiable information or data disclosed by Program Implementer and/or its officers, employees, agents, consultants, or representatives to Participating Trade Ally or its employees (collectively "Trade Ally Employees"), which is not otherwise available to the public including both the existence and contents of this Participation Agreement. The term "Confidential Information" does not include information which (1) is or becomes generally available to the public other than as a result of disclosure by Trade Ally Employee, (2) was within Participating Trade Ally's lawful possession on a non-confidential basis prior to being furnished by Program Implementer, (3) becomes available to Participating Trade Ally on a non-confidential basis from a source that is under no obligation to Entergy New Orleans, LLC or Program Implementer to keep such information confidential, (4) is developed by or for Participating Trade Ally without any use of or reliance upon Confidential Information, (5) is approved for release by written authorization by the owner of the information.

Participating Trade Ally shall retain any Confidential Information in strictest confidence and shall not use, exploit, or disclose, or permit the use, exploitation, or disclosure of any Confidential Information obtained from Program Implementer except to persons or entities directly involved in the HPwES program and then, only to the extent necessary in connection with the HPwES program, or as otherwise required by law. Participating Trade Ally shall inform Trade Ally Employees to whom Confidential Information is disclosed that the Confidential Information has been shared with Participating Trade Ally in strict confidence.

Participating Trade Ally shall take all measures to ensure that Trade Ally Employees keep any Confidential Information strictly confidential and not use or exploit any of the Confidential Information in any manner.

Participating Trade Ally will be responsible for any breach or anticipated breach of this Participation Agreement by any Trade Ally Employee or third party to whom it discloses Confidential Information.

Participating Trade Ally acknowledges that a breach of the terms, covenants or conditions contained in this Confidentiality subsection may cause irreparable damage to Program Implementer and to Entergy New Orleans, LLC for which a remedy at law would not be adequate. In the event of such breach or threatened breach, Program Implementer and Entergy New Orleans, LLC shall be entitled to seek appropriate injunctive relief in any court of competent jurisdiction, restraining Participating Trade Ally and Trade Ally Employees from any such threatened or actual violation of the provisions of this Participation Agreement. This provision does not limit Program Implementer's or Entergy New Orleans, LLC's rights to seek monetary damages in addition to injunctive relief.

In the event that Participating Trade Ally or Trade Ally's Employees are requested or required to disclose any Confidential Information subject to this Participation Agreement in a legal or regulatory proceeding, Participation Trade Ally shall provide Program Implementer and Entergy New Orleans, LLC with prompt written notice of any such request or requirements in order to provide them an opportunity to seek a protective order or other appropriate remedy. Participating Trade Ally shall cooperate with Program Implementer and Entergy New Orleans, LLC and their counsel in Program Implementer's and Entergy New Orleans, LLC's efforts to prevent or limit such disclosure of Confidential Information.

EnergySmart A New Orleans Program | Entergy.

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC.

Energy Smart Home Performance with ENERGY STAR® Offering

Signatures

By signing below, the Participating Trade Ally accepts this Participation Agreement with Program Implementer. The signatory for this Participation Agreement represents that he/she is authorized to commit the Participating Trade Ally to the terms outlined in this Participation Agreement.

Trade Ally

Printed Name: _____ Title: _____

Company Name: _____

Address: _____

City: _____ State: _____ ZIP: _____

Phone: _____ Fax: _____ Email: _____

Signature: _____ **Date:** _____

Program Implementer

Company Name: Franklin Energy

Address: 524 Elmwood Park Blvd, Suite 140

City: New Orleans State: LA ZIP: 70123

Phone: 504-229-6868 Fax: _____ Email: _____

Signature: _____ **Date:** _____

Printed Name: _____ Title: _____

Company Name:

Phone: _____ Fax: _____ Email: _____

EnergySmart A New Orleans Program | Entergy.

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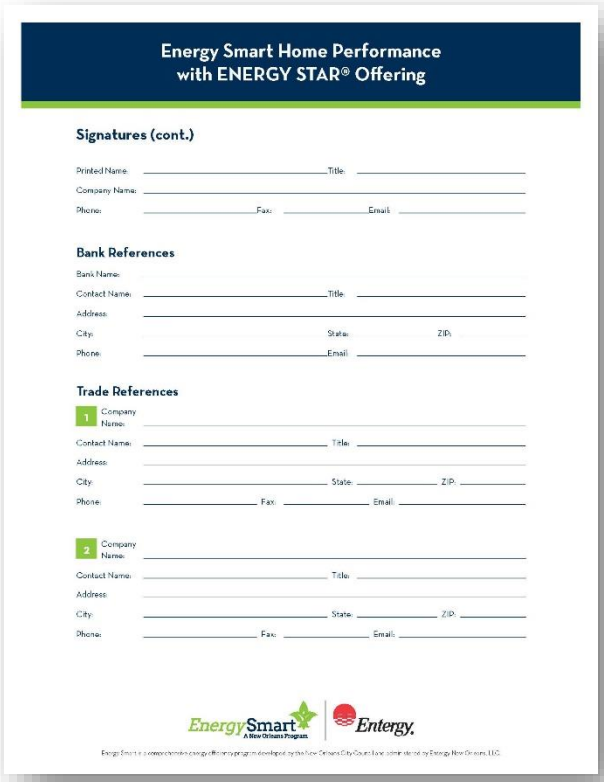


Energy Smart Home Performance with ENERGY STAR® Offering

Signatures (cont.)

Printed Name: _____ Title: _____

Company Name: _____

Phone: _____ Fax: _____ Email: _____

Bank References

Bank Name:

Contact Name: _____ Title: _____

Address: _____

City: State: ZIP:

Phone: _____ Email: _____

Trade References

1 Company Name: _____

Contact Name: _____ Title: _____

Address: _____

City: _____ State: _____ ZIP: _____

Phone: _____ Fax: _____ Email: _____

2 Company Name: _____

Contact Name: _____ Title: _____

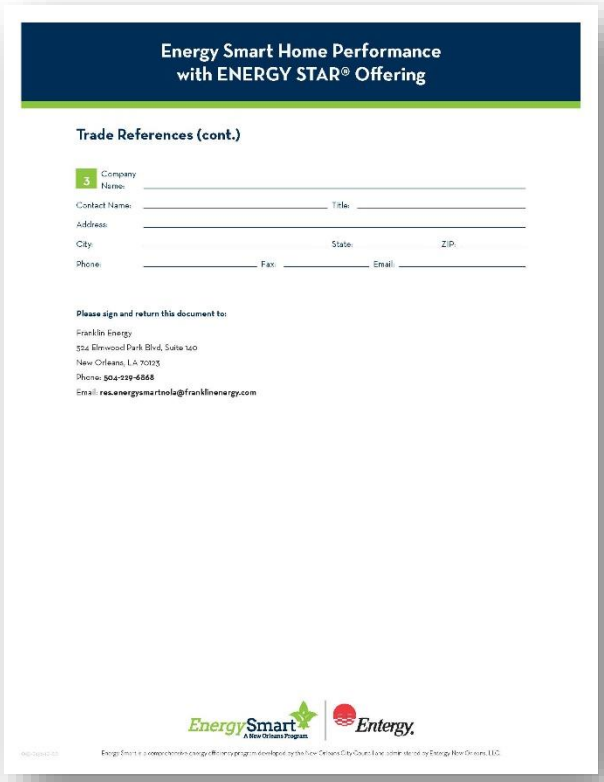
Address: _____

City: _____ State: _____ ZIP: _____

Phone: _____ Fax: _____ Email: _____

EnergySmart A New Orleans Program | Entergy.

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC.



Energy Smart Home Performance with ENERGY STAR® Offering

Trade References (cont.)

3 Company Name: _____

Contact Name: _____ Title: _____

Address: _____

City: State: ZIP:

Phone: _____ Fax: _____ Email: _____

Please sign and return this document to:

Franklin Energy
524 Elmwood Park Blvd, Suite 140
New Orleans, LA 70123
Phone: **504-229-6868**
Email: **res.energysmartnola@franklinenergy.com**

EnergySmart A New Orleans Program | Entergy.

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC.

HPwES and IQW Sorry We Missed You Door Hanger

Multifamily Sorry We Missed You Door Hanger

Multifamily Broken Item Leave Behind

Multifamily Solutions

EnergySmart A New Orleans Program | Entergy

Please be careful as you enter.

Multifamily Solutions

EnergySmart A New Orleans Program | Entergy

Dear Resident of Unit _____:

Today, we installed energy-saving products in your home on behalf of the Multifamily Solutions offering.

Unfortunately, during the installation process, we accidentally broke a _____ (which belonged to either Energy Smart or your building's management company) in your _____.

While we have cleaned up the broken pieces, thoroughly vacuumed and surveyed the surrounding area, please proceed with caution in the upcoming days to ensure your safety. If you have any questions, please call us anytime at _____.

On behalf of the entire program team, we sincerely apologize for this inconvenience. We appreciate your understanding and participation in this program.

Sincerely,

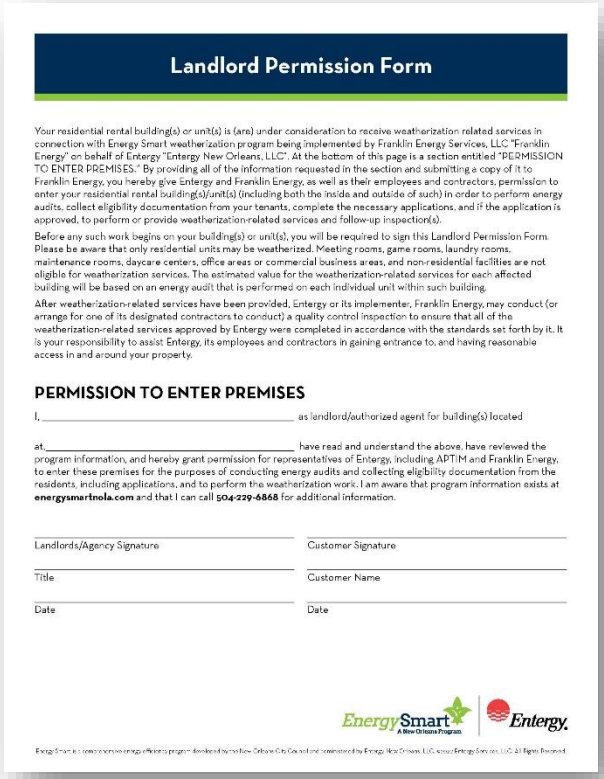
Energy Smart Program Team

Energy Advisor Name: _____
(please print)

Witness Name: _____
(please print)

Date: _____ / _____ / _____

Multifamily Landlord Permission Form



Landlord Permission Form

Your residential rental building(s) or unit(s) is (are) under consideration to receive weatherization related services in connection with Energy Smart weatherization program being implemented by Franklin Energy Services, LLC "Franklin Energy" on behalf of Entergy "Entergy New Orleans, LLC". At the bottom of this page is a section entitled "PERMISSION TO ENTER PREMISES." By providing all of the information requested in the section and submitting a copy of it to Franklin Energy, you hereby give Entergy and Franklin Energy, as well as their employees and contractors, permission to enter your residential rental building(s)/unit(s) (including both the inside and outside of such) in order to perform energy audits, collect eligibility documentation from your tenants, complete the necessary applications, and if the application is approved, to perform or provide weatherization-related services and follow-up inspection(s).

Before any such work begins on your building(s) or unit(s), you will be required to sign this Landlord Permission Form. Please be aware that only residential units may be weatherized. Meeting rooms, game rooms, laundry rooms, maintenance rooms, daycare centers, office areas or commercial business areas, and non-residential facilities are not eligible for weatherization services. The estimated value for the weatherization-related services for each affected building will be based on an energy audit that is performed on each individual unit within such building.

After weatherization-related services have been provided, Entergy or its implementer, Franklin Energy, may conduct (or arrange for one of its designated contractors to conduct) a quality control inspection to ensure that all of the weatherization-related services approved by Entergy were completed in accordance with the standards set forth by it. It is your responsibility to assist Entergy, its employees and contractors in gaining entrance to, and having reasonable access in and around your property.

PERMISSION TO ENTER PREMISES

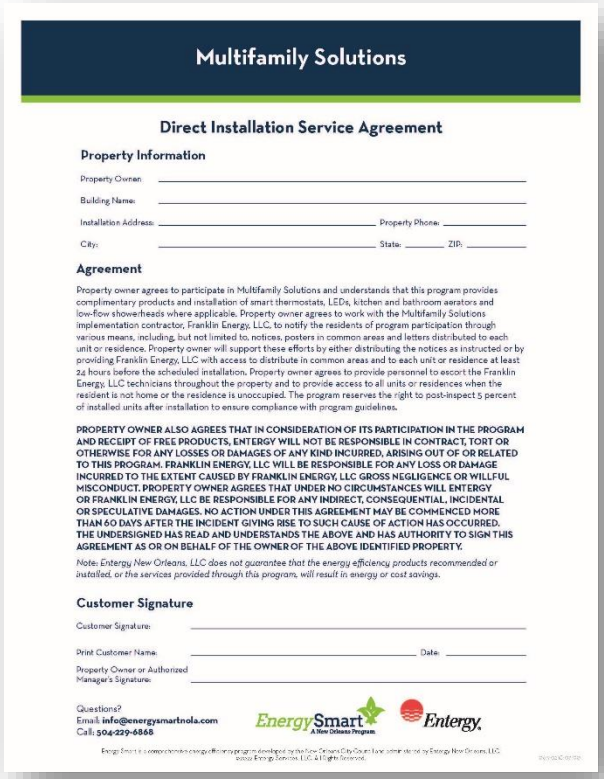
I, _____ as landlord/authorized agent for building(s) located

at, _____ have read and understand the above, have reviewed the program information, and hereby grant permission for representatives of Entergy, including APTIM and Franklin Energy, to enter these premises for the purposes of conducting energy audits and collecting eligibility documentation from the residents, including applications, and to perform the weatherization work. I am aware that program information exists at **energysmartnola.com** and that I can call **504-229-6868** for additional information.

Landlords/Agency Signature	Customer Signature
Title	Customer Name
Date	Date

EnergySmart A New Orleans Program | Entergy.

Multifamily Direct Install Service Agreement



Multifamily Solutions

Direct Installation Service Agreement

Property Information

Property Owner: _____

Building Name: _____

Installation Address: _____ Property Phone: _____

City: _____ State: _____ ZIP: _____

Agreement

Property owner agrees to participate in Multifamily Solutions and understands that this program provides complimentary products and installation of smart thermostats, LEDs, kitchen and bathroom aerators and low-flow showerheads where applicable. Property owner agrees to work with the Multifamily Solutions implementation contractor, Franklin Energy, LLC, to notify the residents of program participation through various means, including, but not limited to, notices, posters in common areas and letters distributed to each unit or residence. Property owner will support these efforts by either distributing the notices as instructed or by providing Franklin Energy, LLC with access to distribute in common areas and to each unit or residence at least 24 hours before the scheduled installation. Property owner agrees to provide personnel to escort the Franklin Energy, LLC technicians throughout the property and to provide access to all units or residences when the resident is not home or the residence is unoccupied. The program reserves the right to post-inspect 5 percent of installed units after installation to ensure compliance with program guidelines.

PROPERTY OWNER ALSO AGREES THAT IN CONSIDERATION OF ITS PARTICIPATION IN THE PROGRAM AND RECEIPT OF FREE PRODUCTS, ENTERGY WILL NOT BE RESPONSIBLE IN CONTRACT, TORT OR OTHERWISE FOR ANY LOSSES OR DAMAGES OF ANY KIND INCURRED, ARISING OUT OF OR RELATED TO THIS PROGRAM. FRANKLIN ENERGY, LLC WILL BE RESPONSIBLE FOR ANY LOSS OR DAMAGE INCURRED TO THE EXTENT CAUSED BY FRANKLIN ENERGY, LLC GROSS NEGLIGENCE OR WILLFUL MISCONDUCT. PROPERTY OWNER AGREES THAT UNDER NO CIRCUMSTANCES WILL ENTERGY OR FRANKLIN ENERGY, LLC BE RESPONSIBLE FOR ANY INDIRECT, CONSEQUENTIAL, INCIDENTAL OR SPECULATIVE DAMAGES. NO ACTION UNDER THIS AGREEMENT MAY BE COMMENCED MORE THAN 60 DAYS AFTER THE INCIDENT GIVING RISE TO SUCH CAUSE OF ACTION HAS OCCURRED. THE UNDERSIGNED HAS READ AND UNDERSTANDS THE ABOVE AND HAS AUTHORITY TO SIGN THIS AGREEMENT AS OR ON BEHALF OF THE OWNER OF THE ABOVE IDENTIFIED PROPERTY.

Note: Entergy New Orleans, LLC does not guarantee that the energy efficiency products recommended or installed, or the services provided through this program, will result in energy or cost savings.

Customer Signature

Customer Signature: _____

Print Customer Name: _____ Date: _____

Property Owner or Authorized Manager's Signature: _____

Questions?
Email: **info@energysmartnola.com**
Call: **504-229-6868**

EnergySmart A New Orleans Program Entergy

Multifamily Program Sell Sheet

Keep costs low and satisfaction high.

What if you could enhance your property and save your residents money—all without spending a cent? It's not too good to be true. It's **Multifamily Solutions**.

What do you get for signing up?

Residents will receive installation of energy-saving products* in their homes. Upgrades may include:

LED Light Bulbs | Kitchen Aerators | Bathroom Aerators | Low-flow Showerheads | Smart Thermostat

Who can participate?

Qualifying multifamily properties must contain five or more units under one roof and must be an Entergy New Orleans customer.

How do you sign up?

Call **504-229-6866** or email **info@energysmartnola.com** if you're interested. We'd love to answer any questions you may have about the program, too.

Visit **energysmartnola.com** for more energy-saving tips and info.

* Actual products installed may differ from the images shown. Measures are determined based on the environment, overall efficiency and product availability. Products may not be installed in each unit depending on utility eligibility and existing conditions. LEDs will be installed only in fixtures containing incandescent or halogen lamps.

EnergySmart A New Orleans Program | Entergy

Multifamily Tenant Leave Behind

Multifamily Solutions

Better products. Brighter community.

Thank you for participating in the Multifamily Solutions offering.
We hope you enjoy the **complimentary** energy-saving products you received.

Here's what we may have installed today
and the typical benefits customers experience.

LED Light Bulbs
(~60W equivalent)
(~75W equivalent)
Use up to 75 percent less energy and provide longer product life than incandescent lighting.

Kitchen Aerators
Reduce water usage by up to 30 percent.

Bathroom Aerators
Reduce the flow of water to your faucet to an efficient 1.0 gallons per minute.

Low-flow Showerheads
Use up to 40 percent less water than a standard-flow showerhead, without losing water pressure.

Smart Thermostat
Customize your home's temperature settings to fit your schedule, even when you're away.

Energy saving products installed are dependent upon Entergy account type and eligibility.

For questions about these upgrades or Multifamily Solutions,
visit **energysmartnola.com**, email **info@energysmartnola.com** or call **504-229-6868.**

EnergySmart A New Orleans Program | Entergy

Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC, a wholly Entergy Services, Inc. © All Rights Reserved.

Multifamily Tenant Notification Flyer

Multifamily Solutions

Save the date to save energy.

Technicians from the
Multifamily Solutions offering
will be in your building on _____.

Look forward to receiving complimentary products.

You'll receive complimentary installation of energy-saving products, such as:

LED Light Bulbs (<60W equivalent) (<10W equivalent)

Kitchen Aerators 1.5 gpm

Bathroom Aerators 1.0 gpm

Low-flow Showerheads 1.5 gpm

Smart Thermostats

Installation will only take a few minutes.

After your appointment, you'll receive information about your new products, including estimated savings. Contact your property manager if you have questions about this flyer.

Energysaving products installed are dependent upon Entergy account type and eligibility. Actual products installed may differ from the images shown. Measures are determined based on the environment, overall efficiency and product availability. Products may not be installed in each unit depending on utility eligibility and existing baselines. LEDs will be installed only in fixtures containing incandescent or halogen lamps.

Thank you for participating. We look forward to helping you save energy and money.
energysmartnola.com | info@energysmartnola.com | 504-229-6868

EnergySmart A New Orleans Program | Entergy

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Retail Employee Education Flyer

EnergySmart
A New Orleans Program

Give Expert Advice on ENERGY STAR®

Make energy savings and rebates count toward their purchase.

WHY PROMOTE ENERGY STAR?

It's truly the smart choice. ENERGY STAR means higher quality, better performance and more energy savings. By promoting ENERGY STAR, you're not just helping customers save energy and money, you're doing your part for the environment.

THE BENEFITS OF ENERGY STAR.

It's top rated and saves money. Let customers know ENERGY STAR qualified lighting solutions and appliances are an easy way to lower their energy bills for years to come. Plus, they can receive instant or mail-in rebates to offset the initial cost.

Entergy New Orleans offers the Energy Smart energy efficiency program to help customers, like yours, lower their utility bills at a lower price tag.

These high-efficiency appliances and lighting solutions reduce energy use for better home efficiency and brighter communities. Your store may include the following products with available rebates:

MEASURE	REBATE AMOUNT
ENERGY STAR LED lighting	Manufacturer discount provided
ENERGY STAR qualified window A/C units	$50 rebate
ENERGY STAR qualified refrigerators	$50 rebate
ENERGY STAR qualified heat pump water heaters	$400 rebate
ENERGY STAR qualified in-ground pool pumps	$300 rebate

ENERGY STAR

Selling Stats

LIGHTING

- ENERGY STAR LEDs use only a quarter of the energy standard incandescent light bulbs consume, and they last up to 25 times longer.
- On average, upgrades save up to $55 each year.
- Customers receive discounted price from manufacturer.

REFRIGERATOR

- ENERGY STAR refrigerators use half the energy of a 15-year-old refrigerator.
- On average, an upgrade saves up to $50 each year.
- Customers can receive a $50 rebate off qualifying refrigerators from Energy Smart.

IN-GROUND POOL PUMP

- ENERGY STAR in-ground pool pumps run quieter and keep filter systems running longer.
- On average, an upgrade saves over $300 each year.
- Customers can receive a $300 rebate off qualifying pool pumps from Energy Smart.

DEHUMIDIFIER

- ENERGY STAR dehumidifiers remove as much moisture as conventional units, but use nearly 15 percent less energy.
- Customers can receive a $25 rebate off qualifying dehumidifiers from Energy Smart.

HEAT PUMP WATER HEATER

- ENERGY STAR heat pump water heaters transfer heat from surrounding air to heat the water. If the air is too cold, it effectively uses a heating element to heat the water instead.
- An ENERGY STAR heat pump water heater will save around $3,500 over its lifespan compared to standard heat pump water heaters.
- Customers can receive a $400 rebate off qualifying heat pump water heaters from Energy Smart.

ROOM WINDOW AIR CONDITIONER

- ENERGY STAR room window air conditioners give customers more control over their comfort, in addition to energy savings.
- On average, an upgrade uses about 10 percent less energy.
- Customers can receive a $50 rebate off qualifying room window A/C units from Energy Smart.

SMART THERMOSTATS

- ENERGY STAR certified smart thermostats adjust your home's temperature based on the activity in your home and are compatible with programs offered by Energy Smart for additional savings.
- Customers can receive up to a $100 rebate off qualifying smart thermostats from Energy Smart.

Ask your manager which products qualify in your store.

For more info about the Energy Smart program, visit: **energysmartnola.info**

For more info about ENERGY STAR products, visit: **energystar.gov/products/appliances**

ENERGY STAR

entergy

Single LED Bulb Giveaway Label

Energy Smart
LED Light Bulb

EnergySmart
A New Orleans Program

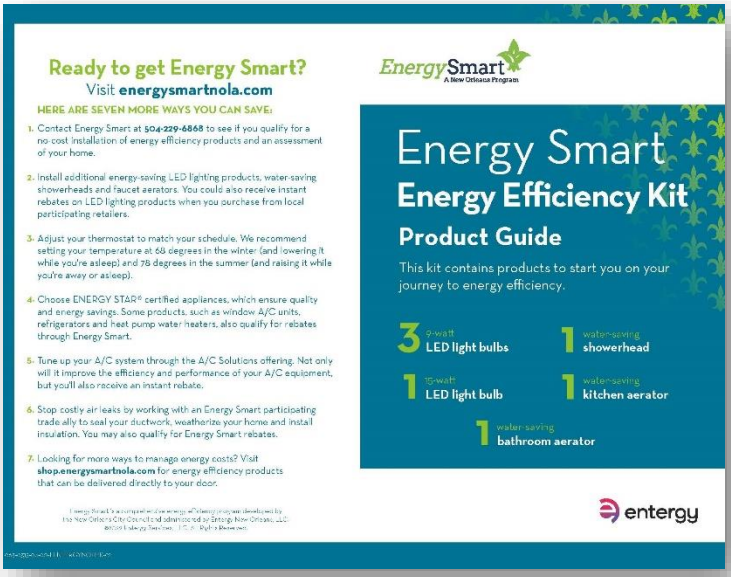
Entergy

energysmartnola.com
504-229-6868

Four-Pack LED Bulb Giveaway Label

Energy Efficiency Kit Label

Energy Efficiency Kit Insert



Ready to get Energy Smart?
Visit **energysmartnola.com**

HERE ARE SEVEN MORE WAYS YOU CAN SAVE:

1. Contact Energy Smart at **504-229-6868** to see if you qualify for a no-cost installation of energy efficiency products and an assessment of your home.
2. Install additional energy-saving LED lighting products, water-saving showerheads and faucet aerators. You could also receive instant rebates on LED lighting products when you purchase from local participating retailers.
3. Adjust your thermostat to match your schedule. We recommend setting your temperature at 68 degrees in the winter (and lowering it while you're asleep) and 78 degrees in the summer (and raising it while you're away or asleep).
4. Choose ENERGY STAR® certified appliances, which ensure quality and energy savings. Some products, such as window A/C units, refrigerators and heat pump water heaters, also qualify for rebates through Energy Smart.
5. Tune up your A/C system through the A/C Solutions offering. Not only will it improve the efficiency and performance of your A/C equipment, but you'll also receive an instant rebate.
6. Stop costly air leaks by working with an Energy Smart participating trade ally to seal your ductwork, weatherize your home and install insulation. You may also qualify for Energy Smart rebates.
7. Looking for more ways to manage energy costs? Visit **shop.energysmartnola.com** for energy efficiency products that can be delivered directly to your door.

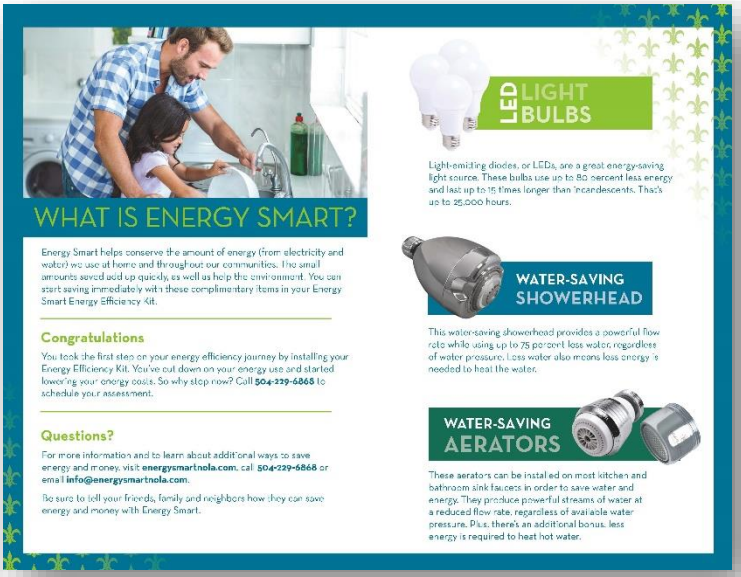
EnergySmart
A New Orleans Program

Energy Smart
Energy Efficiency Kit
Product Guide

This kit contains products to start you on your journey to energy efficiency.

- **3** 9-watt **LED light bulbs**
- **1** water-saving **showerhead**
- **1** 15-watt **LED light bulb**
- **1** water-saving **kitchen aerator**
- **1** water-saving **bathroom aerator**

entergy



WHAT IS ENERGY SMART?

Energy Smart helps conserve the amount of energy (from electricity and water) we use at home and throughout our communities. The small amounts saved add up quickly, as well as help the environment. You can start saving immediately with these complimentary items in your Energy Smart Energy Efficiency Kit.

Congratulations

You took the first step on your energy efficiency journey by installing your Energy Efficiency Kit. You've cut down on your energy use and started lowering your energy costs. So why stop now? Call **504-229-6868** to schedule your assessment.

Questions?

For more information and to learn about additional ways to save energy and money, visit **energysmartnola.com**, call **504-229-6868** or email **info@energysmartnola.com**.

Be sure to tell your friends, family and neighbors how they can save energy and money with Energy Smart.

LED LIGHT BULBS

Light-emitting diodes, or LEDs, are a great energy-saving light source. These bulbs use up to 80 percent less energy and last up to 15 times longer than incandescents. That's up to 25,000 hours.

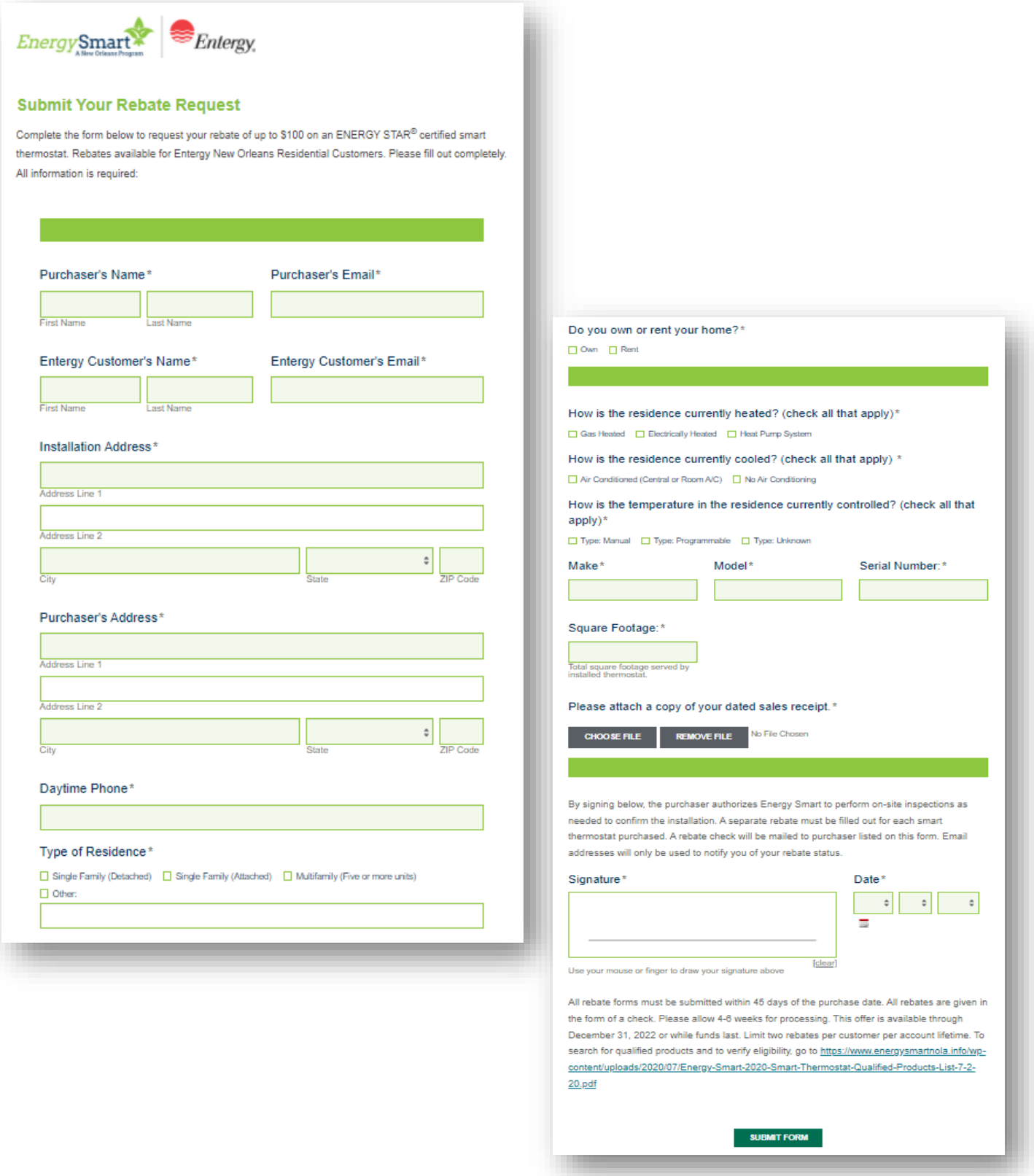
WATER-SAVING SHOWERHEAD

This water-saving showerhead provides a powerful flow rate while using up to 75 percent less water, regardless of water pressure. Less water also means less energy is needed to heat the water.

WATER-SAVING AERATORS

These aerators can be installed on most kitchen and bathroom sink faucets in order to save water and energy. They produce powerful streams of water at a reduced flow rate, regardless of available water pressure. Plus, there's an additional bonus, less energy is required to heat hot water.

Smart Thermostat Rebate Landing Page



EnergySmart
A New Orleans Program
Entergy

Submit Your Rebate Request

Complete the form below to request your rebate of up to $100 on an ENERGY STAR® certified smart thermostat. Rebates available for Entergy New Orleans Residential Customers. Please fill out completely. All information is required:

Purchaser's Name* — First Name / Last Name
Purchaser's Email*

Entergy Customer's Name* — First Name / Last Name
Entergy Customer's Email*

Installation Address*
Address Line 1
Address Line 2
City / State / ZIP Code

Purchaser's Address*
Address Line 1
Address Line 2
City / State / ZIP Code

Daytime Phone*

Type of Residence*
☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Multifamily (Five or more units)
☐ Other:

Do you own or rent your home?*
☐ Own ☐ Rent

How is the residence currently heated? (check all that apply)*
☐ Gas Heated ☐ Electrically Heated ☐ Heat Pump System

How is the residence currently cooled? (check all that apply) *
☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning

How is the temperature in the residence currently controlled? (check all that apply)*
☐ Type: Manual ☐ Type: Programmable ☐ Type: Unknown

Make* **Model*** **Serial Number:***

Square Footage:*
Total square footage served by installed thermostat.

Please attach a copy of your dated sales receipt.*
CHOOSE FILE REMOVE FILE No File Chosen

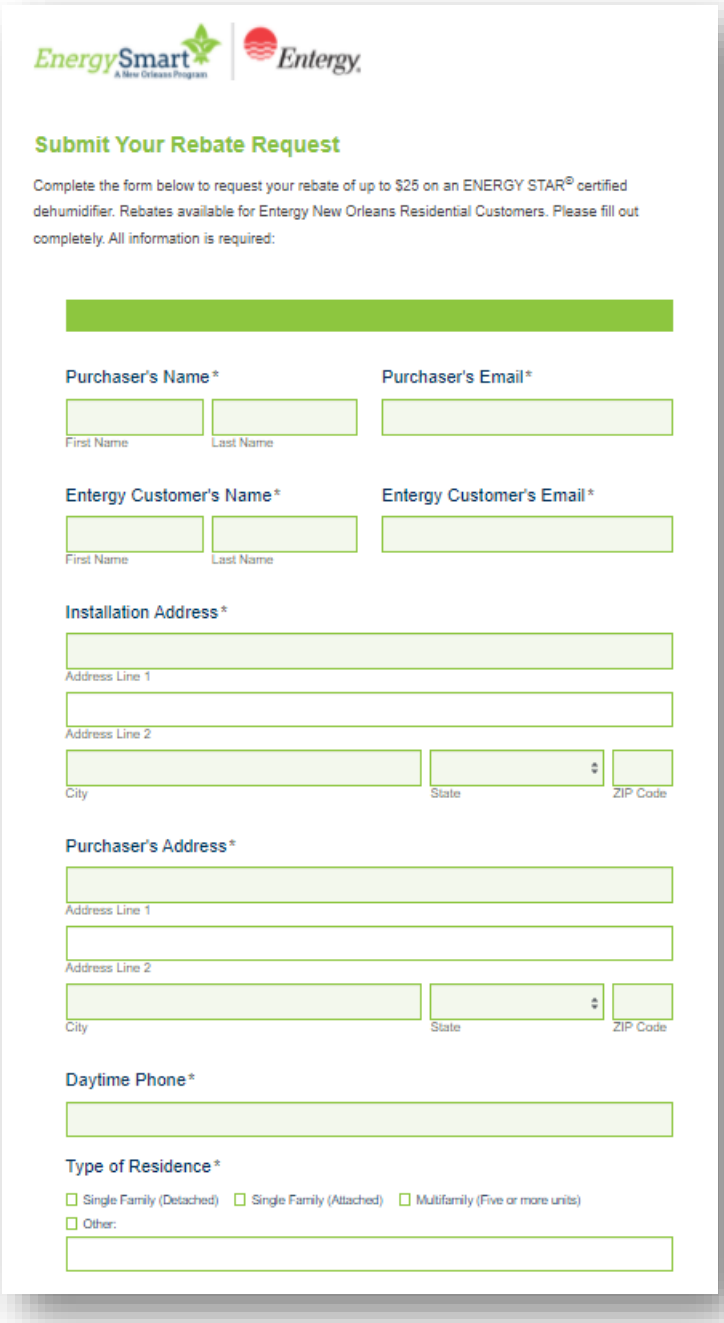
By signing below, the purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm the installation. A separate rebate must be filled out for each smart thermostat purchased. A rebate check will be mailed to purchaser listed on this form. Email addresses will only be used to notify you of your rebate status.

Signature* **Date***
[clear]
Use your mouse or finger to draw your signature above

All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through December 31, 2022 or while funds last. Limit two rebates per customer per account lifetime. To search for qualified products and to verify eligibility, go to https://www.energysmartnola.info/wp-content/uploads/2020/07/Energy-Smart-2020-Smart-Thermostat-Qualified-Products-List-7-2-20.pdf

SUBMIT FORM

Dehumidifier Rebate Landing Page



EnergySmart
A New Orleans Program
Entergy

Submit Your Rebate Request

Complete the form below to request your rebate of up to $25 on an ENERGY STAR® certified dehumidifier. Rebates available for Entergy New Orleans Residential Customers. Please fill out completely. All information is required:

Purchaser's Name*
First Name
Last Name

Purchaser's Email*

Entergy Customer's Name*
First Name
Last Name

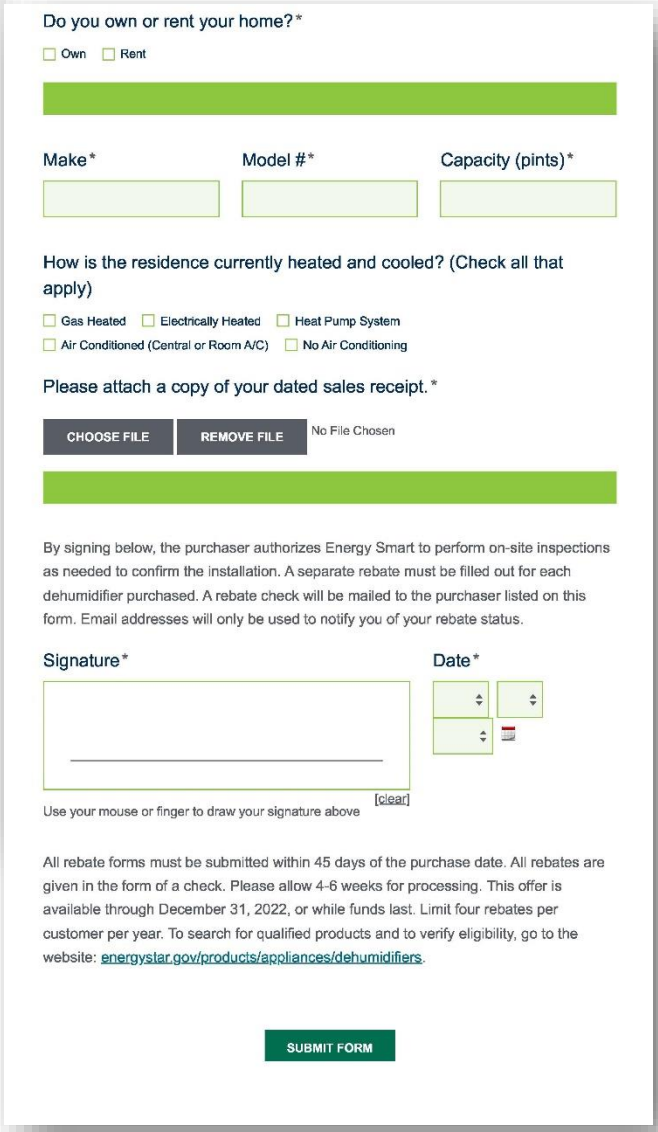
Entergy Customer's Email*

Installation Address*
Address Line 1
Address Line 2
City
State
ZIP Code

Purchaser's Address*
Address Line 1
Address Line 2
City
State
ZIP Code

Daytime Phone*

Type of Residence*
☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Multifamily (Five or more units)
☐ Other:



Do you own or rent your home?*
☐ Own ☐ Rent

Make*
Model #*
Capacity (pints)*

How is the residence currently heated and cooled? (Check all that apply)
☐ Gas Heated ☐ Electrically Heated ☐ Heat Pump System
☐ Air Conditioned (Central or Room A/C) ☐ No Air Conditioning

Please attach a copy of your dated sales receipt.*
CHOOSE FILE REMOVE FILE No File Chosen

By signing below, the purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm the installation. A separate rebate must be filled out for each dehumidifier purchased. A rebate check will be mailed to the purchaser listed on this form. Email addresses will only be used to notify you of your rebate status.

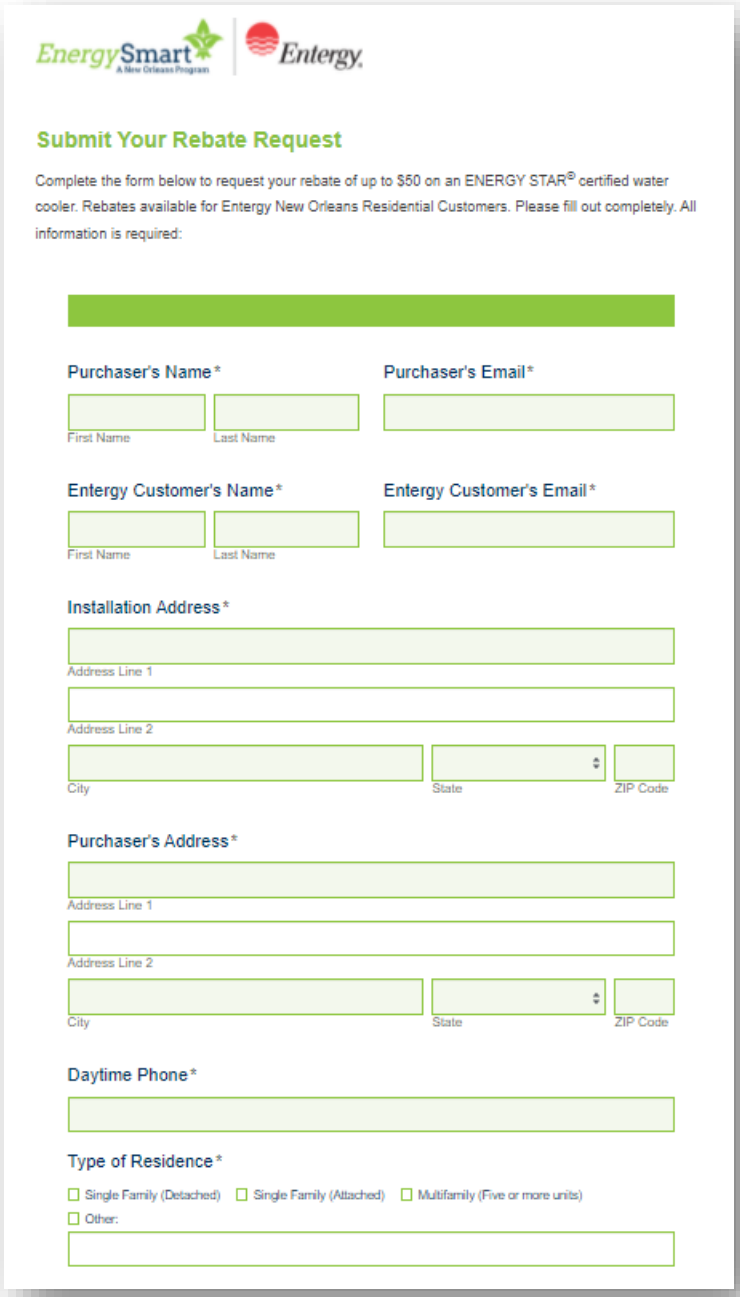
Signature*
Use your mouse or finger to draw your signature above [clear]

Date*

All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through December 31, 2022, or while funds last. Limit four rebates per customer per year. To search for qualified products and to verify eligibility, go to the website: energystar.gov/products/appliances/dehumidifiers.

SUBMIT FORM

Water Cooler Rebate Landing Page



EnergySmart
A New Orleans Program
Entergy

Submit Your Rebate Request

Complete the form below to request your rebate of up to $50 on an ENERGY STAR® certified water cooler. Rebates available for Entergy New Orleans Residential Customers. Please fill out completely. All information is required:

Purchaser's Name*
First Name Last Name

Purchaser's Email*

Entergy Customer's Name*
First Name Last Name

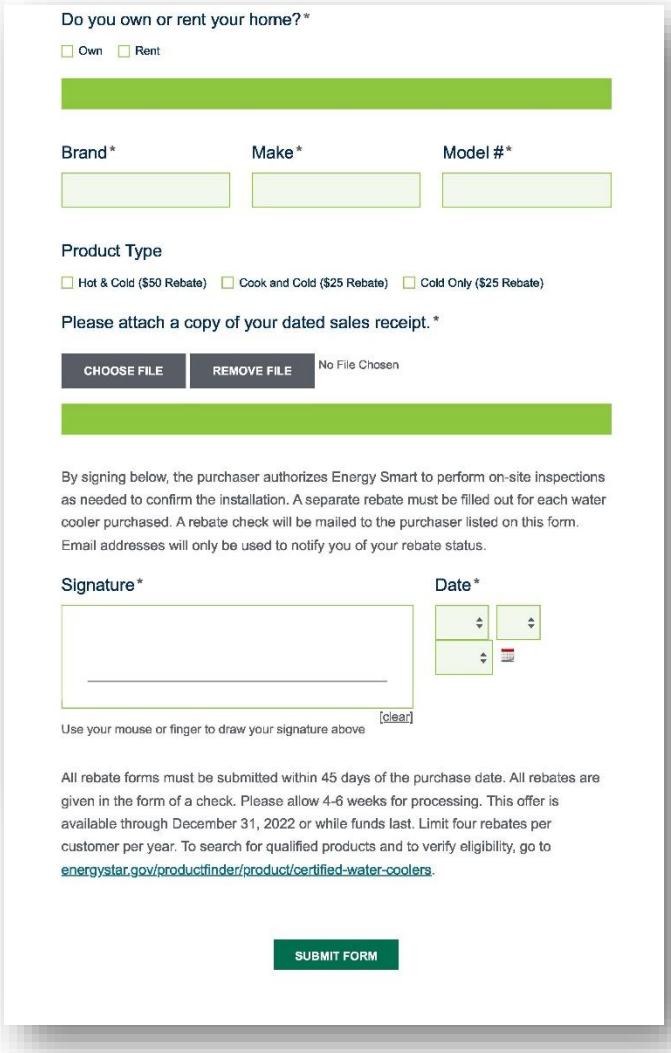
Entergy Customer's Email*

Installation Address*
Address Line 1
Address Line 2
City State ZIP Code

Purchaser's Address*
Address Line 1
Address Line 2
City State ZIP Code

Daytime Phone*

Type of Residence*
☐ Single Family (Detached) ☐ Single Family (Attached) ☐ Multifamily (Five or more units)
☐ Other:



Do you own or rent your home?*
☐ Own ☐ Rent

Brand* Make* Model #*

Product Type
☐ Hot & Cold ($50 Rebate) ☐ Cook and Cold ($25 Rebate) ☐ Cold Only ($25 Rebate)

Please attach a copy of your dated sales receipt.*
CHOOSE FILE REMOVE FILE No File Chosen

By signing below, the purchaser authorizes Energy Smart to perform on-site inspections as needed to confirm the installation. A separate rebate must be filled out for each water cooler purchased. A rebate check will be mailed to the purchaser listed on this form. Email addresses will only be used to notify you of your rebate status.

Signature* Date*
[clear]
Use your mouse or finger to draw your signature above

All rebate forms must be submitted within 45 days of the purchase date. All rebates are given in the form of a check. Please allow 4-6 weeks for processing. This offer is available through December 31, 2022 or while funds last. Limit four rebates per customer per year. To search for qualified products and to verify eligibility, go to energystar.gov/productfinder/product/certified-water-coolers.

SUBMIT FORM

Trade Ally Rebate Forms Landing Page

EnergySmart
A New Orleans Program

Trade Ally Rebate Forms

A/C Tune-Up Rebates

- Downloadable PDF

Attic Insulation and Air Infiltration Reeducation Rebates (Market-Rate)

- Downloadable PDF

Attic Insulation and Air Infiltration Reeducation Rebates (Income-Qualified Weatherization)

- Downloadable PDF

Central A/C Rebates

- Downloadable PDF

Customer Authorization Form

- Downloadable PDF

Dehumidifier Rebates

- Submit online rebate request
- Downloadable PDF

Duct Efficiency Improvement Rebates (A/C Solutions)

- Downloadable PDF

Duct Efficiency Improvement Rebates (Income-Qualified Weatherization)

- Downloadable PDF

Heat Pump Water Heater Rebates

- Submit online rebate request
- Downloadable PDF

Landlord Permission Form

- Downloadable PDF

Pool Pump Rebates

- Submit online rebate request
- Downloadable PDF

Refrigerator Rebates

- Submit online rebate request
- Downloadable PDF

Smart Thermostat Rebates (Retail Lighting and Appliances)

- Downloadable PDF

Smart Thermostat Rebates (Trade Ally)

- Downloadable PDF

Water Cooler Rebates

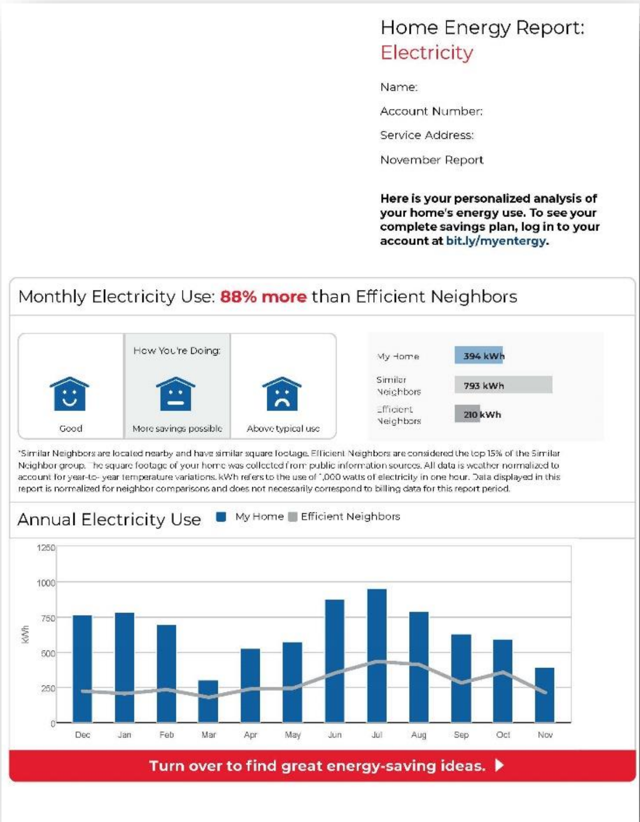
- Submit online rebate request
- Downloadable PDF

Window A/C Rebates

- Submit online rebate request
- Downloadable PDF

entergy

HER Reports



Home Energy Report: Electricity

Name:

Account Number:

Service Address:

November Report

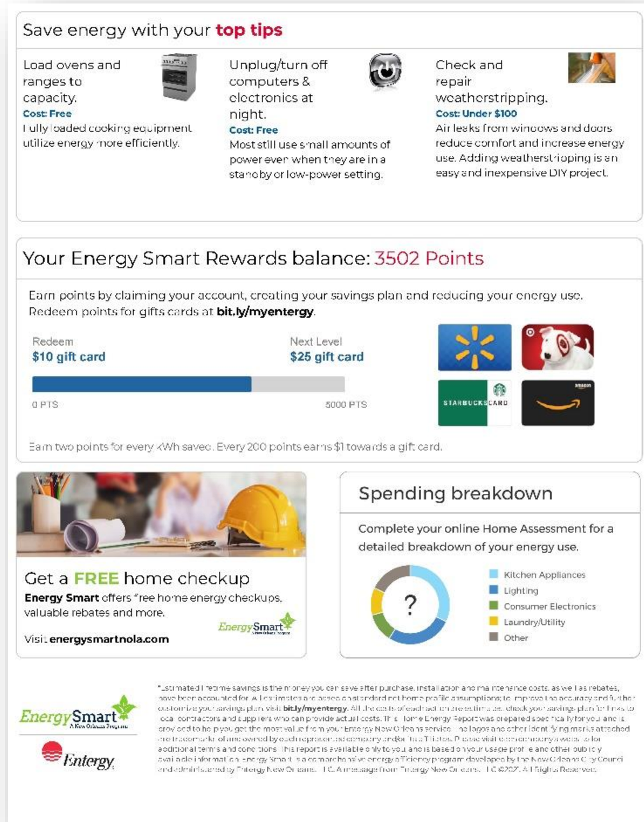
Here is your personalized analysis of your home's energy use. To see your complete savings plan, log in to your account at bit.ly/myentergy.

Monthly Electricity Use: **88% more** than Efficient Neighbors

*Similar Neighbors are located nearby and have similar square footage. Efficient Neighbors are considered the top 15% of the Similar Neighbor group. The square footage of your home was collected from public information sources. All data is weather normalized to account for year-to- year temperature variations. kWh refers to the use of 1,000 watts of electricity in one hour. Data displayed in this report is normalized for neighbor comparisons and does not necessarily correspond to billing data for this report period.

Annual Electricity Use

Turn over to find great energy-saving ideas.



Save energy with your **top tips**

Load ovens and ranges to capacity.
Cost: Free
Fully loaded cooking equipment utilize energy more efficiently.

Unplug/turn off computers & electronics at night.
Cost: Free
Most still use small amounts of power even when they are in a standby or low-power setting.

Check and repair weatherstripping.
Cost: Under $100
Air leaks from windows and doors reduce comfort and increase energy use. Adding weatherstripping is an easy and inexpensive DIY project.

Your Energy Smart Rewards balance: 3502 Points

Earn points by claiming your account, creating your savings plan and reducing your energy use. Redeem points for gifts cards at **bit.ly/myentergy**.

Earn two points for every kWh saved. Every 200 points earns $1 towards a gift card.

Get a **FREE** home checkup

Energy Smart offers free home energy checkups, valuable rebates and more.

Visit **energysmartnola.com**

Spending breakdown

Complete your online Home Assessment for a detailed breakdown of your energy use.

CEP Widget

ENERGY STAR® Appliances

Purchase a new ENERGY STAR appliance such as a refrigerator or water cooler and receive a $50 rebate.

LEARN MORE

Online Marketplace

Shop for energy-efficient products from the comfort of your home and receive instant discounts. Save big on smart thermostats, energy-efficient lighitng and more.

LEARN MORE

A/C Solutions

Keep your home cool, comfortable and energy efficient with an A/C Tune-up, central A/C rebates and smart thermostats.

LEARN MORE

Appliance Recycling

Get $50 for your old fridge or freezer.

LEARN MORE

Home Performance with ENERGY STAR®

Choose an in-person or virtual home energy assessment and you'll also receive free energy-efficient products, including LED light bulbs.

LEARN MORE

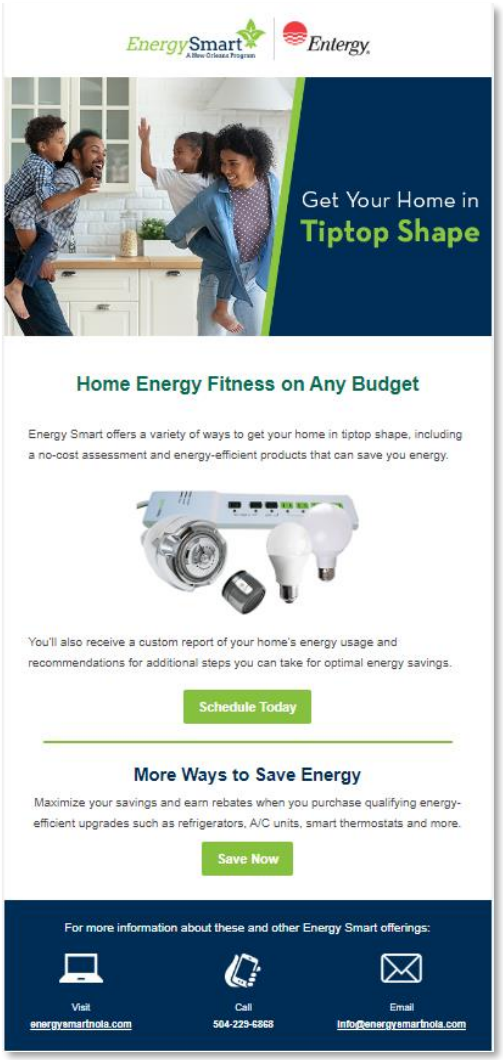
Vehicle Magnet

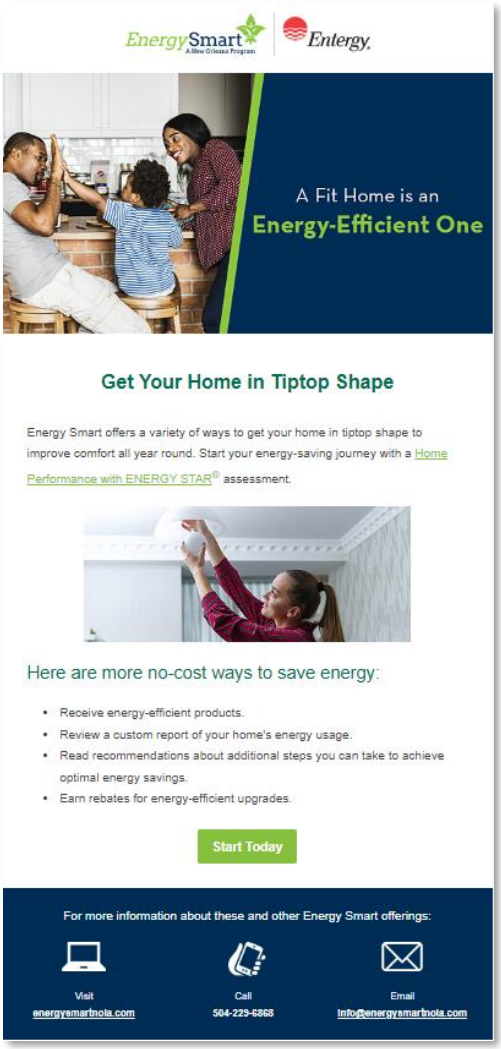
Point of Purchase Signage

Marketing Tactics

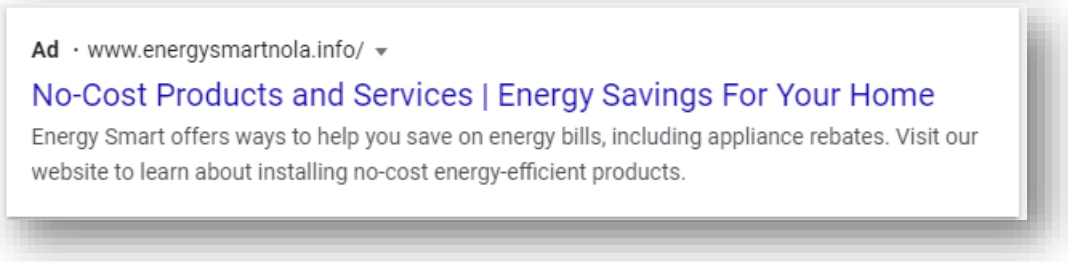
Home Fitness Campaign Materials

Emails





Google Search Ad



Radio Audio

Streaming Radio

Home Fitness
Campaign Streamin

Radio Banner Ads

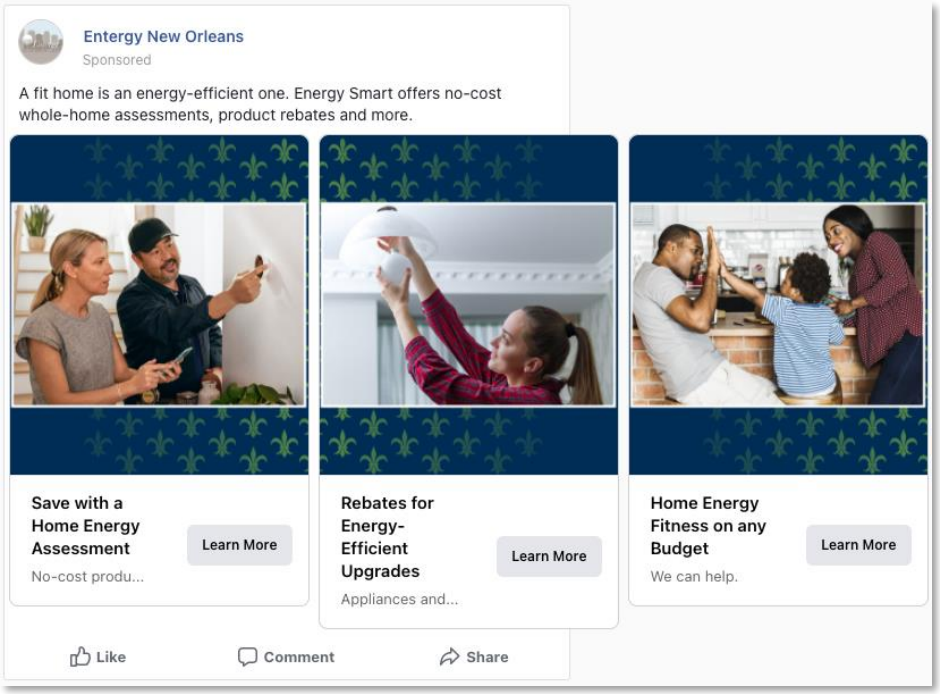
Google Ads


No-Cost
Energy-Efficient
Products
GET YOUR
HOME IN
SHAPE
LEARN MORE
EnergySmart
A New Orleans Program
Entergy


Make No-Cost
Efficiency
Improvements
EnergySmart
Entergy
SAVE NOW


Lower Your Energy Bill
ENERGY-EFFICIENT
UPGRADES AND REBATES
EnergySmart
Entergy
START SAVING

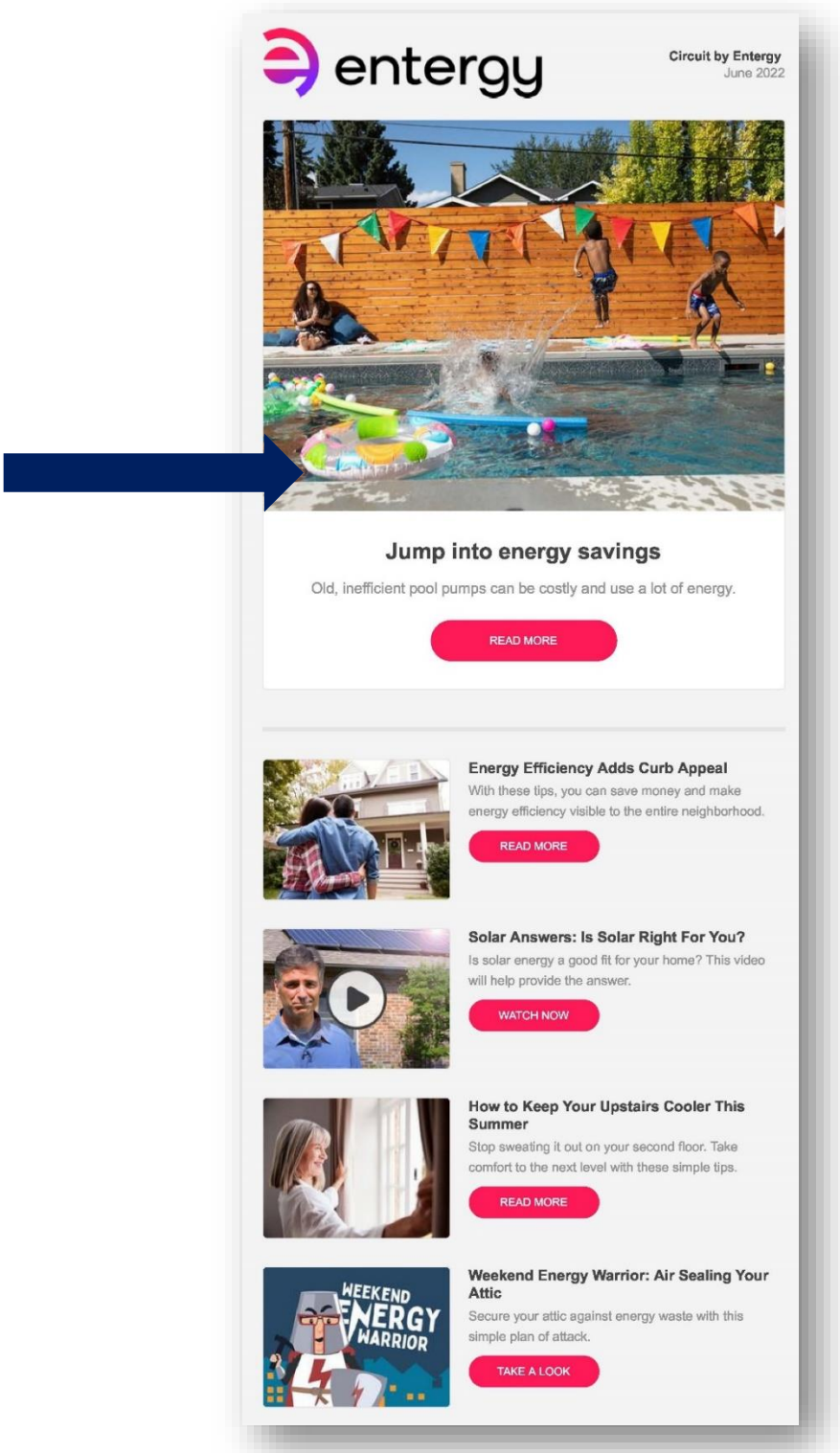
Facebook Ad



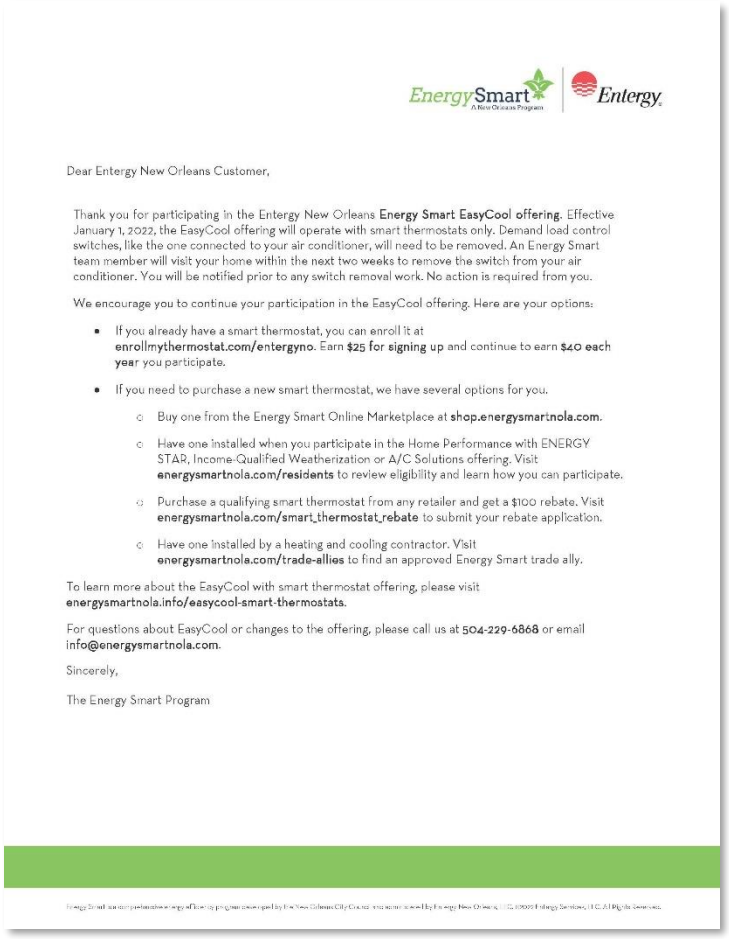
Gambit Print Ad

Gambit Digital Ads

Circuit E-Newsletter



EasyCool Switch Removal Letter and Envelope



EnergySmart A New Orleans Program | Entergy

Dear Entergy New Orleans Customer,

Thank you for participating in the Entergy New Orleans **Energy Smart EasyCool offering**. Effective January 1, 2022, the EasyCool offering will operate with smart thermostats only. Demand load control switches, like the one connected to your air conditioner, will need to be removed. An Energy Smart team member will visit your home within the next two weeks to remove the switch from your air conditioner. You will be notified prior to any switch removal work. No action is required from you.

We encourage you to continue your participation in the EasyCool offering. Here are your options:

- If you already have a smart thermostat, you can enroll it at **enrollmythermostat.com/entergyno**. Earn **$25 for signing** up and continue to earn **$40 each year** you participate.
- If you need to purchase a new smart thermostat, we have several options for you.
  - Buy one from the Energy Smart Online Marketplace at **shop.energysmartnola.com**.
  - Have one installed when you participate in the Home Performance with ENERGY STAR, Income-Qualified Weatherization or A/C Solutions offering. Visit **energysmartnola.com/residents** to review eligibility and learn how you can participate.
  - Purchase a qualifying smart thermostat from any retailer and get a $100 rebate. Visit **energysmartnola.com/smart_thermostat_rebate** to submit your rebate application.
  - Have one installed by a heating and cooling contractor. Visit **energysmartnola.com/trade-allies** to find an approved Energy Smart trade ally.

To learn more about the EasyCool with smart thermostat offering, please visit **energysmartnola.info/easycool-smart-thermostats**.

For questions about EasyCool or changes to the offering, please call us at **504-229-6868** or email **info@energysmartnola.com**.

Sincerely,

The Energy Smart Program

EnergySmart | Entergy

524 Elmwood Park Blvd. Suite 140
New Orleans, LA 70123-3308

Energy Smart EasyCool Offering.
It's Easier Than Ever To Save.

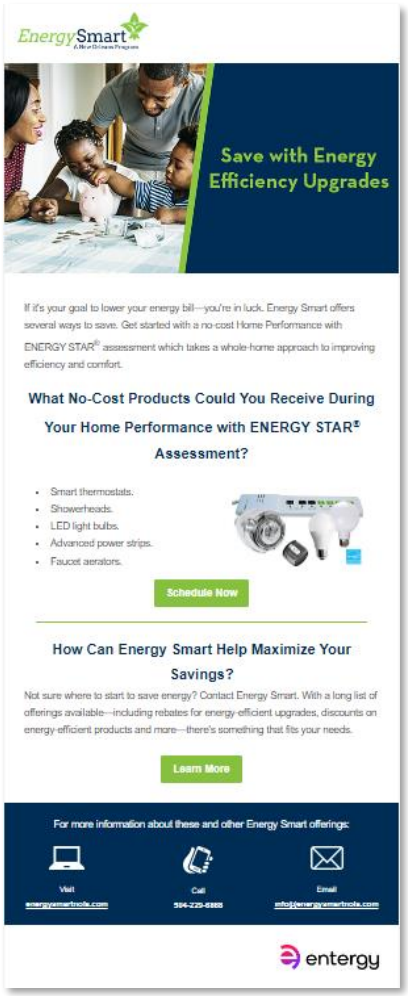
See inside for participation details.

Trade Ally Emails

1st Quarter Newsletter

High Energy User Campaign Materials

Email



Direct Mail


Save up to 20% on your annual utility bill.
Assessments, Efficiency Upgrades and More
Sign up for a no-cost home assessment and receive energy-saving products (up to a $300 value).
Schedule online today at energysmartnola.com/savenow or call 504-229-6868.
Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC. ©2022 Entergy Services, LLC. All Rights Reserved.
EnergySmart
A New Orleans Program


Energy Smart Can Help Maximize Your Savings
More simple ways to save at home:
• A/C maintenance.
• Lighting and appliance rebates.
• Discounted energy-efficient products.
• Appliance recycling.
• Energy reduction during periods of high electricity usage.
Start saving today.
Visit energysmartnola.com/savenow or call 504-229-6868.
entergy
EnergySmart
A New Orleans Program
524 Elmwood Park Blvd, #140
New Orleans, LA 70123

Bill Insert


Energy Smart Makes Saving Simple.
EnergySmart A New Orleans Program
Entergy.
Improve your home's energy efficiency and comfort. With a Home Performance with ENERGY STAR® assessment, you can receive no-cost energy-saving products, a personalized energy report and rebates on qualifying energy-efficient upgrades.
Start saving today by signing up for an assessment.
Schedule yours online at energysmartnola.com/performance or by calling 504-229-6868.
Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC. ©2022 Entergy Services, LLC. All Rights Reserved.
E-032203 | 063-0268-10-00
HOME PERFORMANCE WITH ENERGY STAR


No-cost installation of energy-saving products* in your home may include:
LED light bulbs
Smart thermostats
Smart power strips
Water-saving showerheads
Hot-water pipe insulation
Water-saving bathroom aerators
Water-saving kitchen aerators
*Actual products installed may differ from the images shown. Measures are determined based on the environment, overall efficiency and product availability. Products may not be installed in each unit, depending on utility eligibility and existing baselines.
Schedule an assessment online at energysmartnola.com/performance or by calling 504-229-6868.
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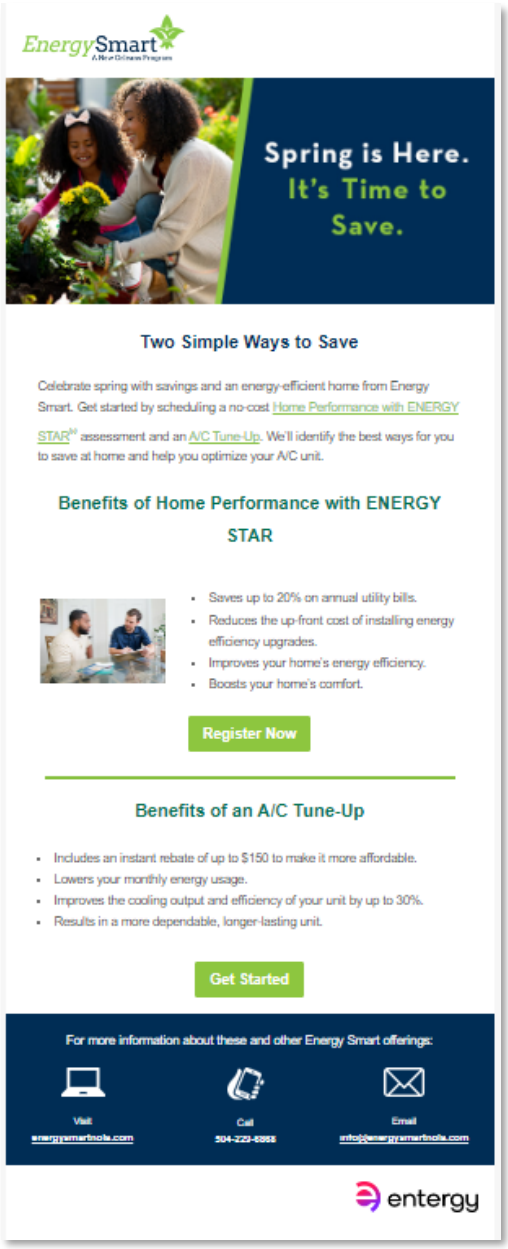
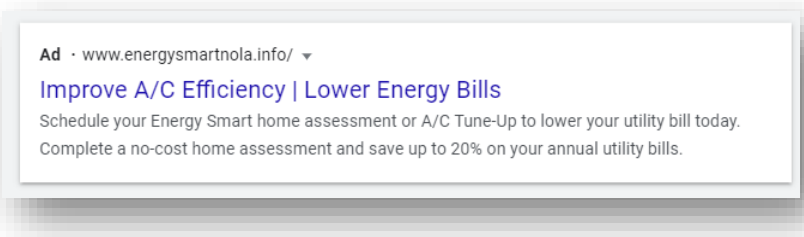
Spring into Energy Savings Campaign Materials

Email



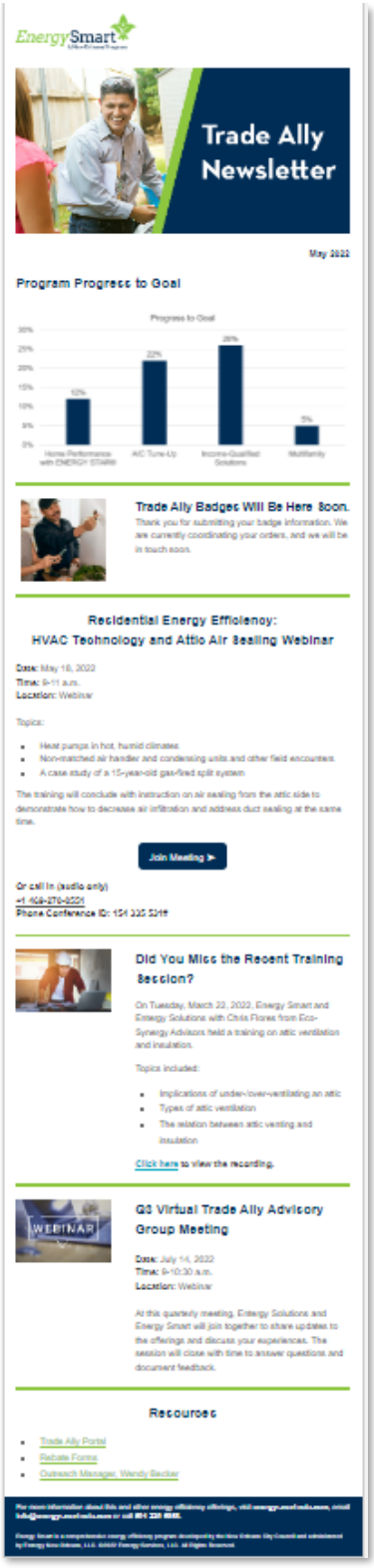
Google Search



Trade Ally Emails

Save the Date

2nd Quarter Newsletter



EnergySmart

Trade Ally Newsletter

May 2022

Program Progress to Goal

Trade Ally Badges Will Be Here Soon.

Thank you for submitting your badge information. We are currently coordinating your orders, and we will be in touch soon.

Residential Energy Efficiency: HVAC Technology and Attic Air Sealing Webinar

Date: May 18, 2022
Time: 9-11 a.m.
Location: Webinar

Topics:

- Heat pumps in hot, humid climates
- Non-matched air handler and condensing units and other field encounters
- A case study of a 15-year-old gas-fired split system

The training will conclude with instruction on air sealing from the attic side to demonstrate how to decrease air infiltration and address duct sealing at the same time.

Join Meeting ▶

Or call in (audio only)
+1 469-276-9224
Phone Conference ID: 154 335 531#

Did You Miss the Recent Training Session?

On Tuesday, March 22, 2022, Energy Smart and Entergy Solutions with Chris Flores from Eco-Synergy Advisors held a training on attic ventilation and insulation.

Topics included:

- Implications of under-/over-ventilating an attic
- Types of attic ventilation
- The relation between attic venting and insulation

Click here to view the recording.

Q3 Virtual Trade Ally Advisory Group Meeting

Date: July 14, 2022
Time: 9-10:30 a.m.
Location: Webinar

At this quarterly meeting, Entergy Solutions and Energy Smart will join together to share updates to the offerings and discuss your experiences. The session will close with time to answer questions and document feedback.

Resources

- Trade Ally Portal
- Rebate Forms
- Outreach Manager, Wendy Becker

A/C Tune-Up Customer Reach Back Campaign Materials

Postcard

Email

EnergySmart
A New Orleans Program

Achieve
Cool Savings
with an
A/C Tune-Up

Is your A/C unit in need of a tune-up? Energy Smart can help. During New Orleans' hottest days of the year, it's important to maintain the efficiency of your system to save energy while ensuring you stay cool and comfortable throughout the summer heat.

Why Should I Get an A/C Tune-up?

- Improves the cooling output and efficiency of your unit by up to 30 percent.
- Lowers your monthly energy usage.
- Results in a more dependable, longer-lasting unit.
- Includes an instant rebate of up to $150, making the service more affordable.

Start Saving

For more information about these and other Energy Smart offerings:

Visit	Call	Email
energysmartnola.com	504-229-6868	Info@energysmartnola.com

entergy

LED Kit Materials

Label

Insert

A/C Tune-Up Bill Insert

EnergySmart
A New Orleans Program

Keep Cool and Save Energy with an A/C Tune-Up

This summer, maximize home comfort and save energy with an A/C Tune-Up and up to $150 in rebates from Energy Smart.

The A/C Tune-Up

A trusted trade ally partner will come to your home and thoroughly assess your A/C unit to ensure it is functioning as efficiently as possible.

Schedule an A/C Tune-Up Today.
Visit **energysmartnola.com/cooloff** or call **504-229-6868**.

Four Reasons to Complete an A/C Tune-Up

1. Improves efficiency by 30%, reducing your monthly bill.
2. Helps the unit last longer and run more reliably.
3. Makes for a cooler indoor environment with better humidity control.
4. Comes with an instant rebate of up to $150 from Energy Smart.

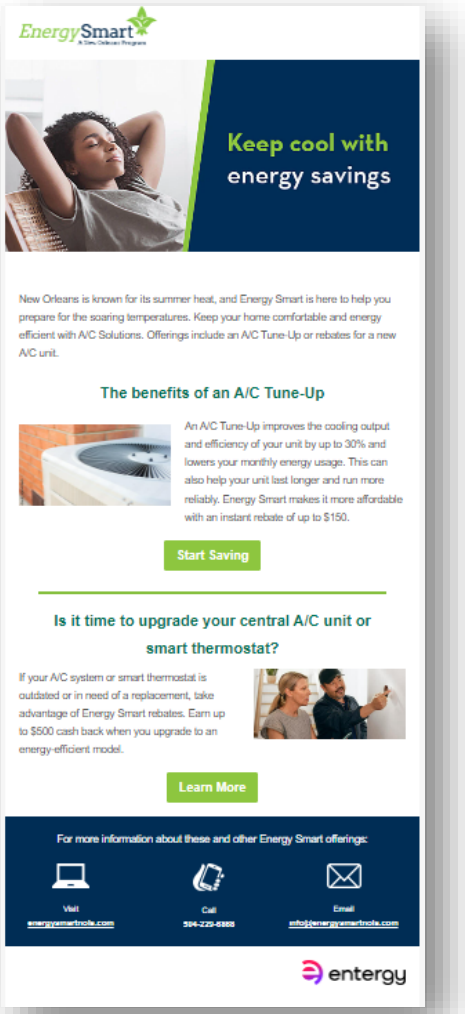
Stay Cool and Start Saving Energy.
Visit **energysmartnola.com/cooloff** or call **504-229-6868** to schedule your A/C Tune-Up today.

E-072212 | 063-0301-10-00

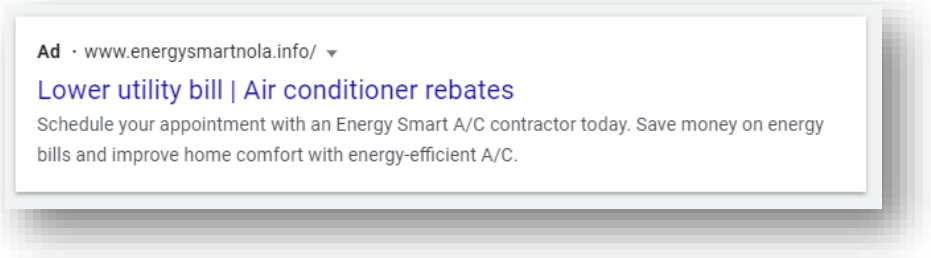
entergy

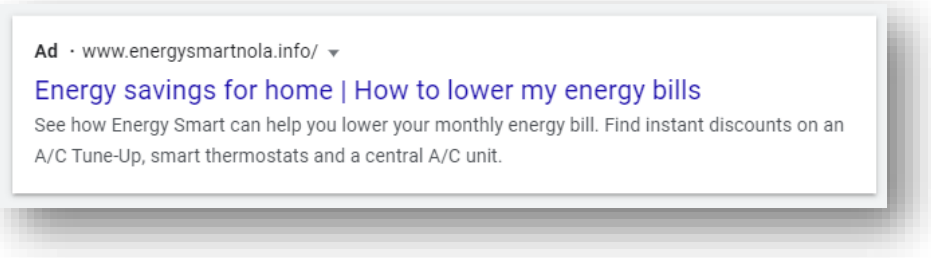
Keep Your Cool Campaign

Email 1

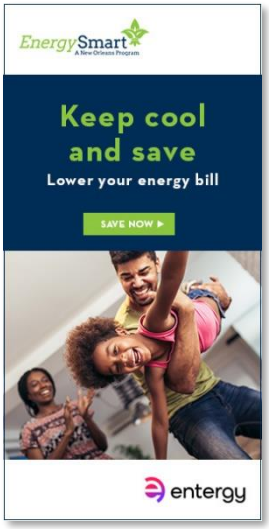


Google Search Ads

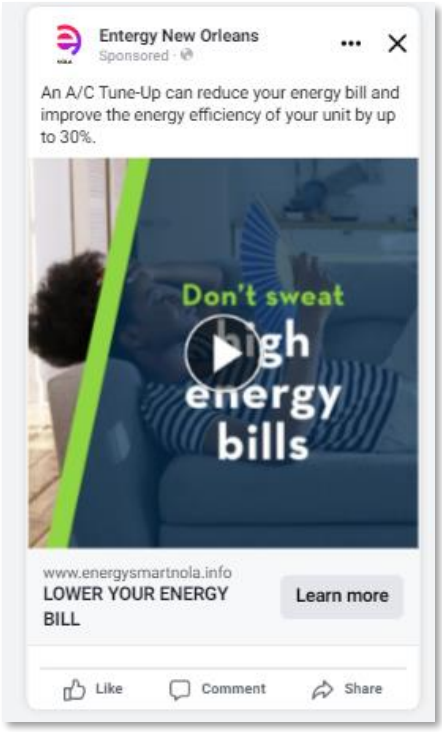




Google Display



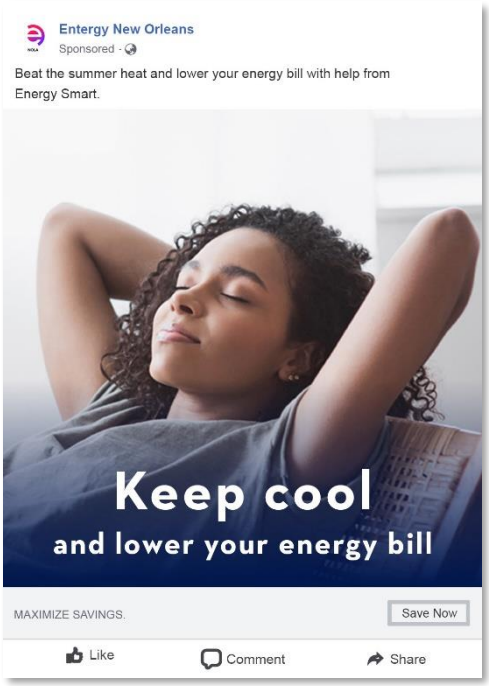
Facebook Ad 1 – Video/Gif

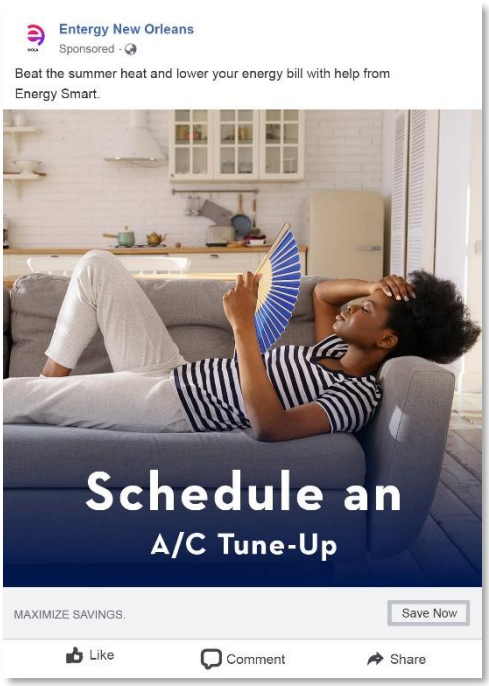


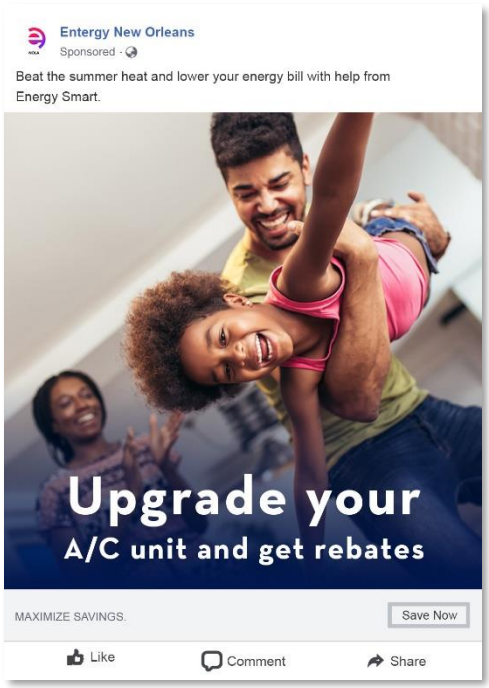
***Gambit Weekly* Print Ad 1**

***Gambit Weekly* Digital Ad 1**

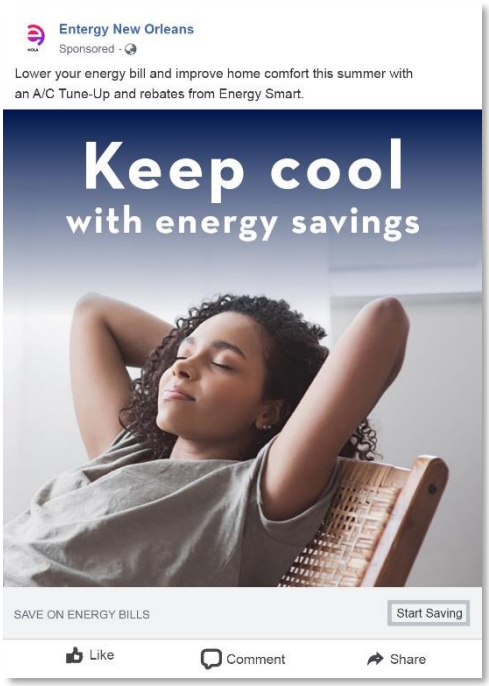
Facebook Ad 2 - Carousel







Facebook Ad 3 – Static Image with 2 Options



Postcard

***Gambit Weekly* Print Ad 2**

***Gambit Weekly* Digital Ad 2**

Email 2

EnergySmart
A New Orleans Program

Save on your energy bills this summer with A/C Solutions and energy-efficient product rebates from Energy Smart. They're all designed to keep your home cool and comfortable.

The benefits of an A/C Tune-Up

An A/C Tune-Up improves the cooling output and efficiency of your unit by up to 30 percent and lowers your monthly energy usage. This can also help your unit last longer and run more reliably. Energy Smart makes it more affordable with an instant rebate of up to $150.

Start Saving

Is it time to upgrade your central A/C unit or smart thermostat?

If your A/C system or smart thermostat is outdated or in need of a replacement, take advantage of Energy Smart rebates. Earn up to $500 cash back when you upgrade to an energy-efficient model.

Learn More

For more information about these and other Energy Smart offerings:

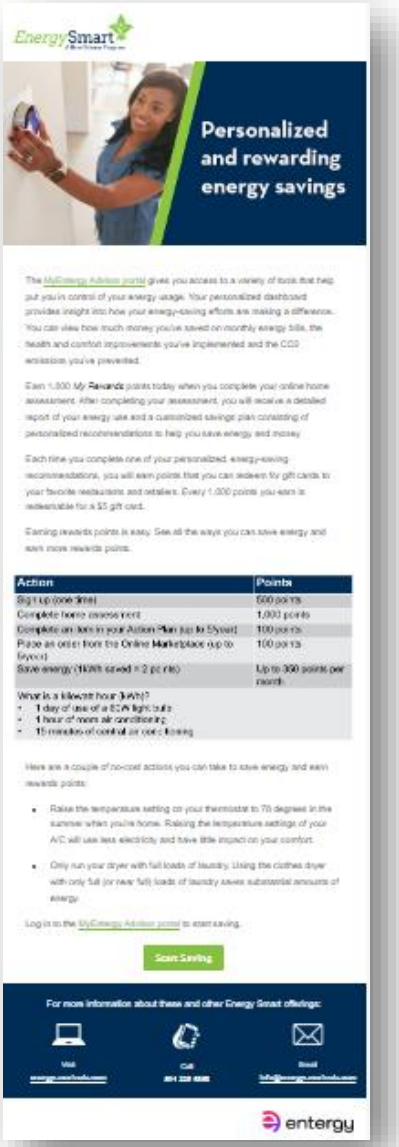
Visit
energysmartnola.com

Call
504-229-6868

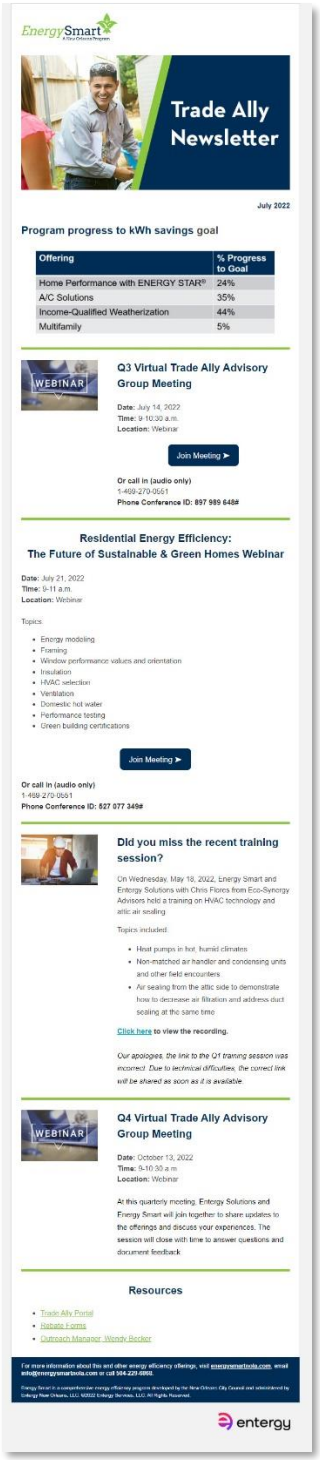
Email
info@energysmartnola.com

entergy

My Rewards Emails



Trade Ally Emails – Q3 Newsletter



EnergySmart

Trade Ally Newsletter

July 2022

Program progress to kWh savings goal

Offering	% Progress to Goal
Home Performance with ENERGY STAR®	24%
A/C Solutions	35%
Income-Qualified Weatherization	44%
Multifamily	5%

WEBINAR

Q3 Virtual Trade Ally Advisory Group Meeting

Date: July 14, 2022
Time: 9-10:30 a.m.
Location: Webinar

Join Meeting ➤

Or call in (audio only)
1-469-270-0661
Phone Conference ID: 897 989 648#

Residential Energy Efficiency: The Future of Sustainable & Green Homes Webinar

Date: July 21, 2022
Time: 9-11 a.m.
Location: Webinar

Topics:

- Energy modeling
- Framing
- Window performance values and orientation
- Insulation
- HVAC selection
- Ventilation
- Domestic hot water
- Performance testing
- Green building certifications

Join Meeting ➤

Or call in (audio only)
1-469-270-0661
Phone Conference ID: 527 077 349#

Did you miss the recent training session?

On Wednesday, May 18, 2022, Energy Smart and Entergy Solutions with Chris Flores from Eco-Synergy Advisors held a training on HVAC technology and attic air sealing.

Topics included:

- Heat pumps in hot, humid climates
- Non-matched air handler and condensing units and other field encounters
- Air sealing from the attic side to demonstrate how to decrease air filtration and address duct sealing at the same time

Click here to view the recording.

Our apologies, the link to the Q1 training session was incorrect. Due to technical difficulties, the correct link will be shared as soon as it is available.

WEBINAR

Q4 Virtual Trade Ally Advisory Group Meeting

Date: October 13, 2022
Time: 9-10:30 a.m.
Location: Webinar

At this quarterly meeting, Entergy Solutions and Energy Smart will join together to share updates to the offerings and discuss your experiences. The session will close with time to answer questions and document feedback.

Resources

- Trade Ally Portal
- Rebate Forms
- Outreach Manager: Wendy Becker

For more information about this and other energy efficiency offerings, visit energysmartnola.com, email info@energysmartnola.com or call 504-229-0866.

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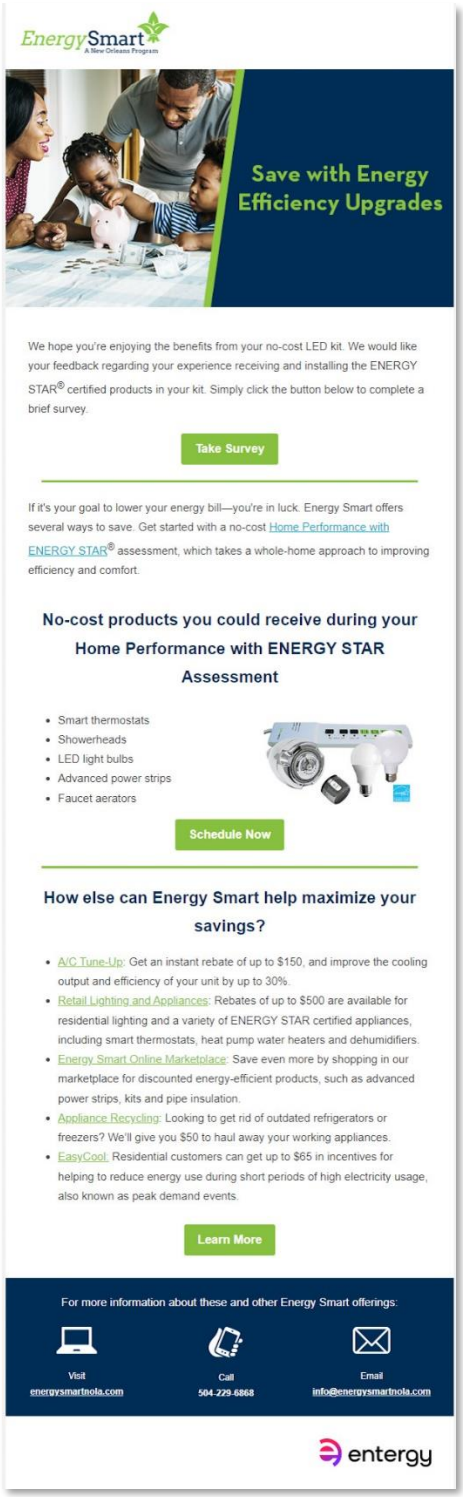
LED Kit Follow Up Email with Customer Survey



EnergySmart
A New Orleans Program

Save with Energy Efficiency Upgrades

We hope you're enjoying the benefits from your no-cost LED kit. We would like your feedback regarding your experience receiving and installing the ENERGY STAR® certified products in your kit. Simply click the button below to complete a brief survey.

Take Survey

If it's your goal to lower your energy bill—you're in luck. Energy Smart offers several ways to save. Get started with a no-cost Home Performance with ENERGY STAR® assessment, which takes a whole-home approach to improving efficiency and comfort.

No-cost products you could receive during your Home Performance with ENERGY STAR Assessment

- Smart thermostats
- Showerheads
- LED light bulbs
- Advanced power strips
- Faucet aerators

Schedule Now

How else can Energy Smart help maximize your savings?

- A/C Tune-Up: Get an instant rebate of up to $150, and improve the cooling output and efficiency of your unit by up to 30%.
- Retail Lighting and Appliances: Rebates of up to $500 are available for residential lighting and a variety of ENERGY STAR certified appliances, including smart thermostats, heat pump water heaters and dehumidifiers.
- Energy Smart Online Marketplace: Save even more by shopping in our marketplace for discounted energy-efficient products, such as advanced power strips, kits and pipe insulation.
- Appliance Recycling: Looking to get rid of outdated refrigerators or freezers? We'll give you $50 to haul away your working appliances.
- EasyCool: Residential customers can get up to $65 in incentives for helping to reduce energy use during short periods of high electricity usage, also known as peak demand events.

Learn More

For more information about these and other Energy Smart offerings:

Visit
energysmartnola.com

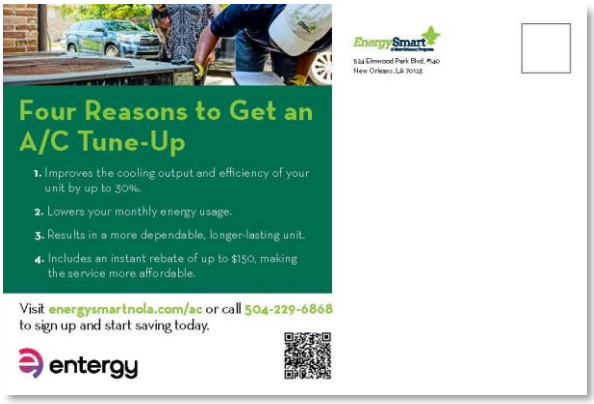
Call
504-229-6868

Email
info@energysmartnola.com

entergy

A/C Tune-Up Customer Reach Back Campaign Materials

Postcard



Email

EnergySmart
A New Orleans Program

Achieve
Cool Savings
with an
A/C Tune-Up

Summer is not over yet. There is still time to take advantage of an Energy Smart A/C Tune-Up. It's an easy way to stay cool and comfortable, and ensure your A/C system is running efficiently.

Why Should I Get an A/C Tune-Up?

- Improves the cooling output and efficiency of your unit by up to 30%.
- Lowers your monthly energy usage.
- Results in a more dependable, longer-lasting unit.
- Includes an instant rebate of up to $150, making the service more affordable.

Start Saving

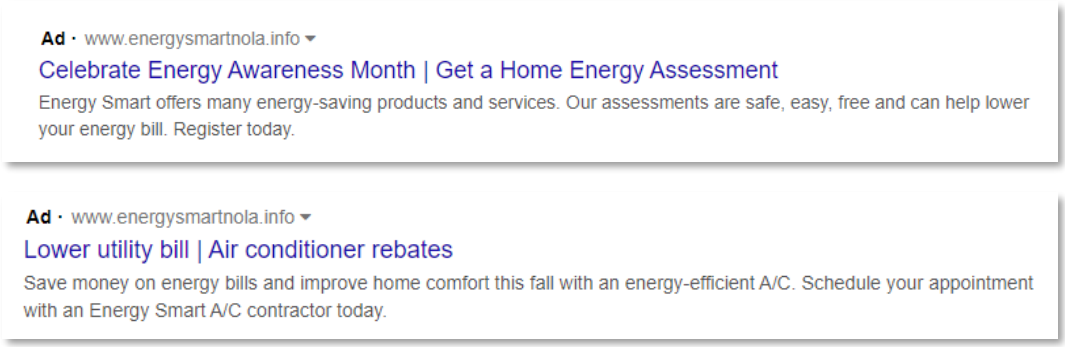
For more information about these and other Energy Smart offerings:

Visit	Call	Email
energysmartnola.com	504-229-6868	info@energysmartnola.com

entergy

Energy Awareness Month Campaign Materials

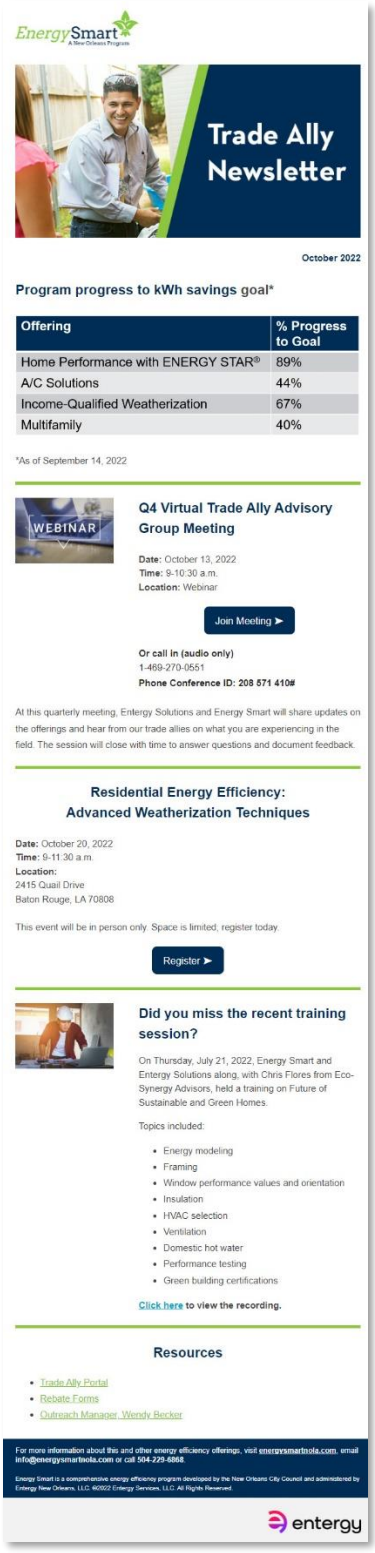
Google Search



Email


EnergySmart
Schedule Your Appointment
TODAY
Bring savings home during
National Energy Awareness Month
October is National Energy Awareness Month. That's why we're making you aware of all the energy-saving products and services available through our Energy Smart program.
Schedule Now
Home Performance with
ENERGY STAR®
Manage your home comfort and energy costs with a comprehensive no-cost whole-house assessment.
A Home Performance with ENERGY STAR® assessment includes free installation of no-cost LED light bulbs, a smart thermostat, water aerators, power strips and pipe insulation.
You can qualify for rebates on additional services such as duct sealing, an A/C Tune-Up and A/C replacements.
Celebrate ENERGY STAR Day with even more savings for your home
October 12 is ENERGY STAR Day. Look for the blue ENERGY STAR label on your current lighting, appliances, and heating and cooling equipment. If you don't see the blue label, replace it. With rebates and instant discounts from Energy Smart, saving energy and money at home is easy.
Retail lighting and appliances: Get instant discounts on residential lighting and rebates of up to $500 on a variety of ENERGY STAR certified appliances, including smart thermostats, heat pump water heaters and dehumidifiers.
Energy Smart online marketplace: Save even more by shopping in our marketplace for discounted energy-efficient products, such as advanced power strips, kits and pipe insulation.
A/C Solutions: Get a rebate of up to $500 on a new energy-efficient ductless mini-split heat pump, air source heat pump or central air conditioner.
For more information about these and other Energy Smart offerings:
Visit
energysmartnola.com
Call 504-225-6868
Email
info@energysmartnola.com
entergy

Trade Ally Emails – Q4 Newsletter



EnergySmart
A New Orleans Program

Trade Ally Newsletter

October 2022

Program progress to kWh savings goal*

Offering	% Progress to Goal
Home Performance with ENERGY STAR®	89%
A/C Solutions	44%
Income-Qualified Weatherization	67%
Multifamily	40%

*As of September 14, 2022

Q4 Virtual Trade Ally Advisory Group Meeting

Date: October 13, 2022
Time: 9-10:30 a.m.
Location: Webinar

Join Meeting ➤

Or call in (audio only)
1-469-270-0551
Phone Conference ID: 208 571 410#

At this quarterly meeting, Entergy Solutions and Energy Smart will share updates on the offerings and hear from our trade allies on what you are experiencing in the field. The session will close with time to answer questions and document feedback.

Residential Energy Efficiency: Advanced Weatherization Techniques

Date: October 20, 2022
Time: 9-11:30 a.m.
Location:
2415 Quail Drive
Baton Rouge, LA 70808

This event will be in person only. Space is limited, register today.

Register ➤

Did you miss the recent training session?

On Thursday, July 21, 2022, Energy Smart and Entergy Solutions along, with Chris Flores from Eco-Synergy Advisors, held a training on Future of Sustainable and Green Homes.

Topics included:

- Energy modeling
- Framing
- Window performance values and orientation
- Insulation
- HVAC selection
- Ventilation
- Domestic hot water
- Performance testing
- Green building certifications

Click here to view the recording.

Resources

- Trade Ally Portal
- Rebate Forms
- Outreach Manager, Wendy Becker

For more information about this and other energy efficiency offerings, visit energysmartnola.com, email info@energysmartnola.com or call 504-229-6868.

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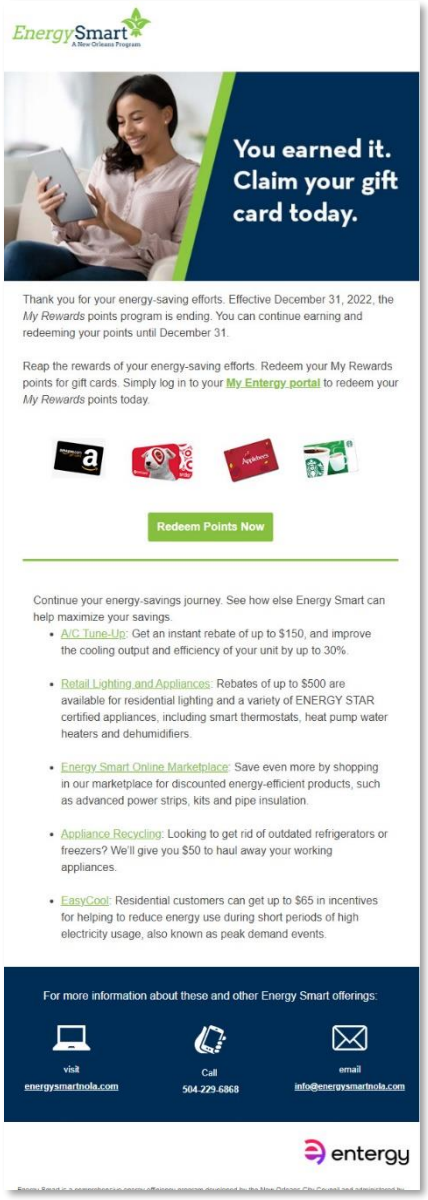
My Rewards Emails

Lead Gen (November 17)

Remarketing (November 30)

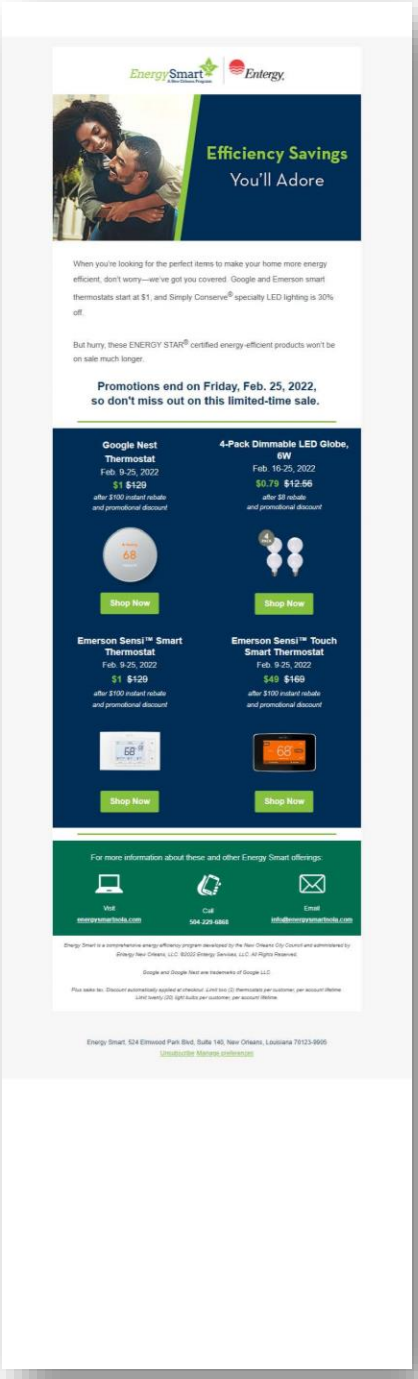


Online Marketplace Promotions

Valentine's Day Sample Materials

Lead Generation Email

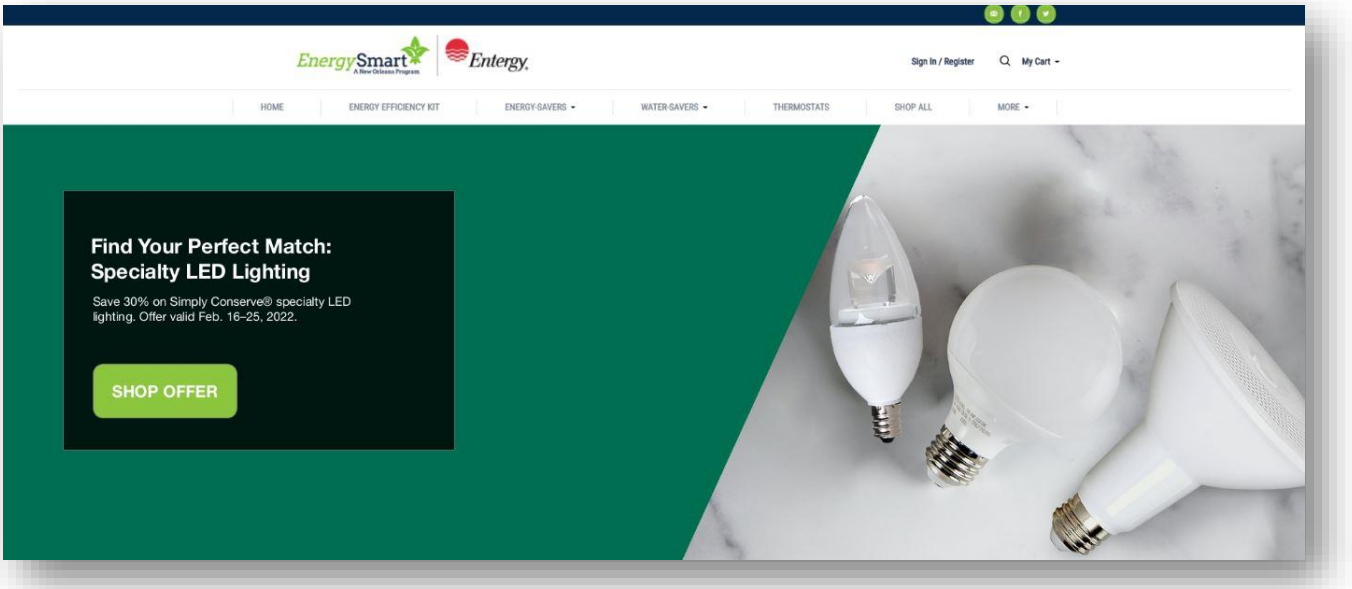
Remarketing Email



Valentine's Day Sample Materials

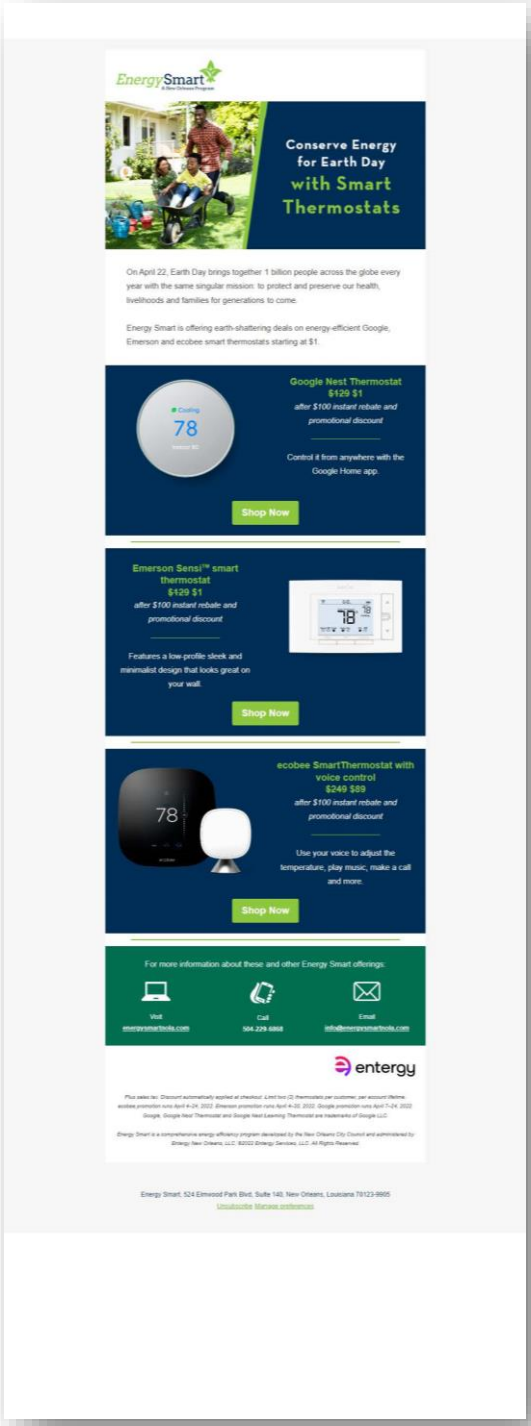
Facebook Ad

Homepage Banner

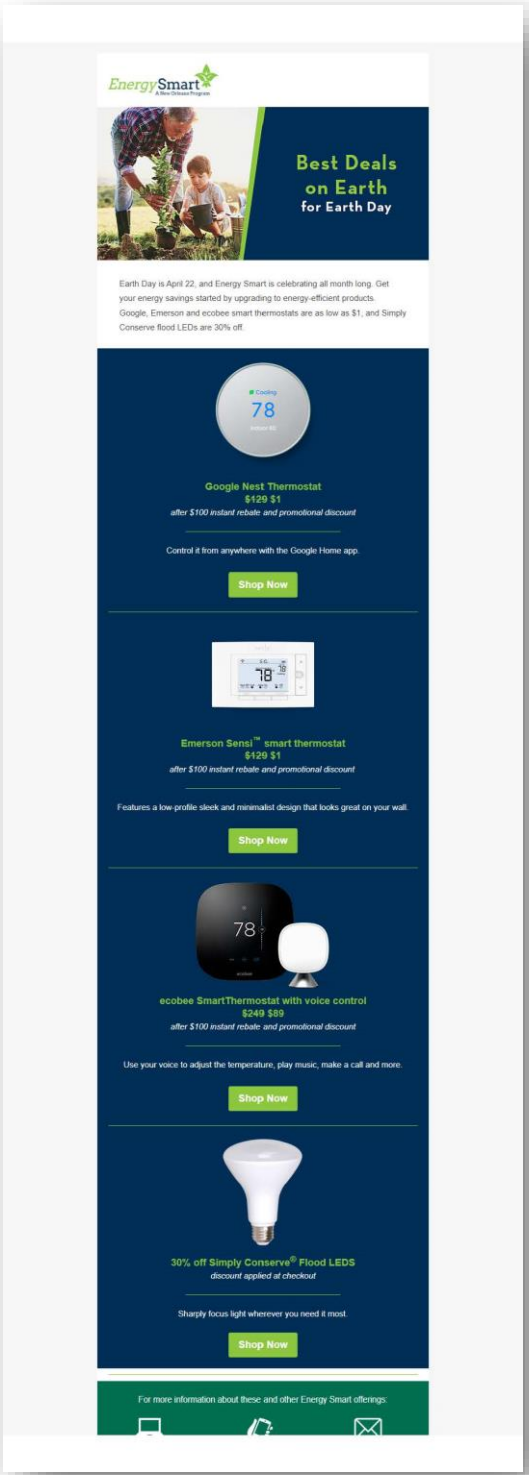


Earth Day Sample Materials

Lead Generation Email

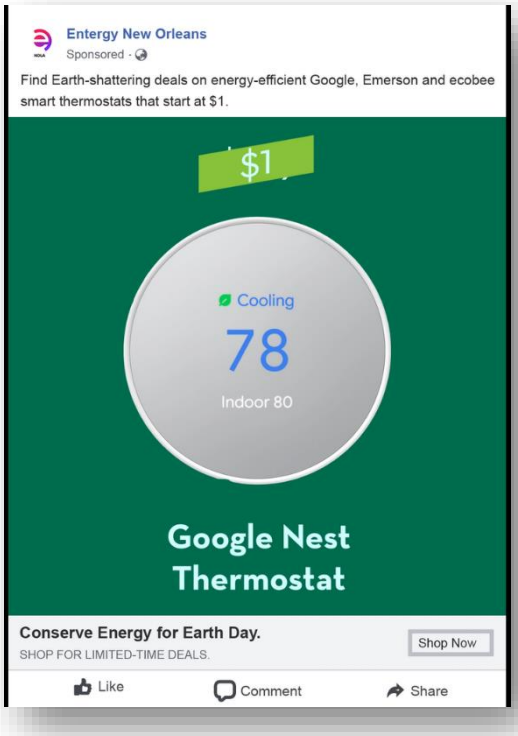


Remarketing Email 1 & 2

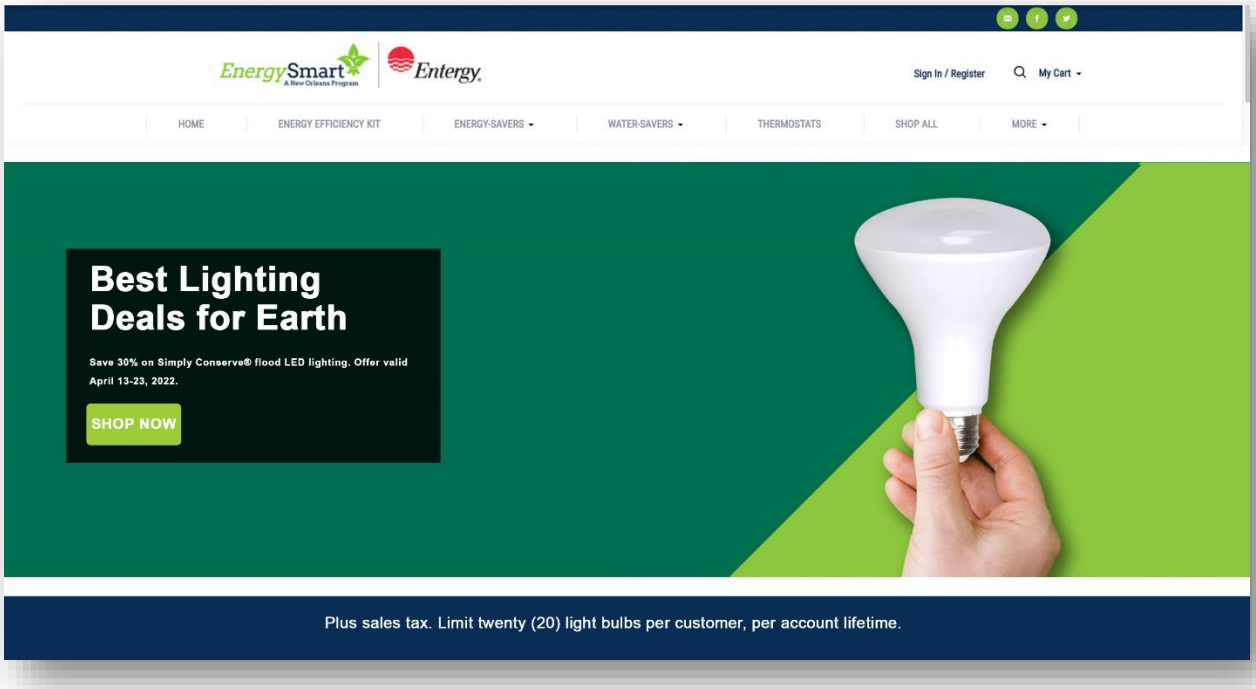


Earth Day Sample Materials

Facebook Ad

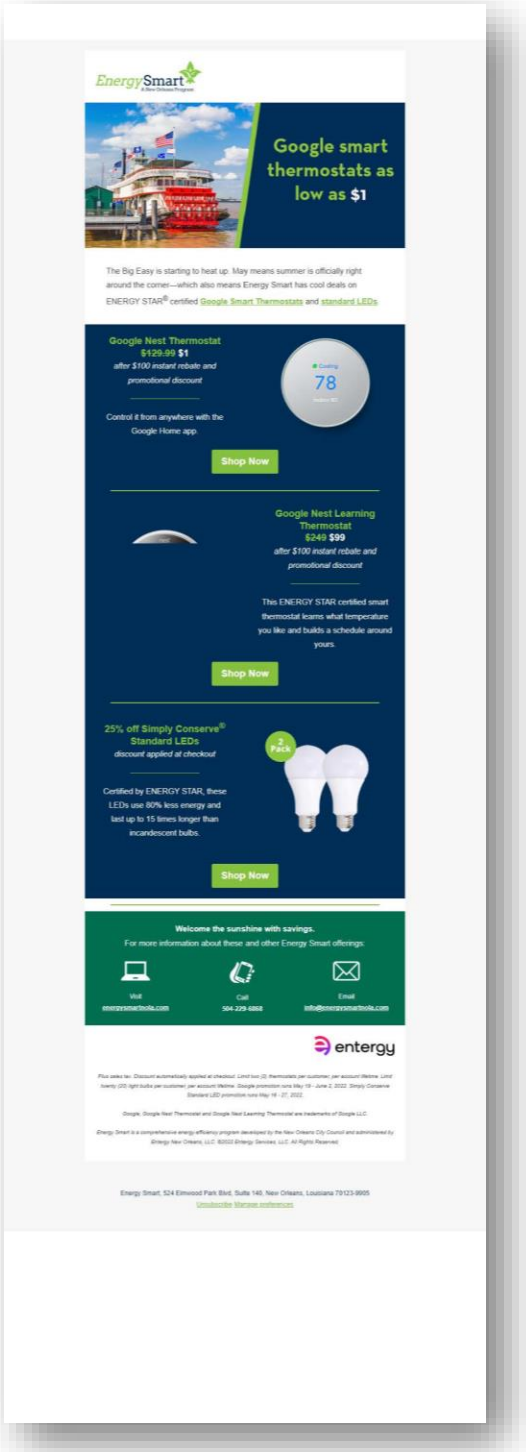


Homepage Banner



Memorial Day Sample Materials

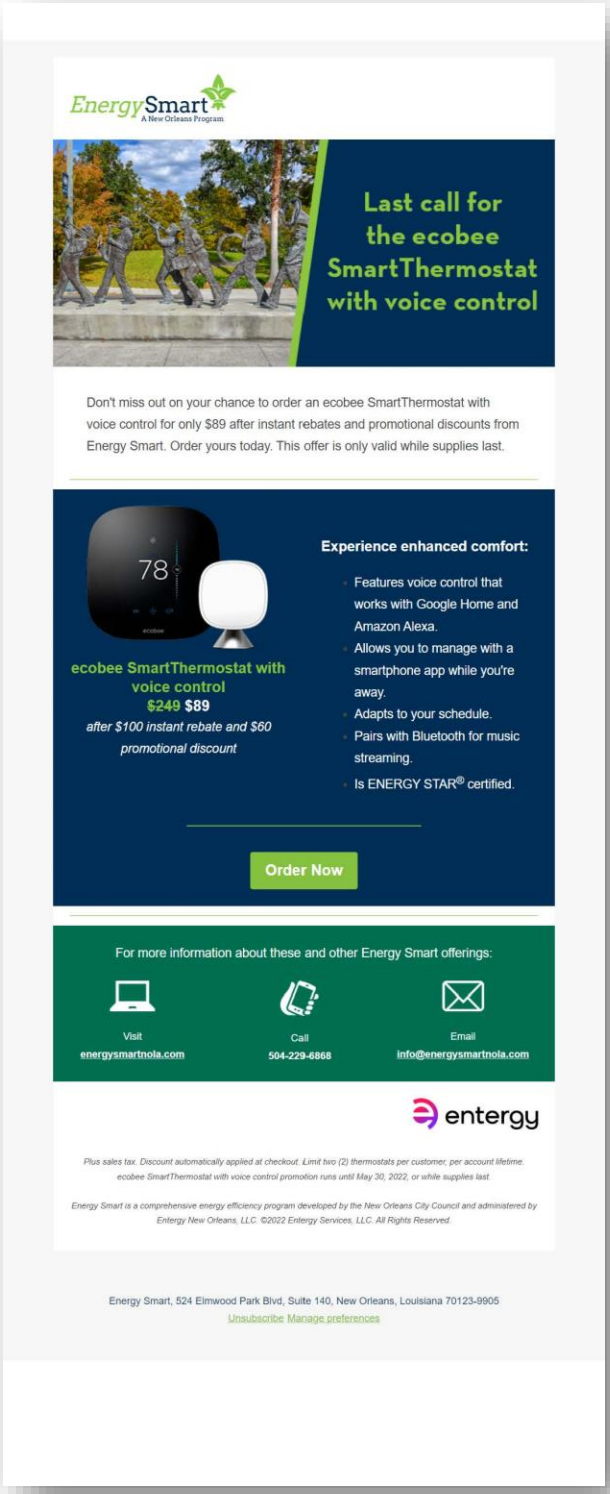
Lead Generation Email



Remarketing Email

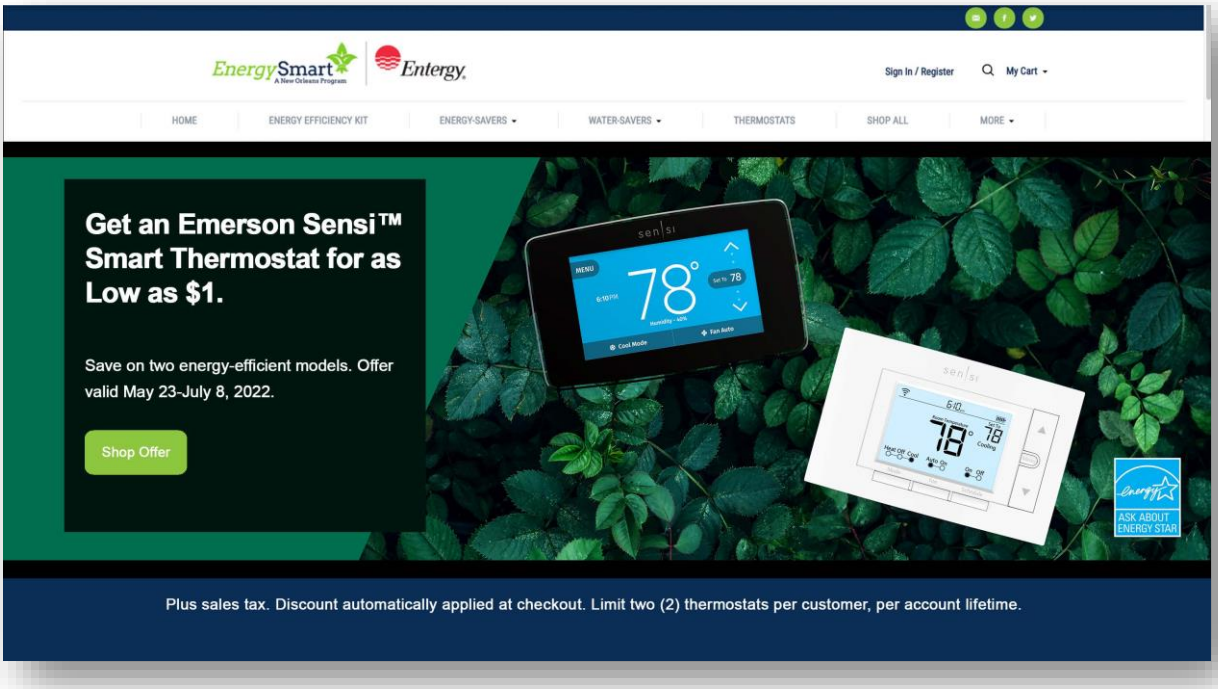
Memorial Day Sample Materials

SmartThermostat with Voice Control Email



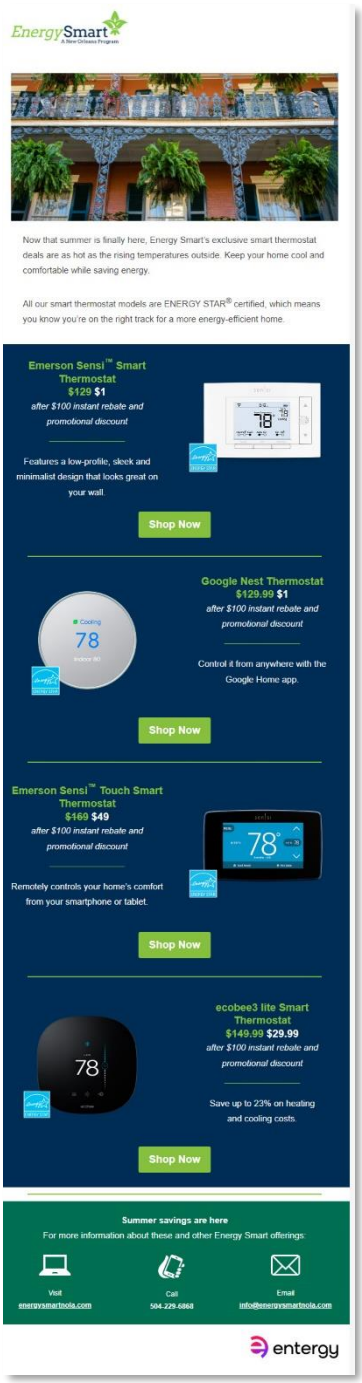
Memorial Day Sample Materials

Homepage Banner

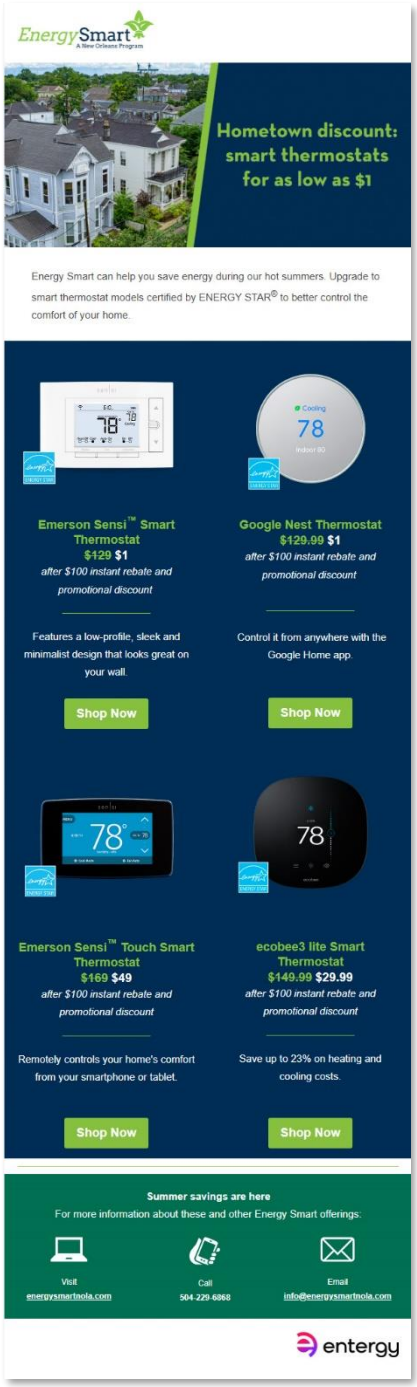


Summer Promotion Sample Materials

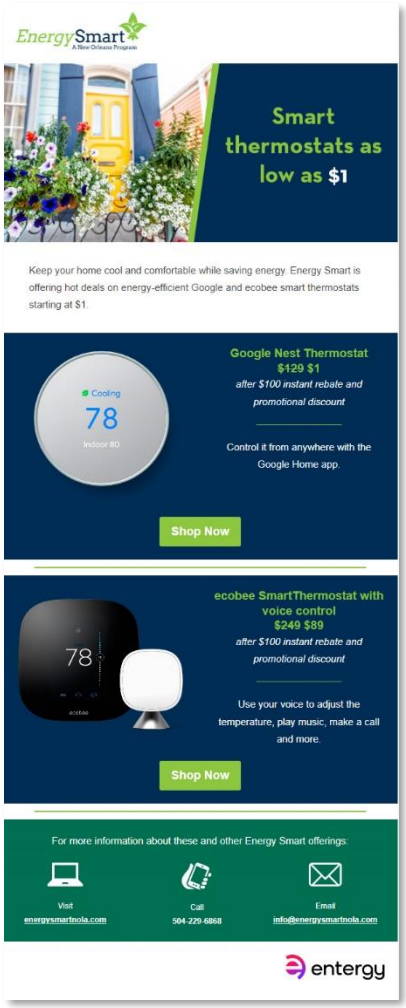
Lead Generation Email



Remarketing Email 1 & 2

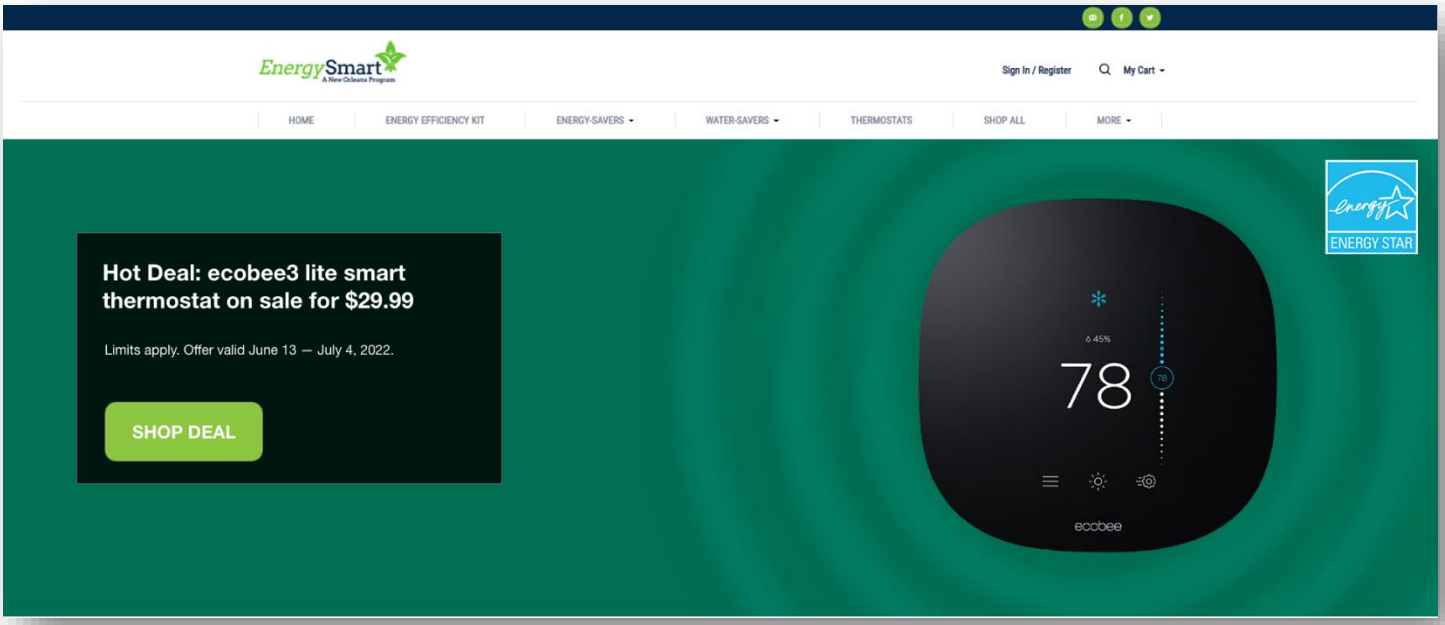


Google Flash Sale

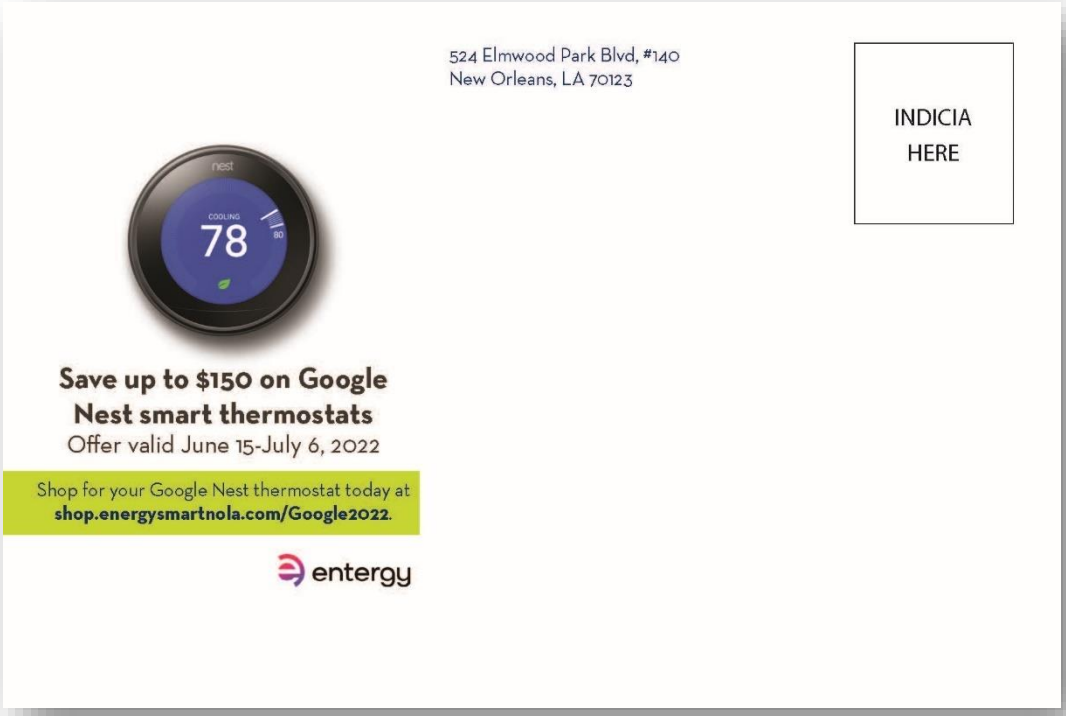


Summer Promotion Sample Materials

Homepage Banner

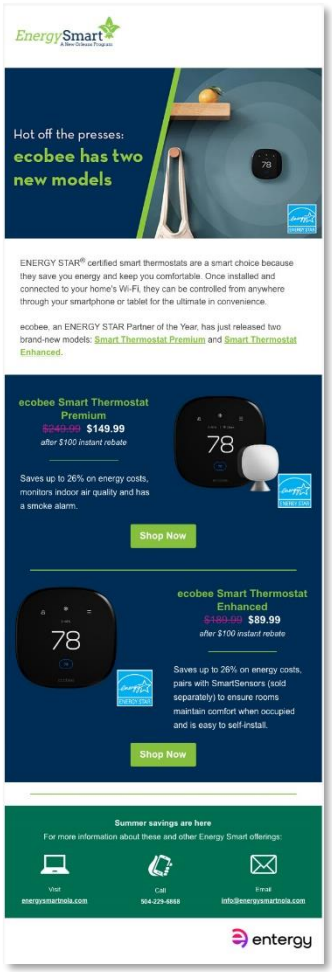


Google Postcard Sample Materials

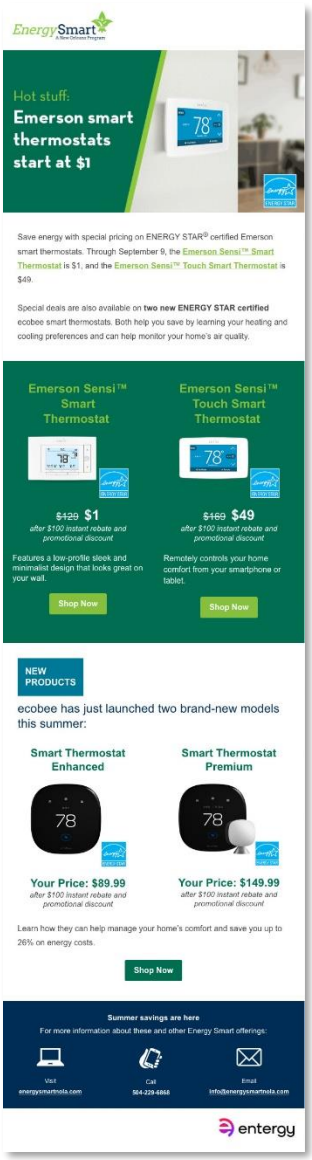


Summer Promotion Sample Materials

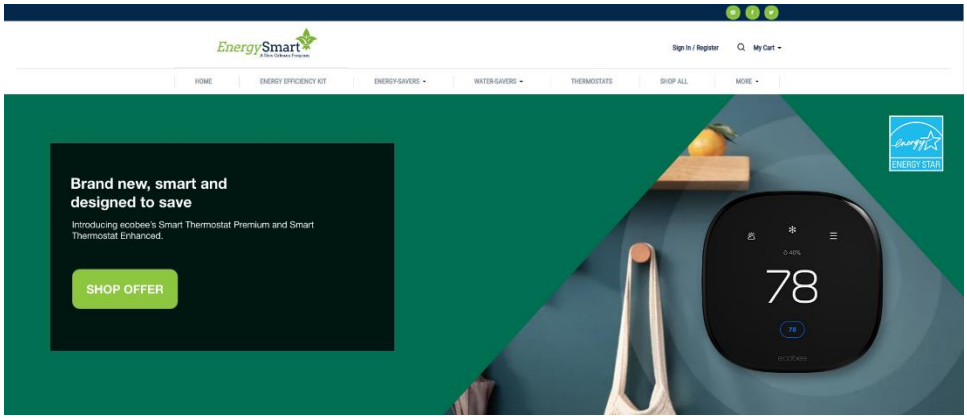
Lead Generation Email



Remarketing Email



Homepage Banner



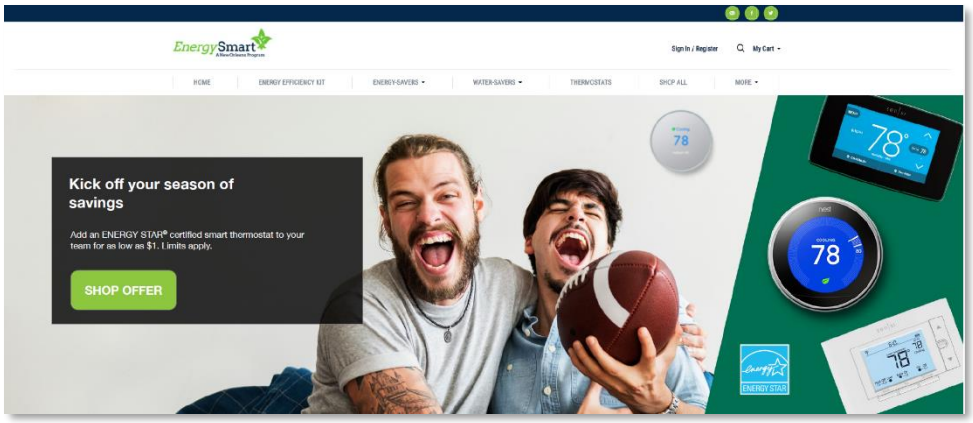
Facebook Video Ad

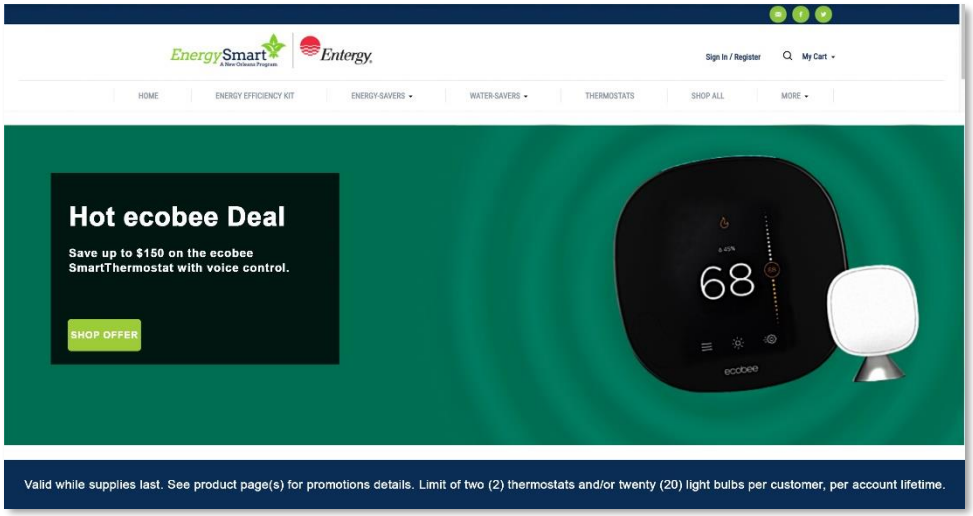
Fall Promotion Sample Materials

Lead Generation Email

Remarketing Email

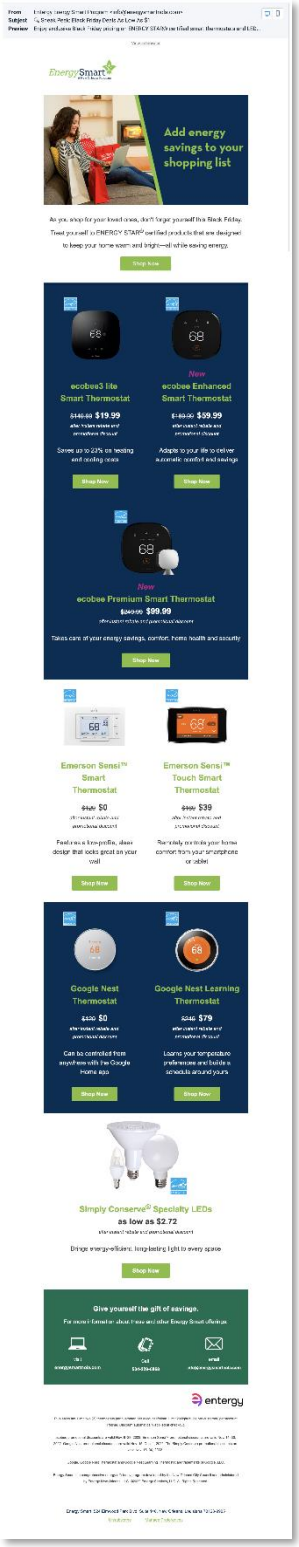
Homepage Banners



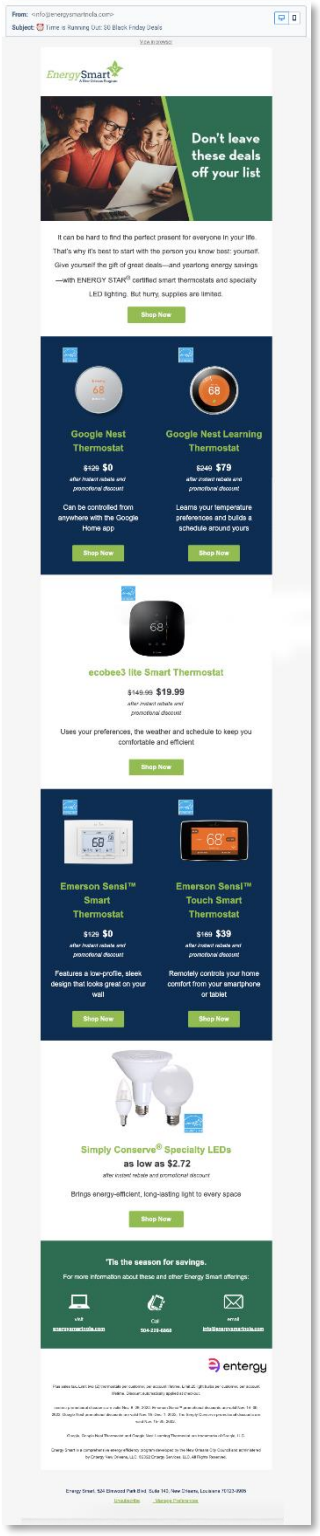


Black Friday/Cyber Monday Promotion Sample Materials

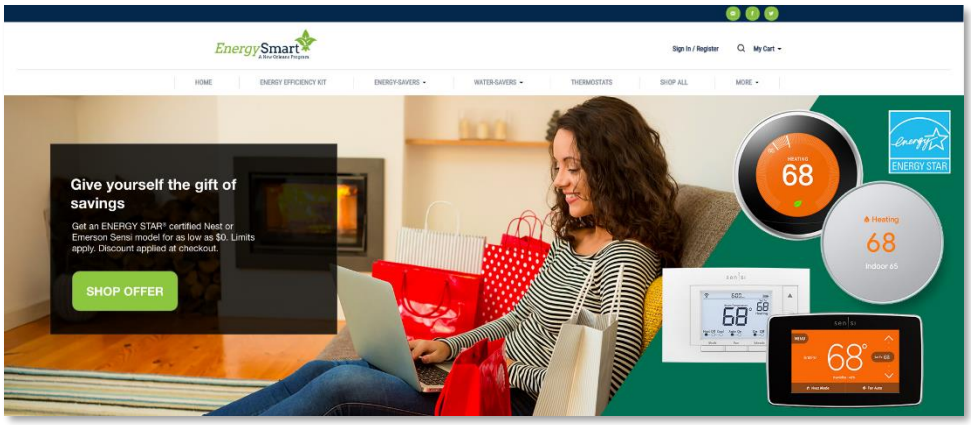
Lead Generation Email

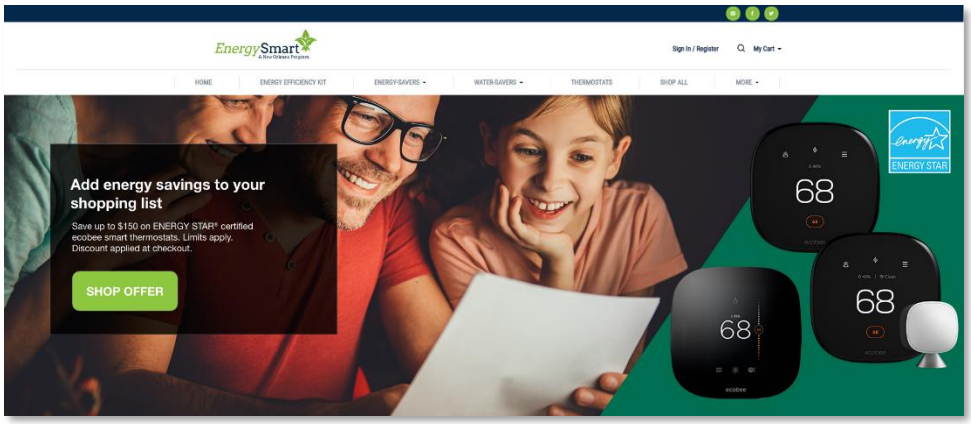


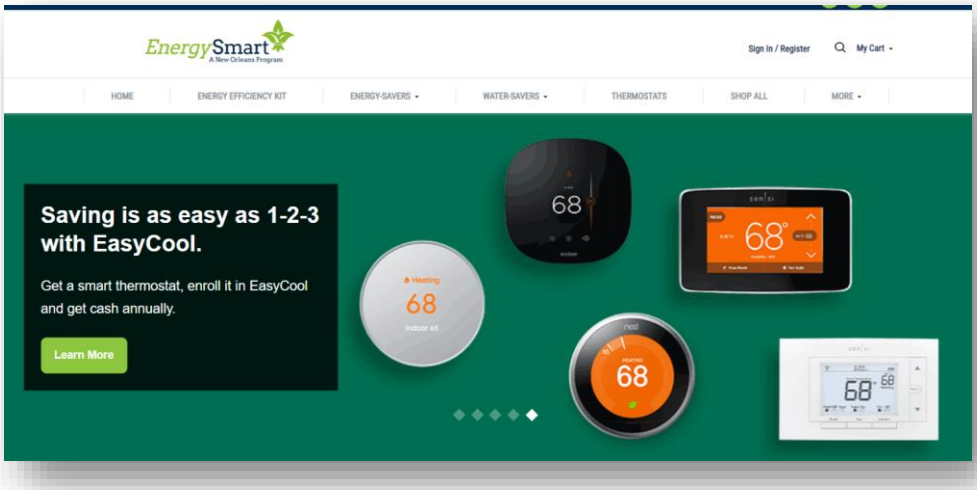
Remarketing Email



Homepage Banners



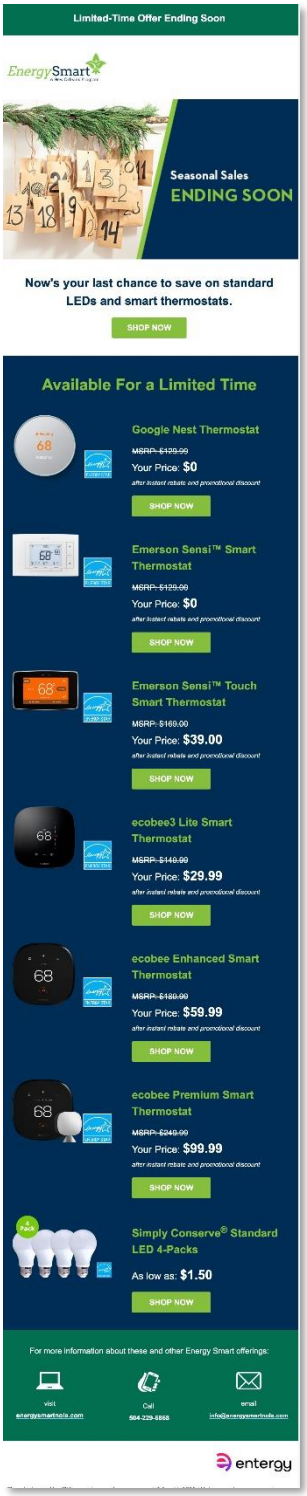




Holiday Promotion Sample Materials

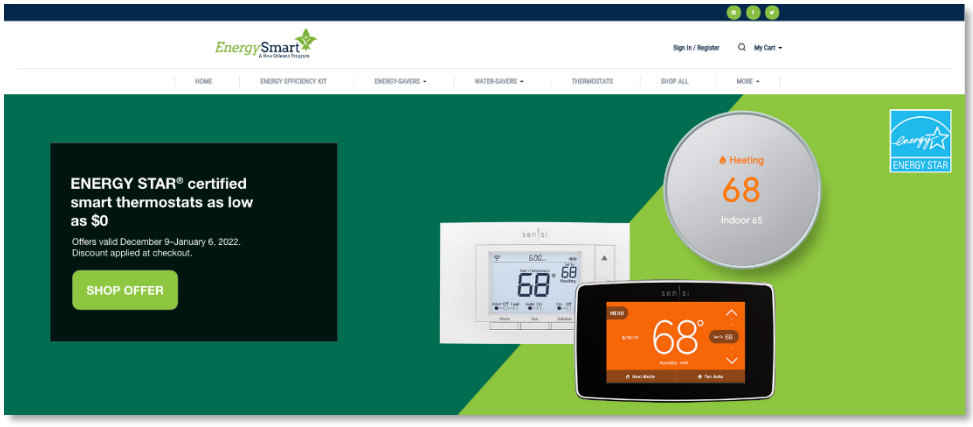
Lead Generation Email

Remarketing Email 1



Remarketing Email 2

Homepage Banner



Appliance Recycling Marketing Materials

Email

Customer Leave Behind


Why recycle?
1
You Get $50 – You'll automatically receive a check for $50 within four to six weeks of your pickup. No hassle, no rebate forms to fill out.
2
You'll Save Money – Refrigerators that are 15 years or older use twice as much energy as a new ENERGY STAR® unit. Make the switch, and reduce your electric bill.
3
It's Easy – We'll pick up your secondary fridge or freezer for free in one convenient, 15-minute appointment. No need to haul your appliance to the curb – we'll pick it up from inside your home.
4
It's Environmentally Responsible – All refrigerators and freezers collected will be responsibly recycled, preventing up to 10,000 pounds of carbon pollution.
Appliance recycling is available for customers with a working, secondary refrigerator or freezer.*
To schedule your free pickup, visit energysmartnola.com/recycle scan the QR code or call 877-743-3128.
Energy Smart is a comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, LLC. ©2022 Entergy Services, LLC. All Rights Reserved.
*Size and other restrictions apply.
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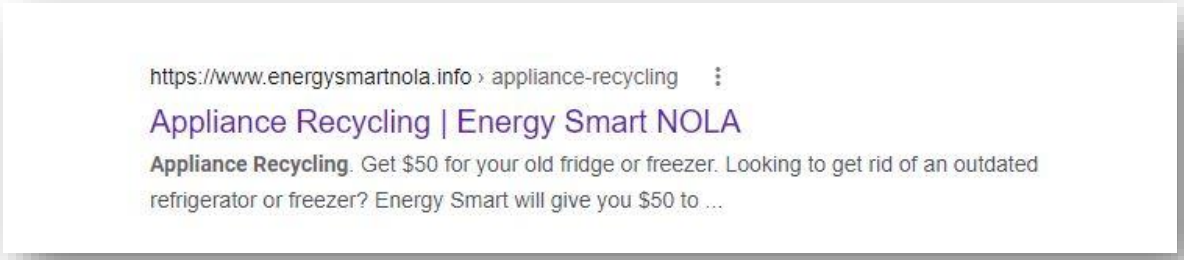
Social Ad

Paid Search



Bill Insert


EnergySmart
A New Orleans Program
Go green. Get green. Get $50 for your old fridge or freezer.
Recycle in three easy steps:
1 Schedule your pickup in minutes by visiting energysmartnola.com/recycle, scanning the QR code below or by calling 877-743-3128.
2 Energy Smart will haul away your working fridge or freezer* at no cost.
3 Receive your $50 check in the mail.
To schedule your free pickup, visit energysmartnola.com/recycle scan the QR code or call 877-743-3128.
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*Size and other restrictions apply.
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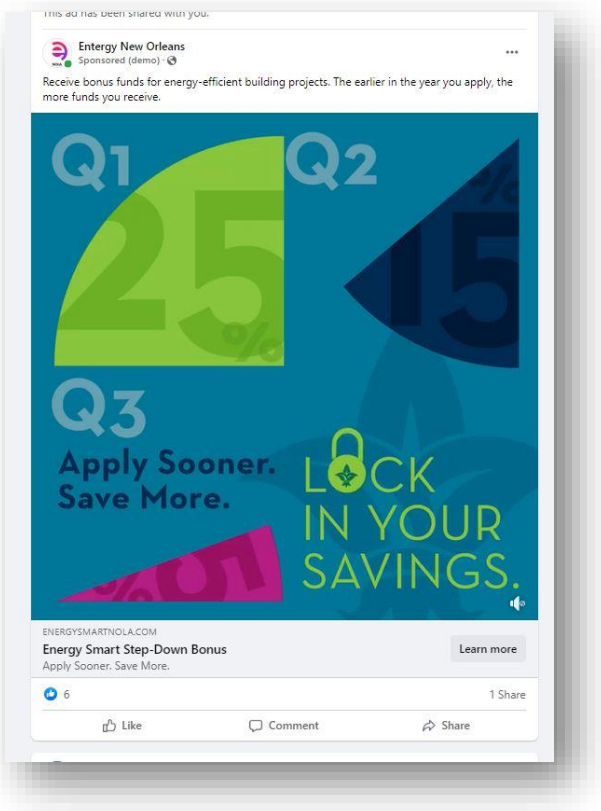
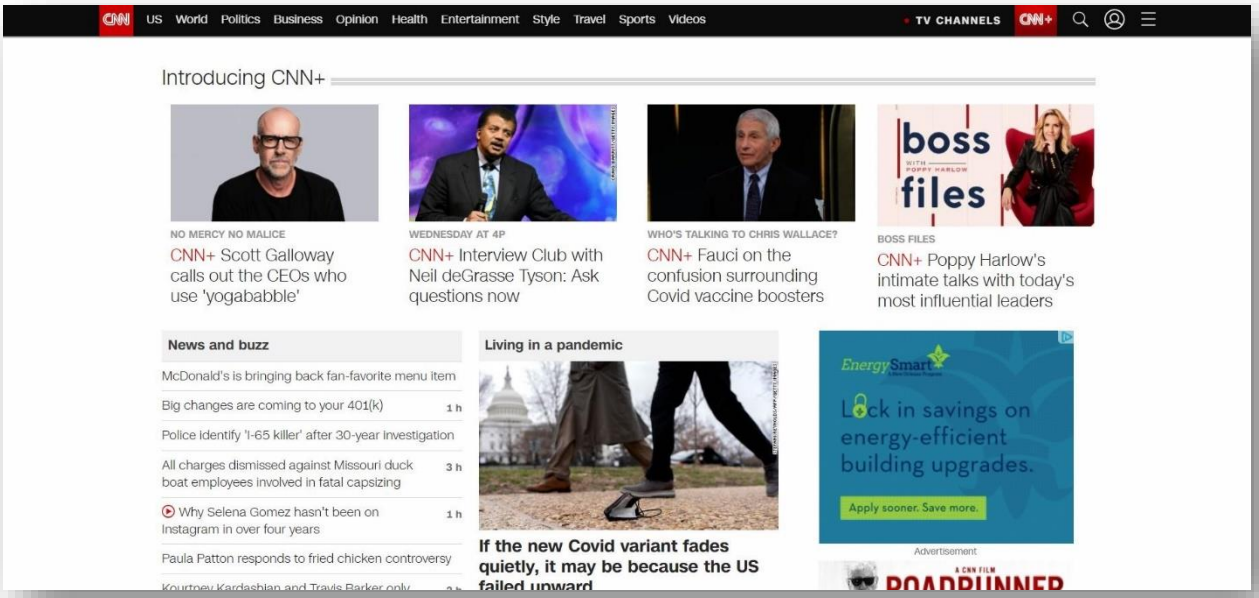
Step-Down Bonus Campaign

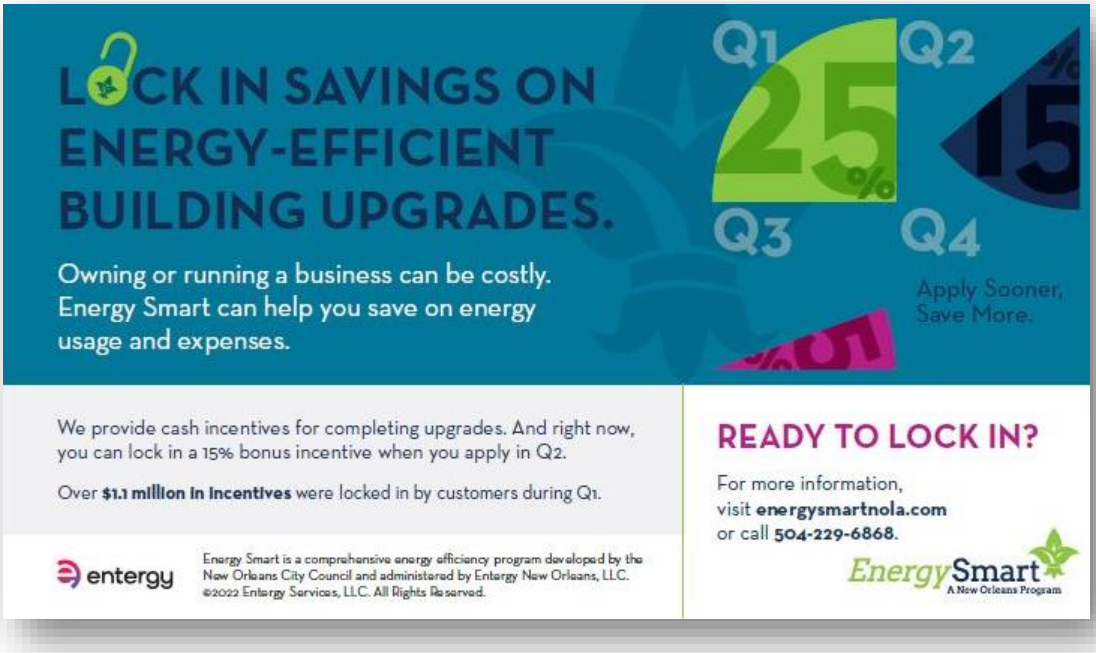
Social Creative



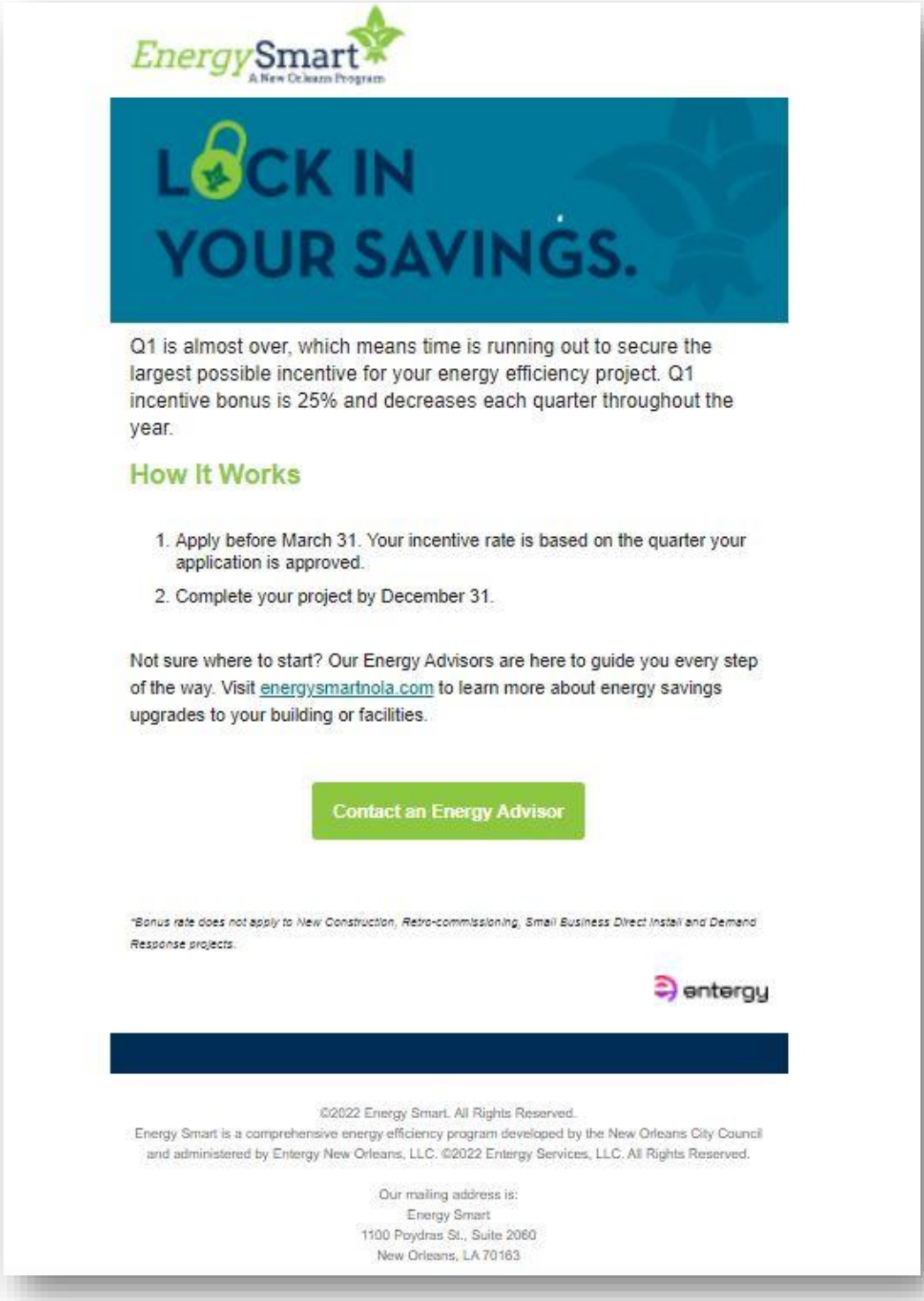
Digital Display



Half-Page Print Ad in City Business Journal



Q1 Email



EnergySmart
A New Orleans Program

LOCK IN YOUR SAVINGS.

Q1 is almost over, which means time is running out to secure the largest possible incentive for your energy efficiency project. Q1 incentive bonus is 25% and decreases each quarter throughout the year.

How It Works

1. Apply before March 31. Your incentive rate is based on the quarter your application is approved.
2. Complete your project by December 31.

Not sure where to start? Our Energy Advisors are here to guide you every step of the way. Visit energysmartnola.com to learn more about energy savings upgrades to your building or facilities.

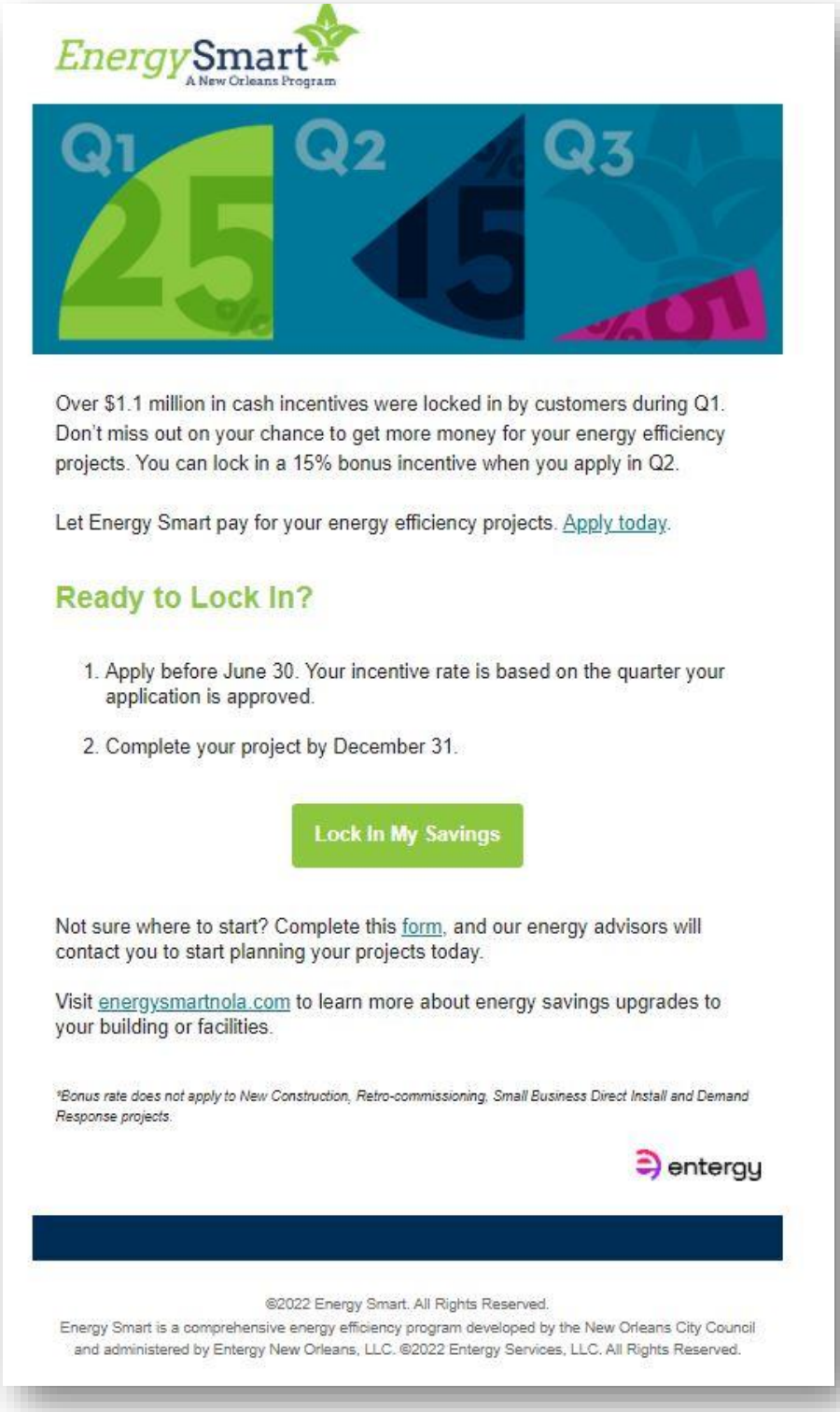
Contact an Energy Advisor

*Bonus rate does not apply to New Construction, Retro-commissioning, Small Business Direct Install and Demand Response projects.

entergy

Our mailing address is:
Energy Smart
1100 Poydras St., Suite 2060
New Orleans, LA 70163

Q2 Email


EnergySmart
A New Orleans Program
Q1
25%
Q2
15%
Q3
Over $1.1 million in cash incentives were locked in by customers during Q1. Don't miss out on your chance to get more money for your energy efficiency projects. You can lock in a 15% bonus incentive when you apply in Q2.
Let Energy Smart pay for your energy efficiency projects. Apply today.
Ready to Lock In?
1. Apply before June 30. Your incentive rate is based on the quarter your application is approved.
2. Complete your project by December 31.
Lock In My Savings
Not sure where to start? Complete this form, and our energy advisors will contact you to start planning your projects today.
Visit energysmartnola.com to learn more about energy savings upgrades to your building or facilities.
*Bonus rate does not apply to New Construction, Retro-commissioning, Small Business Direct Install and Demand Response projects.
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Q2 Second Email

EnergySmart
A New Orleans Program

Don't miss out on your chance to lock in your 15% bonus incentive in Q2. Let Energy Smart pay for your energy efficiency upgrades. **Over $1.1 million** in cash incentives were locked in by customers in Q1. Lock in your savings before June 30.

Ready to Lock In?

1. Apply before June 30. Your incentive rate is based on the quarter your application is approved.
2. Complete your project by December 31.

Lock In My Savings

Visit energysmartnola.com to learn more about energy savings upgrades to your building or facilities.

Not sure where to start? Complete this form, and our energy advisors will contact you to start planning your projects today.

**Bonus rate does not apply to New Construction, Retro-commissioning, Small Business Direct Install and Demand Response projects.*

entergy

Our mailing address is:
Energy Smart
1100 Poydras St., Suite 2060
New Orleans, LA 70163

Want to change how you receive these emails?
You can update your preferences or unsubscribe from this list.

:30 Radio for WBOK 1230 AM

:30 Radio Script

New Orleans business customers let Energy Smart help pay for energy efficiency upgrades to your business. We identify and provide cash incentives for energy savings upgrades, and the sooner you apply, the more money you can get. Incentives are higher earlier in the year, so lock in your savings now. Visit energysmartnola.com to learn more and request a free visit from an Energy Advisor. You can receive up to 100% of your project cost. Apply now to save more.

As-Produced :30 Radio Spot

APTIM 4.7.22
-Wick.mp3

News Release

EnergySmart
A New Orleans Program

FOR IMMEDIATE RELEASE:
Feb. 17, 2022

Media Contact:
Meredith Adams
meredith@thespearsgroup.com
(225) 454-8329

Energy Smart Launches New Financial Incentive Structure for New Orleans Commercial Businesses

NEW ORLEANS – Energy Smart, the comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans, has implemented a new bonus incentive structure that offers companies more money the earlier they apply to complete energy-saving facility upgrades in 2022.

The 'step-down bonus' provides different quarterly bonus incentive levels to help business customers make energy-efficiency upgrades to their buildings or facilities and is available for new projects submitted and approved during the first three quarters of this year. The bonus incentive rate is based on the quarter in which a company's application is approved, with the highest project cost savings going to businesses that apply and are approved now through March 31.

"We're encouraging all commercial customers seeking to make energy-saving upgrades this year to apply now in order to secure the most money for their project," said Derek Mills, manager of Entergy New Orleans' demand-side management programs. "By locking in now, before March 31, you will receive the higher bonus and have until December 31, 2022 to complete the project."

Following application approval, program participants will have until December 31 to complete projects in order to receive their bonus incentive at the locked in rate. The 2022 'step-down bonus' offers a 25% bonus rate for projects approved during the first quarter, 15% during the second quarter and 5% during the third quarter. These bonus incentives are in addition to the standard cash incentives offered by the program for approved energy-efficiency projects and are applied to the overall total project incentive.

"Don't delay those projects," Mills says. "This is a great opportunity to prioritize energy-saving upgrades, reduce long-term operating costs for your business and take advantage of the $6.3 million in available incentives from Energy Smart this year."

Commercial businesses interested in learning more or applying should visit the Energy Smart website or complete this form to receive a call from an energy advisor.

ABOUT ENERGY SMART
Energy Smart provides financial incentives for making energy-efficiency upgrades that decrease unnecessary usage and help businesses save money. The program launched in 2010 and is open to all Entergy New Orleans customers. Since the program began, Energy Smart has distributed more than $36 million in cash incentives and allowed customers to save more than 288 million kilowatt hours. For more information about Energy Smart, visit energysmartnola.com/businesses or call 504-229-6868.

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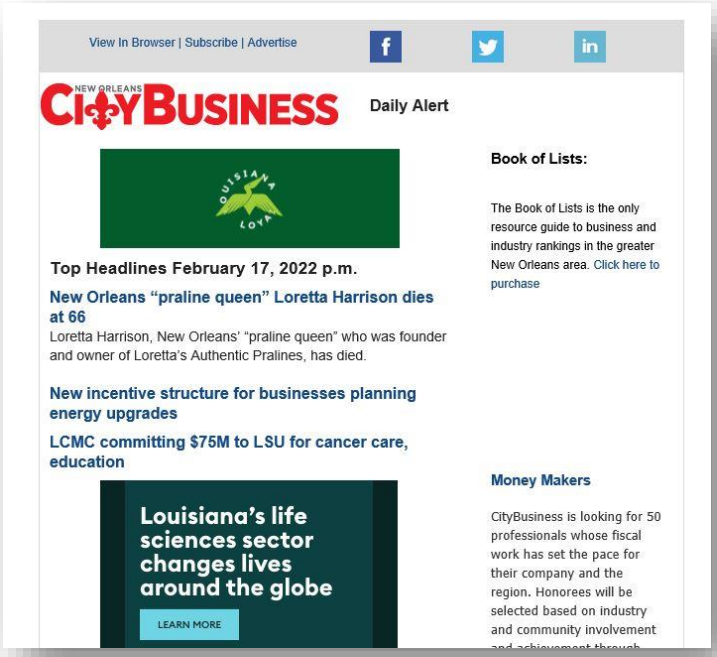
Earned Media



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NEW ORLEANS CITY BUSINESS Daily Alert

Top Headlines February 17, 2022 p.m.

New Orleans "praline queen" Loretta Harrison dies at 66

Loretta Harrison, New Orleans' "praline queen" who was founder and owner of Loretta's Authentic Pralines, has died.

New incentive structure for businesses planning energy upgrades

LCMC committing $75M to LSU for cancer care, education

Louisiana's life sciences sector changes lives around the globe

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Home / News / Energy / New incentive structure for businesses planning energy upgrades

New incentive structure for businesses planning energy upgrades

By: CityBusiness staff reports February 17, 2022 0

Energy Smart, an energy efficiency program for New Orleans commercial businesses, has a new bonus incentive structure that offers companies more money the earlier they apply to complete facility upgrades in 2022.

The program, developed by the City Council and administered by Entergy New Orleans, provides different quarterly bonus incentive levels to help businesses upgrade their buildings. The "step-down bonus" is available for new projects submitted and approved during the first three quarters of this year, a news release said. The incentive rate is based on the quarter in which a company's application is approved, with the highest project cost savings going to those that apply and are approved now through March 31.

Participants have until Dec. 31 to complete projects in order to receive their bonus incentive at the locked-in rate, the release said.

The 2022 'step-down bonus' offers a 25% bonus rate for projects approved during the first quarter, 15% during the second quarter and 5% during the third quarter.

Energy Smart also offers cash incentives for approved energy-efficiency projects. The incentives are applied to the overall total project incentive.

The program has $6.3 million in available incentives this year, the release said.

To learn more, visit Energy Smart's website.

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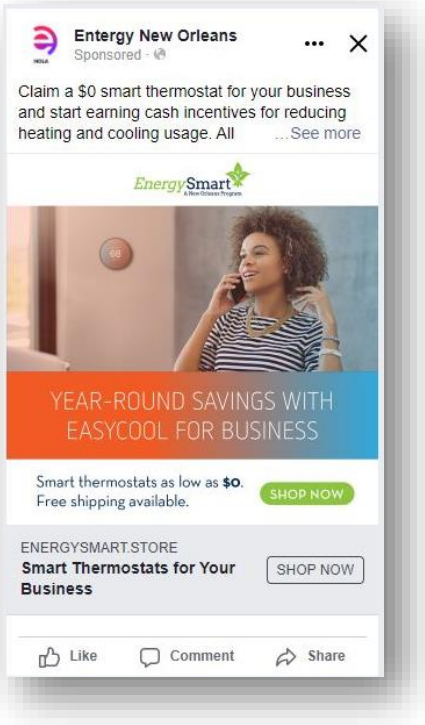

Frame 2

Frame 3

Frame 4

Digital Display

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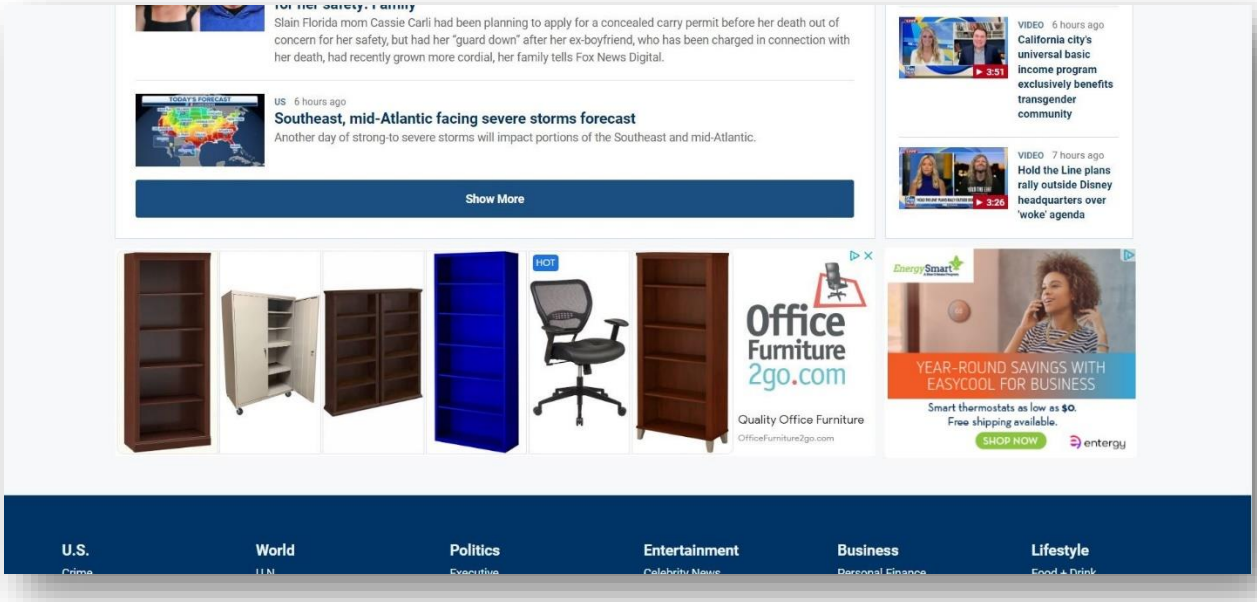

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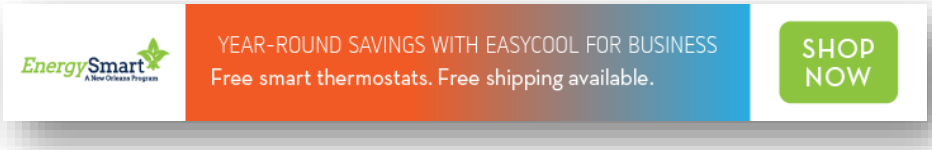
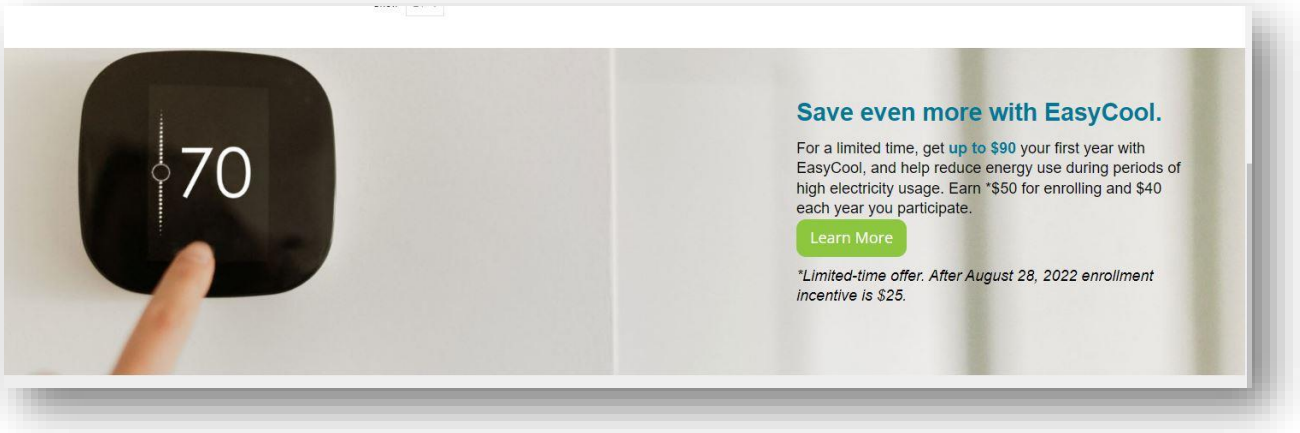


EasyCool LTO Promo

Social Post

Small Business Online Marketplace Banner Ad



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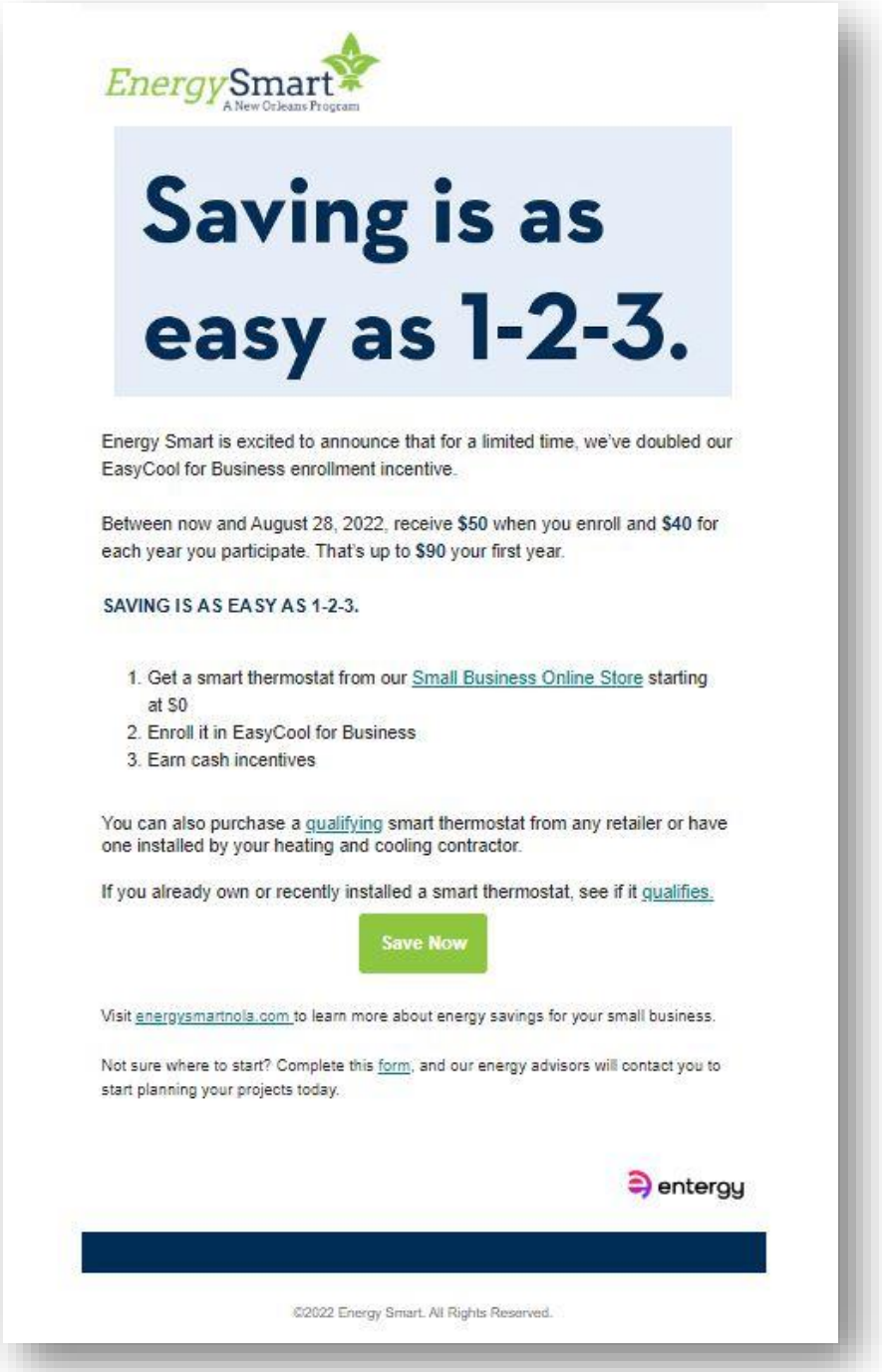

EnergySmart
A New Orleans Program

Saving is as easy as 1-2-3.

Energy Smart is excited to announce that for a limited time, we've doubled our EasyCool for Business enrollment incentive.

Between now and August 28, 2022, receive **$50** when you enroll and **$40** for each year you participate. That's up to **$90** your first year.

SAVING IS AS EASY AS 1-2-3.

1. Get a smart thermostat from our Small Business Online Store starting at $0
2. Enroll it in EasyCool for Business
3. Earn cash incentives

You can also purchase a qualifying smart thermostat from any retailer or have one installed by your heating and cooling contractor.

If you already own or recently installed a smart thermostat, see if it qualifies.

Save Now

Visit energysmartnola.com to learn more about energy savings for your small business.

Not sure where to start? Complete this form, and our energy advisors will contact you to start planning your projects today.

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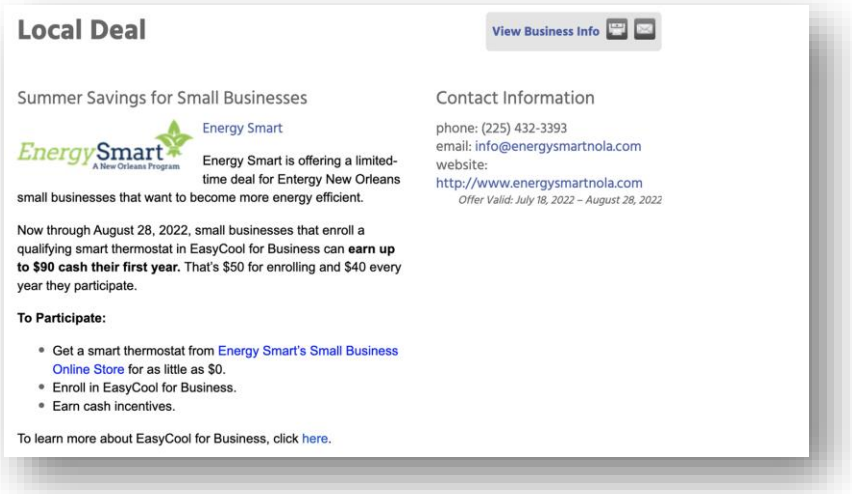
Local Deal on Chamber Website



Local Deal

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Summer Savings for Small Businesses

Energy Smart

Energy Smart is offering a limited-time deal for Entergy New Orleans small businesses that want to become more energy efficient.

Now through August 28, 2022, small businesses that enroll a qualifying smart thermostat in EasyCool for Business can **earn up to $90 cash their first year.** That's $50 for enrolling and $40 every year they participate.

To Participate:

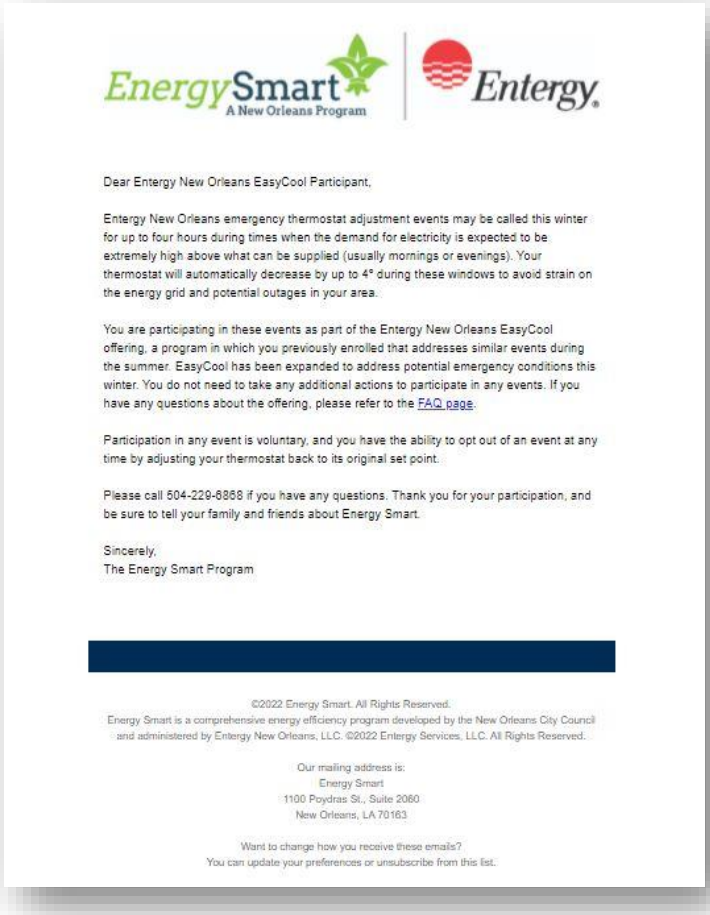
- Get a smart thermostat from Energy Smart's Small Business Online Store for as little as $0.
- Enroll in EasyCool for Business.
- Earn cash incentives.

To learn more about EasyCool for Business, click here.

Contact Information

phone: (225) 432-3393
email: info@energysmartnola.com
website:
http://www.energysmartnola.com
Offer Valid: July 18, 2022 – August 28, 2022

Winter Event Letter



EnergySmart A New Orleans Program | Entergy

Dear Entergy New Orleans EasyCool Participant,

Entergy New Orleans emergency thermostat adjustment events may be called this winter for up to four hours during times when the demand for electricity is expected to be extremely high above what can be supplied (usually mornings or evenings). Your thermostat will automatically decrease by up to 4° during these windows to avoid strain on the energy grid and potential outages in your area.

You are participating in these events as part of the Entergy New Orleans EasyCool offering, a program in which you previously enrolled that addresses similar events during the summer. EasyCool has been expanded to address potential emergency conditions this winter. You do not need to take any additional actions to participate in any events. If you have any questions about the offering, please refer to the FAQ page.

Participation in any event is voluntary, and you have the ability to opt out of an event at any time by adjusting your thermostat back to its original set point.

Please call 504-229-6868 if you have any questions. Thank you for your participation, and be sure to tell your family and friends about Energy Smart.

Sincerely,
The Energy Smart Program

Our mailing address is:
Energy Smart
1100 Poydras St., Suite 2060
New Orleans, LA 70163

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President's Day Promotion

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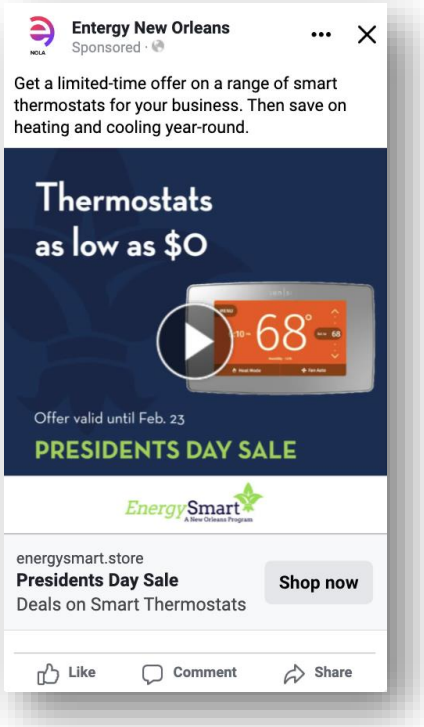


Thermostats
as low as $0
Heat set to
70
Indoor 72
February 9-23
PRESIDENT'S DAY SALE
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A New Orleans Program


Thermostats
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68
Offer valid until Feb. 23
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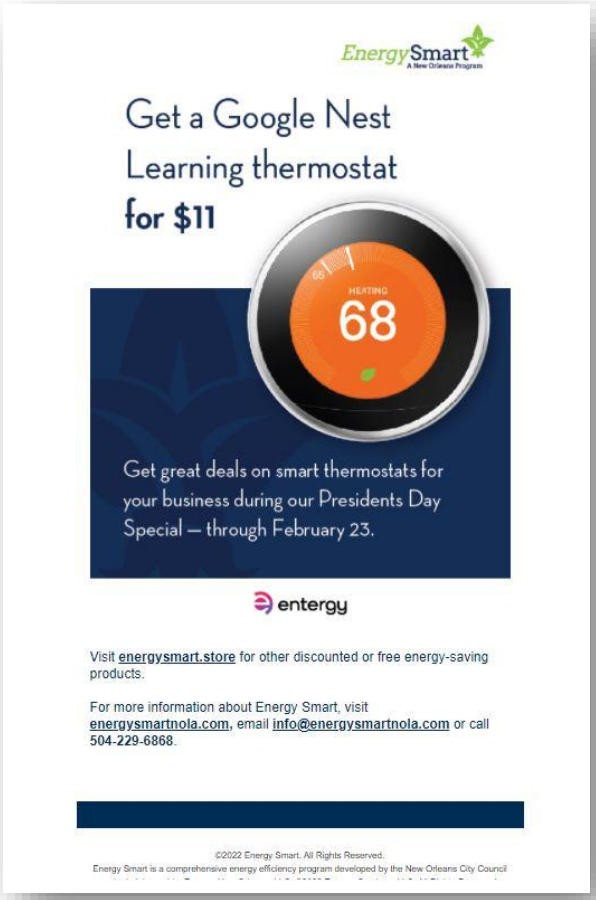

Earth Day Promotion

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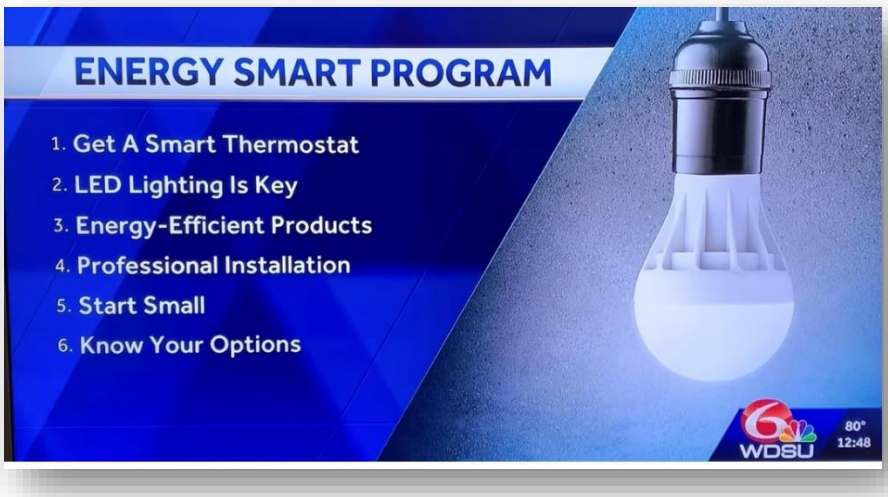

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$16 $189.00
72
72
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EnergySmart
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energysmart.store
Summer is coming in hot.
Stay cool for less.
Shop now
Like
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Cool savings for small businesses this Memorial Day.
Summer is coming in hot.
Beat the heat with smart thermostats starting at $0. Save money and keep your customers and employees cool this summer.
Exclusive Memorial Day offers for Entergy New Orleans small business customers available only at the Small Business Online Store.
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$0*
ecobee3 Lite
78
$0*
Emerson Sensi WiFi Thermostat
78
$0*
Emerson Sensi Touch Smart Thermostat
Cooling
78
$0*
Google Nest Thermostat

July 4

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Google Nest Learning Thermostat
$249 $41
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Google Nest Thermostat
$129 $0
Cooling
75
EnergySmart


PLUS $65 CASH
Ecobee Enhanced Smart Thermostat
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78
Ecobee Premium Smart Thermostat
$249 $91.99
72
EnergySmart


PLUS $65 CASH
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$149
$0
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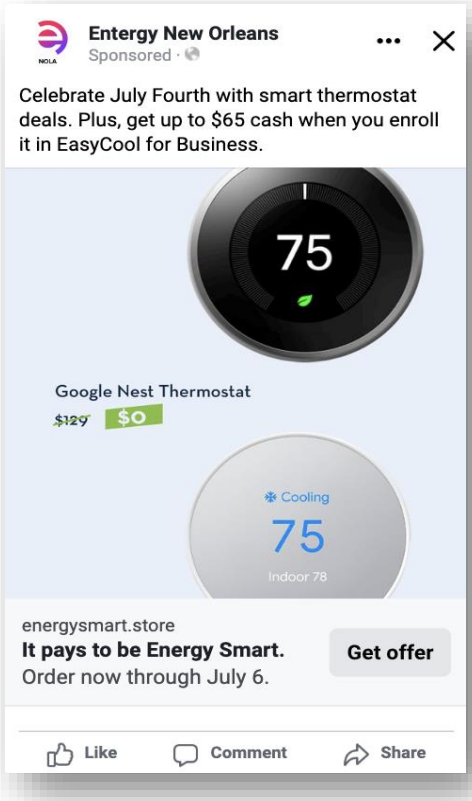
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Celebrate July Fourth with smart thermostat deals. Plus, get up to $65 cash when you enroll it in EasyCool for Business.
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Google Nest Thermostat
$129
$0
Cooling
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Indoor 78
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Order now through July 6.
Get offer
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July 4

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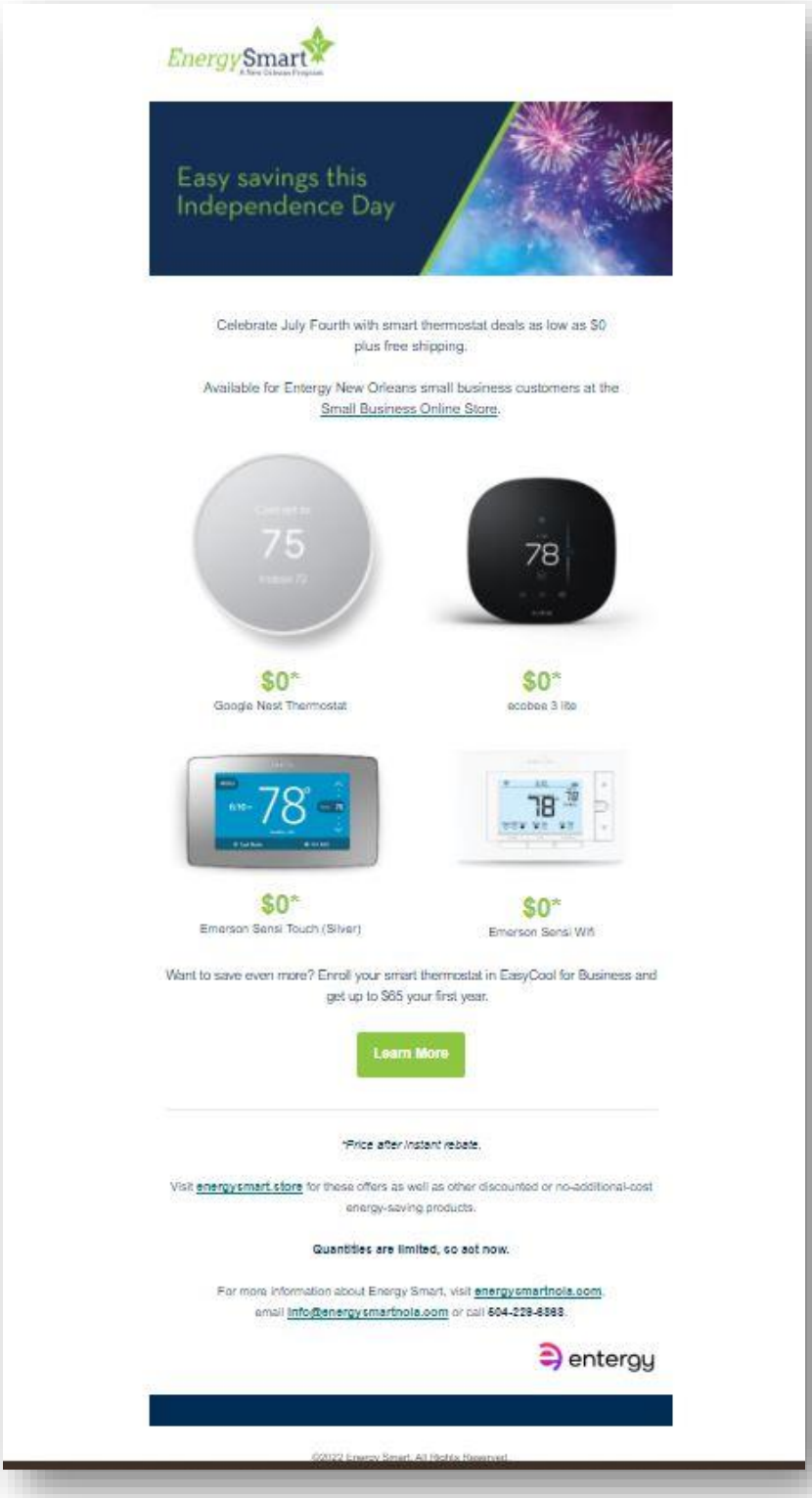
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Google Nest Thermostat
$0*
ecobee 3 lite
$0*
Emerson Sensi Touch (Silver)
$0*
Emerson Sensi Wifi
Want to save even more? Enroll your smart thermostat in EasyCool for Business and get up to $65 your first year.
Learn More
*Price after instant rebate.
Visit energysmart.store for these offers as well as other discounted or no-additional-cost energy-saving products.
Quantities are limited, so act now.
For more information about Energy Smart, visit energysmartnola.com, email info@energysmartnola.com or call 504-229-8988.
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Labor Day

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Cooling
75
Indoor 78
75
Google Nest Learning
$149 $91
Emerson Sensi Touch
$169 $0
Offer valid 8/29-9/9.
78°
EnergySmart
A New Orleans Program


Emerson Sensi WiFi
$129 $0
Offer valid 8/29-9/9.
ecobee Enhanced
$189 $31.99
78
72
ecobee Premium
$249 $91.99
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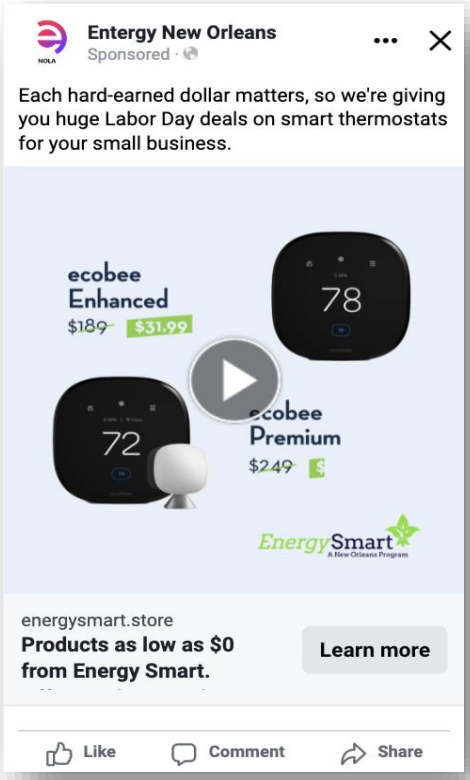
72
ecobee 3 Lite
$149
$0
Offer valid 8/22-9/5.
EnergySmart
A New Orleans Program


Entergy New Orleans
Sponsored
Each hard-earned dollar matters, so we're giving you huge Labor Day deals on smart thermostats for your small business.
ecobee Enhanced
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$31.99
78
72
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EnergySmart
Economize this Labor Day and every day
Each hard-earned dollar matters, so we're giving you huge Labor Day deals on smart thermostats for your small business – starting as low as $0.
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$0*
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Buy Now
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ecobee 3 Lite
Offer valid 8/22-9/5
Buy Now
78
$0*
Emerson Sensi Touch (Silver)
Offer valid 8/29-9/9
Buy Now
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Emerson Sensi WiFi
Offer valid 8/29-9/9
Buy Now
*Price after instant rebate.
Visit energysmart.store for these offers as well as other discounted or no-additional-cost energy-saving products.
Quantities are limited, so act now.
Want to save even more? Enroll your smart thermostat in EasyCool for Business and get up to $65 your first year.
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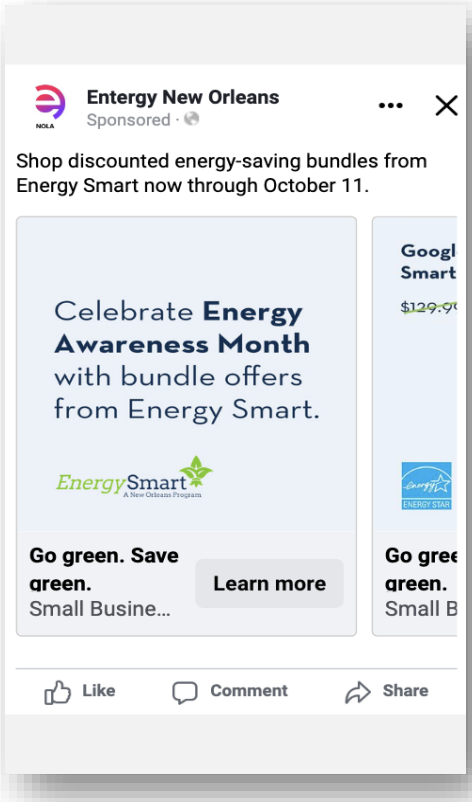
FREE Philips Smart Color
Changing LED
$249
$41
70
ENERGY STAR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Shop discounted energy-saving bundles from Energy Smart now through October 11.
Celebrate Energy Awareness Month with bundle offers from Energy Smart.
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NATIONAL
ENERGY
AWARENESS
MONTH
Celebrate Energy Awareness month with these bundle offers from Energy Smart.
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Quantities are limited, so act now.
Offer ends 10/11/2022
70
Indoor 72
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$0*
Google Nest Thermostat + Phillips
*Price after instant rebate
Valued at over $150
$49*
Google Nest Learning + Phillips
*Price after instant rebate
Valued at over $270
Buy Now
Buy Now
Visit energysmart.store for these offers as well as other discounted or no-additional-cost energy-saving products.

Black Friday

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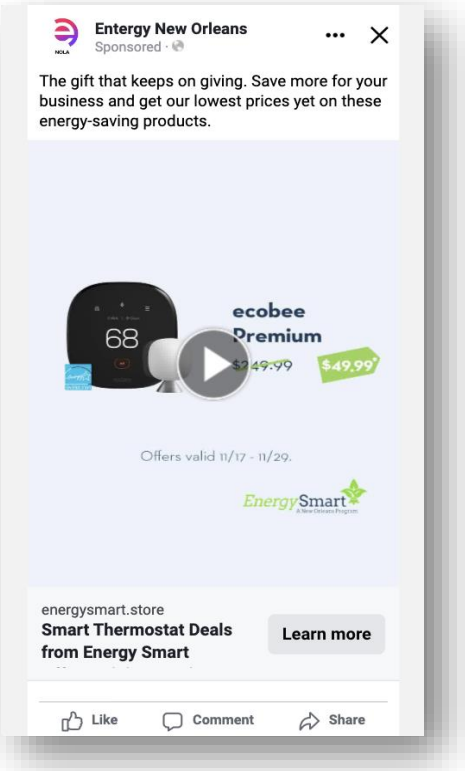

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Black Friday Sale
Smart Thermostats for $0-$50
+ Free Shipping
Available for Entergy New Orleans small business customers at the Small Business Online Store.
Quantities are limited, so act now.
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Reg. $129.99
Google Nest
$9.99*
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ecobee Enhanced
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LED bulbs as
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Heating
68
Indoor 65
Smart thermostats
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Offers valid 12/12-12/31.
SHOP NOW
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Add "save energy" to your New Year's resolutions. Shop our lowest prices of the year to save big in 2023.
LED bulbs as low as $1.
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Holiday savings on energy-efficient products.

The gifts that keep on giving.

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Quantities are limited, so act now.

$0
Free Energy Efficiency Kits

As low as $0
LED Bulbs

$0-$50
Smart Thermostats

As low as $11
Power Strips

Shop All Now

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Visit energysmart.store for these offers as well as other discounted or no-additional-cost energy-saving products.

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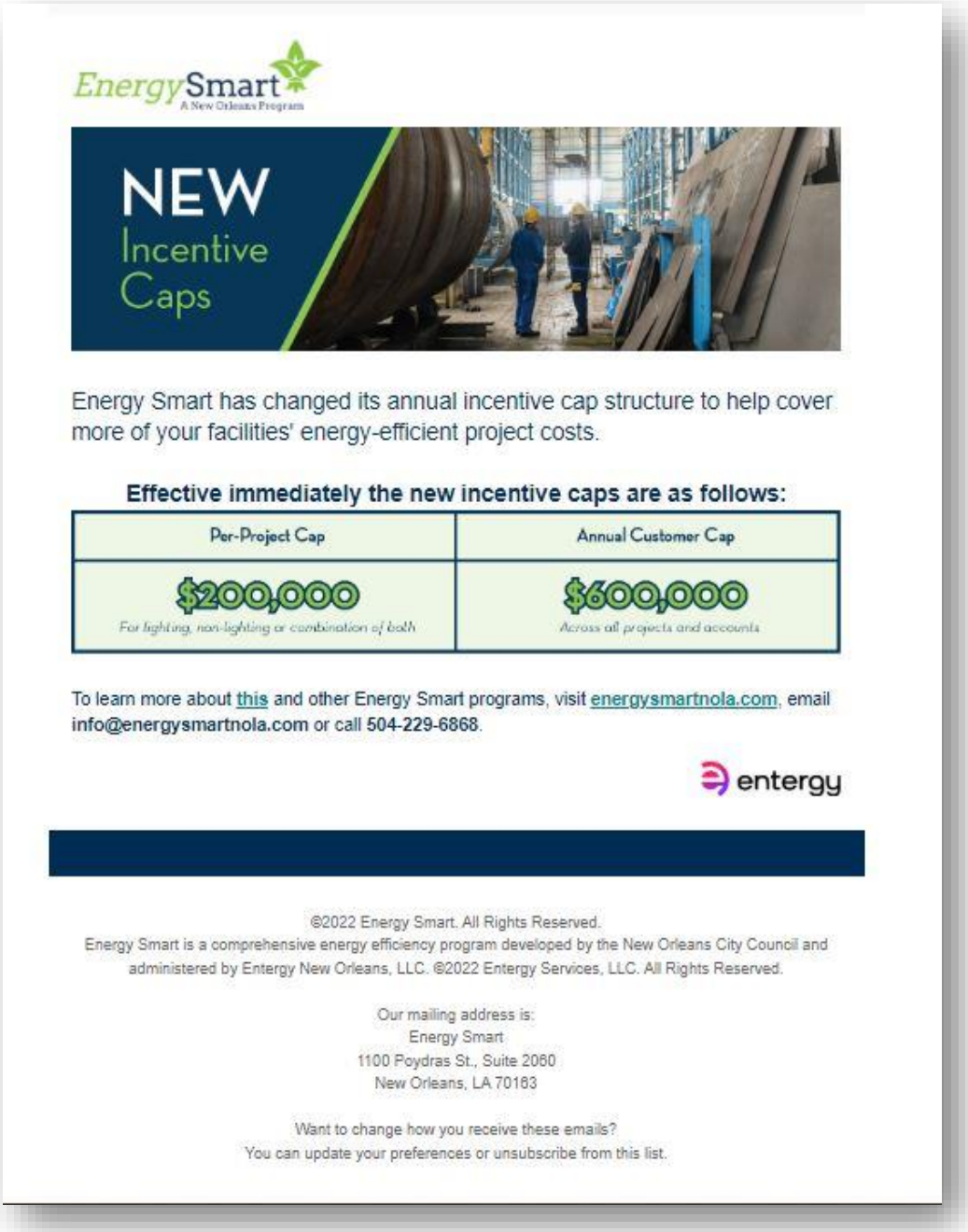

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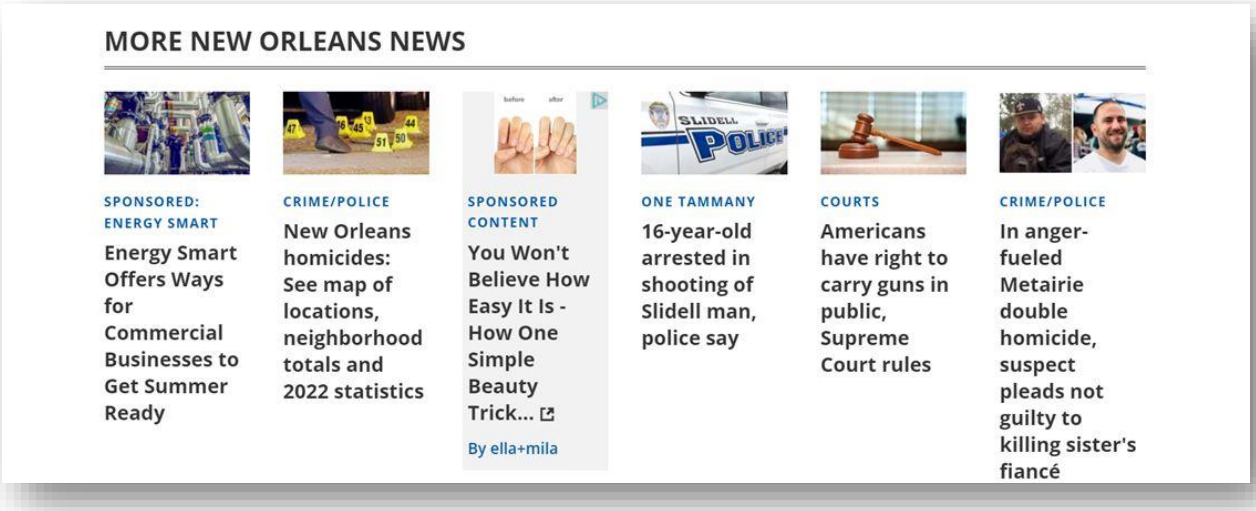

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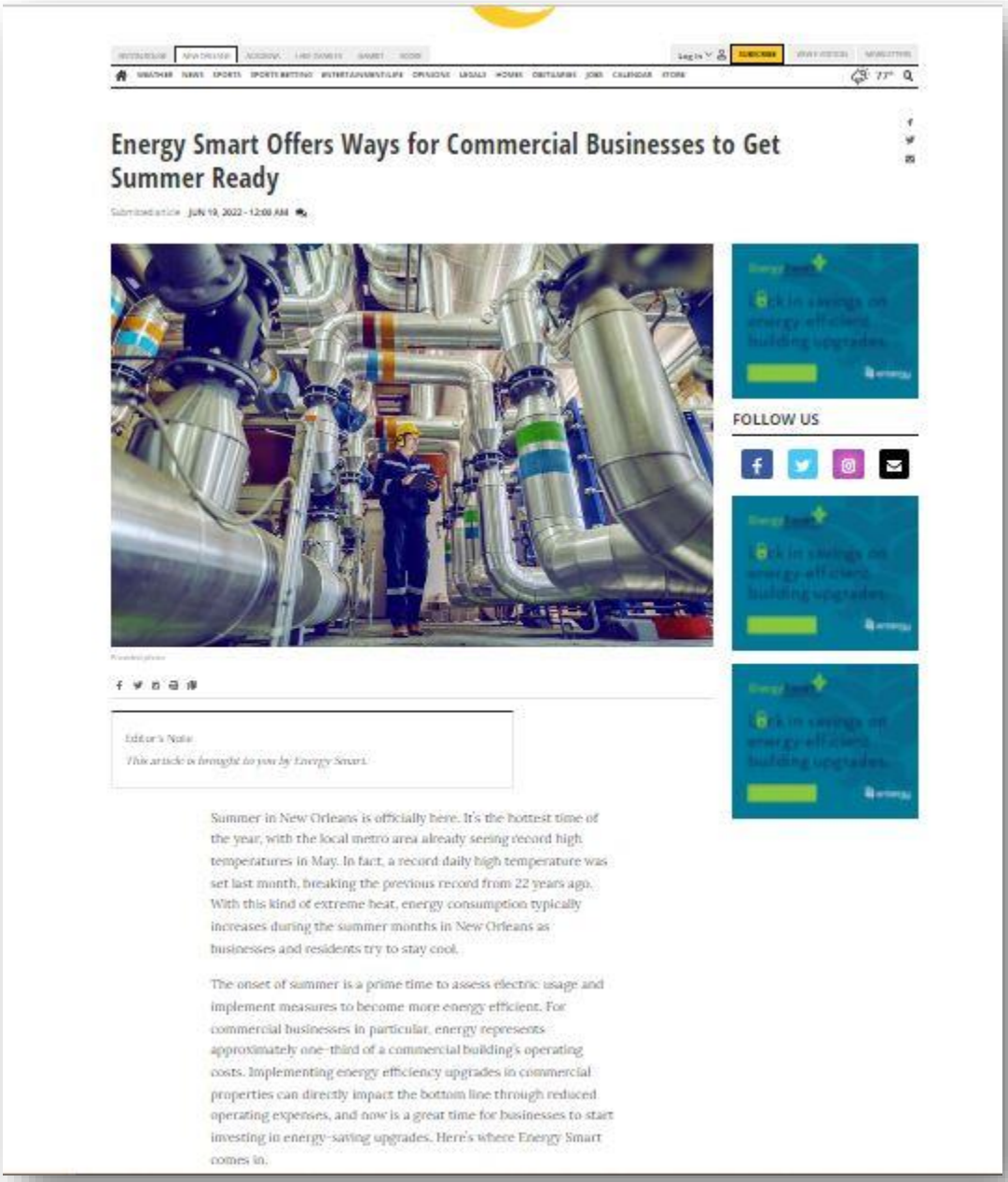

Energy Smart Offers Ways for Commercial Businesses to Get Summer Ready

Editor's Note
This article is brought to you by Energy Smart.

Summer in New Orleans is officially here. It's the hottest time of the year, with the local metro area already seeing record high temperatures in May. In fact, a record daily high temperature was set last month, breaking the previous record from 22 years ago. With this kind of extreme heat, energy consumption typically increases during the summer months in New Orleans as businesses and residents try to stay cool.

The onset of summer is a prime time to assess electric usage and implement measures to become more energy efficient. For commercial businesses in particular, energy represents approximately one-third of a commercial building's operating costs. Implementing energy efficiency upgrades in commercial properties can directly impact the bottom line through reduced operating expenses, and now is a great time for businesses to start investing in energy-saving upgrades. Here's where Energy Smart comes in.

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Energy Smart Offers Ways for Commercial Businesses to Get Summer Ready

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Earlier this year, Energy Smart implemented a new bonus incentive structure that gives companies more money the earlier they apply to complete energy-saving facility upgrades during 2022. The "ramp-down bonus" provides different quarterly bonus incentive levels to help business customers make energy efficiency upgrades to their buildings or facilities and is available for new projects submitted and approved during

"We're encouraging all commercial customers seeking to make energy-saving upgrades this year to apply now in order to take advantage of

Further, research shows that by switching to LED lighting, commercial building owners can cut their lighting costs by more than 75% over a 25-year period.

• HVAC upgrades bring major benefits. Data from the National Institute of Building Sciences shows the typical payback for high-efficiency commercial HVAC equipment is three to five years. In this timeframe, owners or administrators can experience up to a 30% reduction in annual HVAC-related utility costs. Given nearly half of the energy consumed for commercial buildings is used for HVAC and refrigeration, upgrading to high-efficiency HVAC equipment is a logical step in lowering operating costs. HVAC upgrades can also lead to improved comfort and increased air quality in indoor office environments, as well as provide remote operation capabilities.

"If you run a large commercial operation, energy is a major expense," said Mills. "Energy efficiency projects like HVAC and building automation system upgrades can help lower maintenance costs and operating expenses, among other benefits."

For commercial customers interested in making HVAC upgrades, Energy Smart provides cash incentives for projects involving new A/C units, heat pumps, chillers, duct sealing, A/C and heat pump tune-ups, and window film. In 2021, Energy Smart awarded commercial customers more than $240,000 in HVAC-specific incentives, and these projects resulted in over 2 million

with their HVAC assessment and incentives from Energy Smart, and we encourage commercial customers to talk to an Energy Smart energy

Earned Media – Biz New Orleans

Energy Smart Business Customers to See Additional Savings

07/28/2022 by Site Staff

Getty Images

NEW ORLEANS – From Energy Smart:

Energy Smart is providing its commercial and industrial customers additional incentives to help with even more cost savings on energy efficiency projects.

Commercial customers are now eligible for up to $200,000 in incentives for energy-efficient upgrades to their facilities. Projects may include LED lighting; high efficiency heating, cooling and motors; and ENERGY STAR® kitchen equipment.

In addition to increased project incentive caps, Energy Smart also has increased the annual customer incentive cap to $600,000 to allow commercial and industrial customers to complete more energy-saving projects at their facility every year.

"The increases we've made to per-project and annual customer incentive caps will benefit our commercial customers, especially those seeking to undertake large-scale lighting upgrade projects," said Derek Mills, demand side management manager for Entergy New Orleans. "The incentive cap for lighting projects has quadrupled, which means lower upfront cost for Entergy New Orleans business customers to invest in LED lighting upgrades. The incentive cap for heating and cooling upgrades has doubled."

Energy Smart is the comprehensive energy efficiency program developed by the New Orleans City Council and administered by Entergy New Orleans. The program provides financial incentives for making energy efficiency upgrades that decrease unnecessary usage and help businesses save money.

The program launched in 2010 and is open to all Entergy New Orleans residential and business customers. Since the program began, Energy Smart has distributed more than $36 million in cash incentives and helped customers save more than 288 million kilowatt hours. For more information about Energy Smart, visit energysmartnola.com or call 504-229-6868.

TODAY'S BUSINESS NEWS

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EnergySmart
A New Orleans Program

Make Energy Efficiency the Foundation

Don't miss out—receive up to $600,000 in cash incentives on qualifying energy-efficient new construction projects.

Eligible projects include:

- New building/ground-up construction.
- Addition or expansion of an existing building.
- Gut rehabs that include replacement of all electrical systems.
- Warm Shell project.

The Energy Smart new construction offering provides cash incentives for eligible projects that adopt and implement energy-efficient design and construction.

Visit energysmartnola.info to learn more about energy savings upgrades to your building or facilities.

Not sure where to start? Complete this form, and our energy advisors will contact you to start planning your projects today.

To learn about other Energy Smart programs, visit energysmartnola.com, email info@energysmartnola.com or call 504-229-6868.

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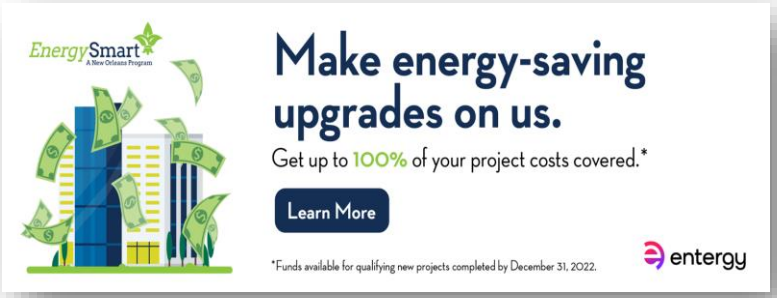

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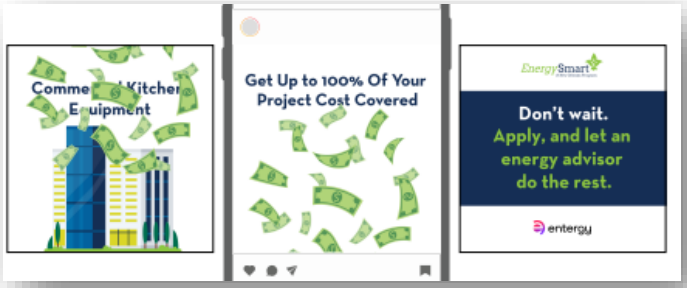

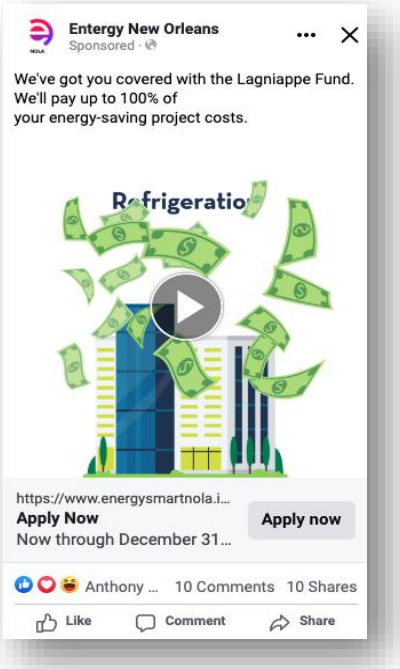

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ABOUT

Each week Biz Talks will reach beyond the pages of *Biz New Orleans*' magazine to bring you in-depth conversations with members of the business community.

From the names everyone knows to the ones destined to make their mark, we'll dive into the top issues, best practices, successes and failures of every industry that calls Southeast Louisiana home.

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– Recent Episodes

Episode 126: The Business of Beer with Jacob Landry and Prof. J. Cameron Verhaal

On this week's episode, Tulane business professor J. Cameron Verhaal and Urban South Brewery owner Jacob Landry talk about what it takes to build an authentic and scalable beer brand, why Louisiana and Mississippi have fewer breweries than other states...

This month's episodes are sponsored by Energy Smart, Entergy New Orleans' energy efficiency program

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A New Orleans Program

Biz New Orleans Full-Page Print Ad

PUBLISHER'S NOTE

So Thankful

As we publish our annual family business issue this month, it makes me reflect on my own family and reminds me that November is an anniversary month for me personally and a month to be thankful.

This month, Andrea and I will celebrate our 33rd wedding anniversary on Thanksgiving. We will celebrate this year's anniversary with family at the dinner table as we have a lot to be thankful for.

We have three beautiful girls, all married to wonderful gentlemen, and really love being grandparents to Penelope and soon, baby Schmidt. If you know me, family has always come first. I treasure every moment together, and as my friends have children, I often remind them that parents get 18 summers. For 18 years, you can plan summer vacations and adventures. Then, as they go off to college or begin their adult life you lose that ability to gather everyone together so easily. Make the 18 summers count. Those memories stay with you and your children forever.

This month our daughter Malayne and her husband Jake — who live in San Diego — will also mark their fourth wedding anniversary. They will celebrate this year with a new addition to their family in December. We are so excited to celebrate another grandchild in our family — even more to be thankful for.

And the granddaddy of anniversaries this year will be celebrated by my in-laws, Cotton and Phyllis, who will mark their 60th wedding anniversary this month. In 1960, when I met my wife as a very young high schooler, they put the old-fashioned fear of the parents in me, and I have loved and respected them ever since. They have a deep love for each other and are inseparable. They are the couple that you love to talk with because they add humor to every situation and no matter what mood you are in, when you sit down with them you leave in a better place.

To mark this occasion, they have planned some travel with their two daughters and spouses, followed by an intimate family dinner. I wish them a wonderful anniversary and many more to follow.

For Renaissance Publishing, this month we are publishing the 2023 edition of the New Orleans 100, and the team has once again done an excellent job of highlighting the most influential, involved and inspiring executives in the region. If you have not received your copy, visit BizNewOrleans.com for the latest edition.

This year, I encourage you to celebrate this month by thanking someone in your life that has moved you forward. You will feel great in the process.

Todd Matherne

TODD MATHERNE
CEO and Publisher
Renaissance Publishing

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EnergySmart
A New Orleans Program

Make energy-saving upgrades on us.

Get up to 100% of your project costs covered.*

For more information, visit energysmartnola.com or call 504-229-6868.

*Funds available for qualifying new projects completed by December 31, 2022.

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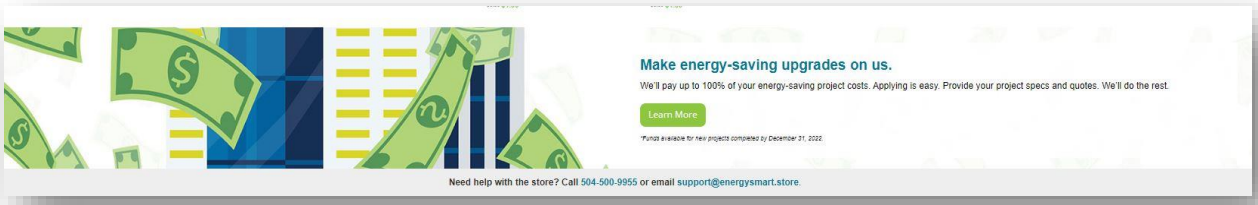
18 BIZ NEW ORLEANS NOV22

Biz New Orleans E-Blast

Small Business Online Store Banner Ad



Radio Scripts

:15 and :30

APTIM - ENO: LAGNIAPPE FUND Radio

15s: Energy Smart is here to help. We'll pay up to 100% of your business's LED or HVAC upgrades. Submit your project today — call 504-229-6868 or email us at info@energysmartnola.com.

:30s Version 1
30s: Energy Smart is here to help. We'll pay up to 100% of the energy-saving projects for your business-like LED or HVAC upgrades Simply submit your project, and our Energy Advisors will do the rest. It's that easy. Call 504-229-6868 or email us at info@energysmartnola.com. Offer runs through end of year. All projects must be completed by December 31, 2022.

As-Produced Radio Spots

Trade Ally Recruitment Campaign

Digital Display

Pre-Roll Video

City Business Journal E-Blast

NEW ORLEANS CITY BUSINESS

TOP HEADLINES - October 11, 2022 a.m.

Insurer of last resort to hike rates by 63%
Insurance Commissioner Jim Donelon has approved a request from Louisiana's insurer of last resort for...

Fat Boy's Pizza adding drive-thru location on West Bank
Fat Boy's Pizza, the fast-growing chain that opened in Old Metairie in 2019, is diversifying...

$2M federal funding to boost tech entrepreneurship
The New Orleans Startup Fund and Propeller have been awarded funding from the U.S. Economic Development Administration to help...

Southern Food & Beverage Museum opens

UPCOMING EVENTS

Health Care Heroes
October 24 | 4 p.m.
Health Care Heroes honors health care professionals in the New Orleans in the categories of animal care, first responders, nursing, physicians, professionals and volunteers.
REGISTER NOW »

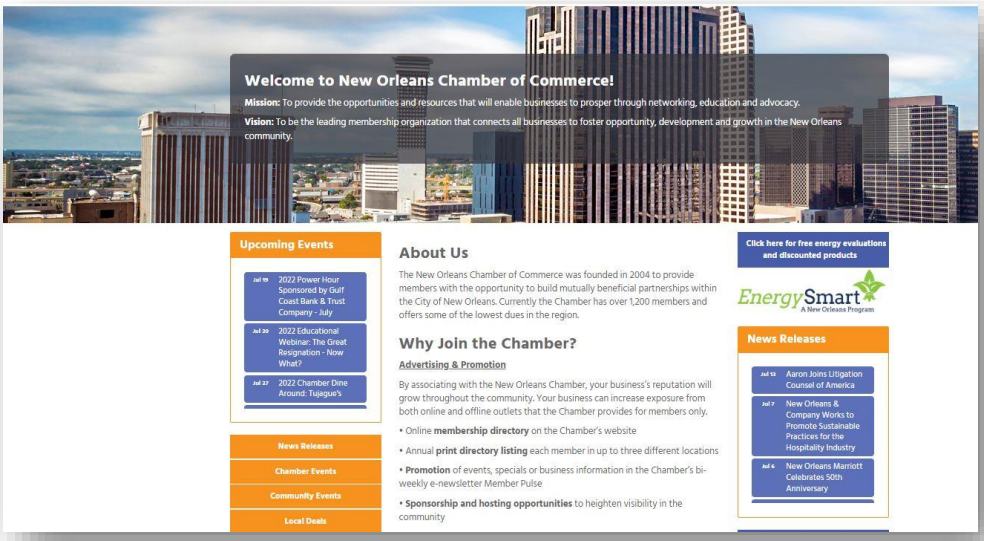
Leadership in Law
October 24 | 4 p.m.
Leadership in Law honors legal professionals in the New Orleans area in the following categories: court associated, educators, firm associated and in-house counsel.
REGISTER NOW »

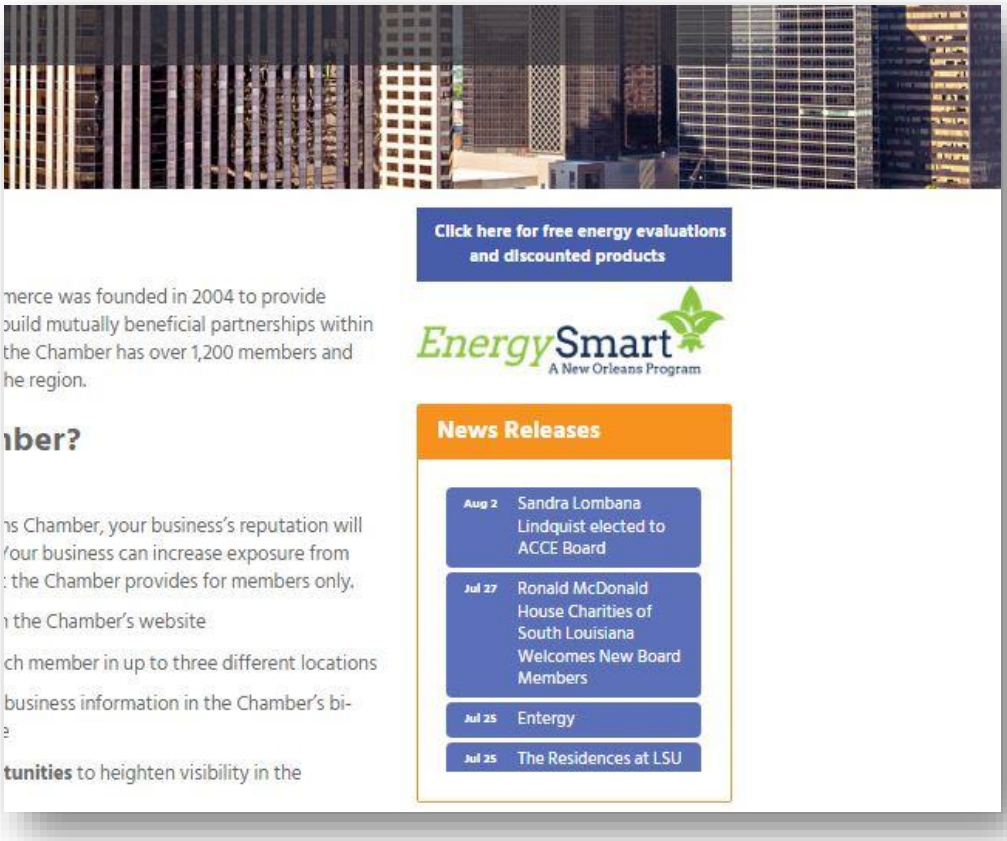
Women of the Year & Nonprofit Organizations
November 14 | 4 p.m.
Women of the Year recognizes 50 individual women who are leaders in the community, while Nonprofit Organizations recognizes entire organizations that have contributed to the community.
REGISTER NOW »

RESOURCES

Book of Lists
The Book of Lists is the only resource guide to business and industry rankings in the greater New

New Orleans Chamber of Commerce New Member Campaign





New Orleans Chamber of Commerce Energy Smart New Member Flyer

New Member Offering on Energy Smart Website

Earned Media

NEW ORLEANS CITYBUSINESS

Ones to Watch: Energy

By: CityBusiness staff reports June 8, 2022 0

ONES TO WATCH | Energy

Krueger

Michelle Krueger

Director

Entergy New Orleans Energy Smart Program

Michelle Krueger is the director of the Entergy New Orleans (ENO) Energy Smart Program. She has worked in various roles in the Entergy Louisiana program since 2018, most recently as a program manager where she covered the program's commercial and industrial markets. Previously, she spent over three years as the director of the Global Green New Orleans Office, focusing on sustainable buildings projects.

With roots and relationships in New Orleans, as well as a track record of success directing large and complex program operations, Krueger's leadership role focuses on elevating the performance of the Entergy New Orleans Energy Smart Program to continue bringing energy savings to the homes and businesses of Orleans Parish. program offers energy efficiency solutions to help residential and business customers save energy and money by reducing the upfront cost of a variety of energy efficiency upgrades. The program works with participating partners, which include local trade allies and retailers who help customers find new ways to save energy through installation or implementation of energy efficiency measures.

MONEY

Savings incentives: How 401(k)s get us to do the right thing

Should you use a reverse mortgage to pay for long-term care?

TECH TALK

Four states receive first allocations of $10B broadband fund

Apple offers glimpse at upcoming changes to iPhone software

IBM: 6 Black colleges getting cybersecurity centers

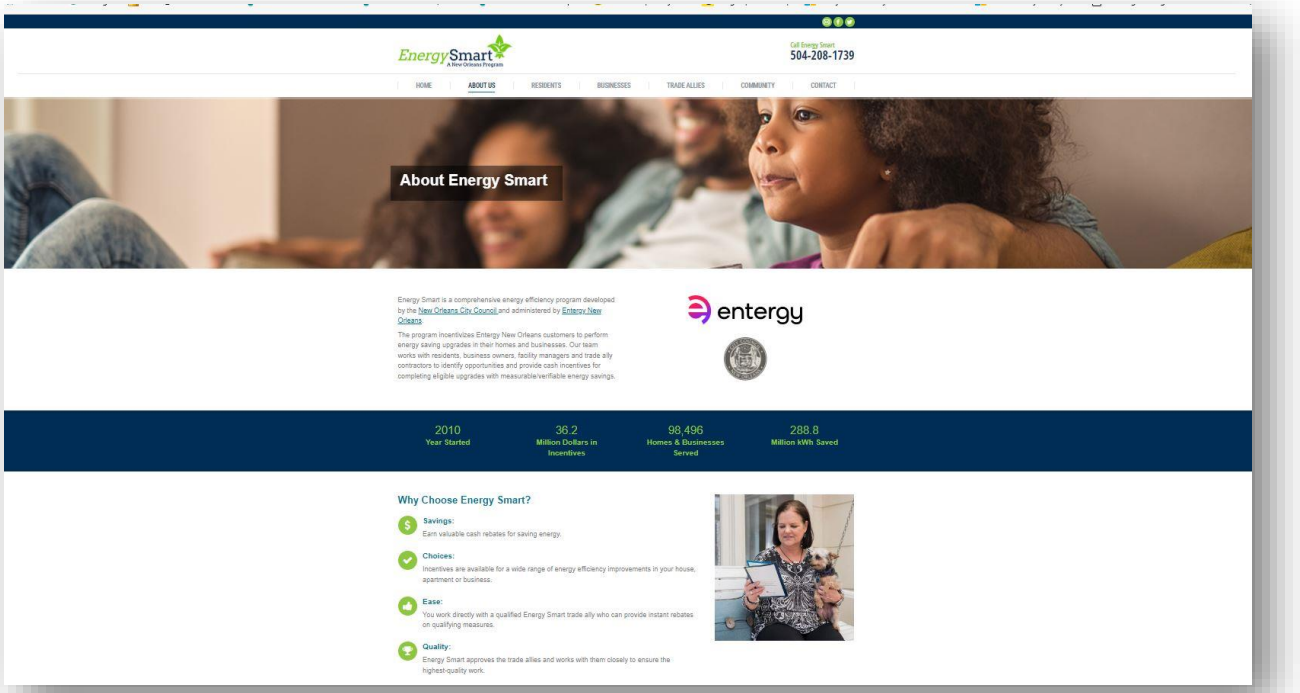
PORTS & TRANSPORTATION

Willow Glen Terminal in St. Gabriel receives first product shipment

NOPB has new general manager; leadership changes at port

Argo touts driverless operations in Miami and Austin, Texas

Rebranded Energy Smart Website



Energy Smart General Program Overview

Side 1

ENERGY SMART PROGRAM OVERVIEW

Saving energy and money is easy with Energy Smart. The program provides cash incentives to help you make energy-efficient upgrades to your home or business. Since 2010, Energy Smart has worked with thousands of residents, business owners, facility managers and trade ally contractors throughout Orleans Parish to identify opportunities, complete projects and distribute cash incentives, saving you energy and money.

ENERGY SMART FOR RESIDENTS

We offer home energy assessments and instant rebates to residential Entergy New Orleans electric customers. Our team uses a comprehensive, whole-house approach to improving energy efficiency and comfort.

EnergySmart
A New Orleans Program

RESIDENTIAL OFFERINGS INCLUDE:

Home Performance with ENERGY STAR®: A whole-house approach to improving the energy efficiency and comfort of your home.

Multifamily Solutions: Energy-saving options for apartment dwellers.

Income-Qualified Weatherization: Energy-saving options for customers with limited income.

A/C Solutions: Offerings to replace or tune up your central air conditioning unit.

Online Marketplace: Receive instant discounts when you shop for energy-efficient products from the comfort of your home.

Appliance Recycling: Get $50 for us to haul away your secondary refrigerator or freezer.

Retail Lighting and Appliances: Get rebates and instant discounts for energy-efficient lighting and appliances.

EasyCool: Receive $40 annually for helping to reduce usage during periods of high electrical demand.

Side 2

ENERGY SMART
FOR BUSINESSES

Owning or running a business can be costly. We offer solutions to help manage energy usage and expenses. Our team helps uncover how your building uses energy and where you stand to save, which translates to increased profitability.

BUSINESS OFFERINGS INCLUDE:

Prescriptive and Custom Incentives: Money available depending on the type of project and building size.

Small Business Solutions: Designed for small business customers to help reduce energy costs and save money.

Small Business Online Store: Shop online for instant discounts on products to make your business more energy efficient.

New Construction: Incentives available for increasing energy efficiency in new building design and construction.

Demand Response: Earn cash for helping to reduce usage during periods of high electrical demand.

Retro-commissioning: Improve performance and energy efficiency of whole-building systems, equipment and operations.

Benchmarking: Uncover how your building uses energy and pinpoint ways to save.

Commercial Real Estate: Adding value to multi-tenant buildings through energy efficiency.

To learn more and get started,
visit **energysmartnola.com,**
email **Info@energysmartnola.com**
or call **504-229-6868.**

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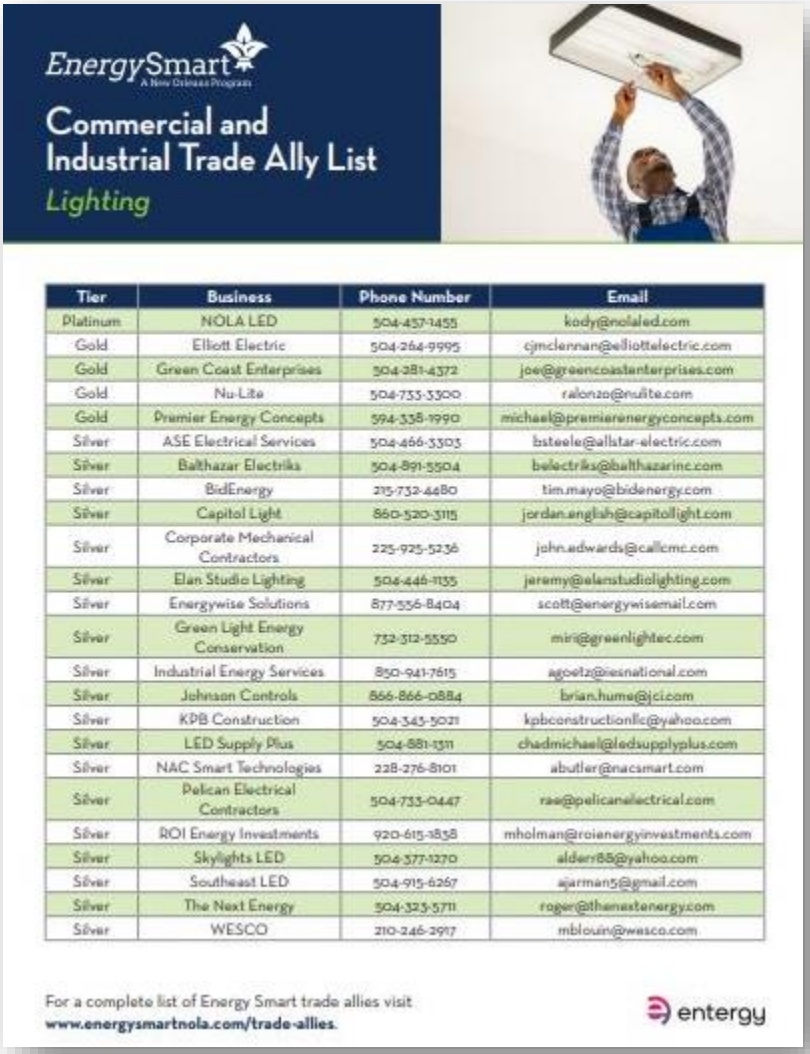
Trade Ally Customer Leave Behind

Side 1



EnergySmart
A New Orleans Program

Commercial and Industrial Trade Ally List

Lighting

Tier	Business	Phone Number	Email
Platinum	NOLA LED	504-457-1455	kody@nolaled.com
Gold	Elliott Electric	504-264-9995	cjmclennan@elliottelectric.com
Gold	Green Coast Enterprises	504-381-4372	joe@greencoastenterprises.com
Gold	Nu-Lite	504-733-3300	ralonzo@nulite.com
Gold	Premier Energy Concepts	594-338-1990	michael@premierenergyconcepts.com
Silver	ASE Electrical Services	504-466-3303	bsteele@allstar-electric.com
Silver	Balthazar Electriks	504-891-5504	belectriks@balthazarinc.com
Silver	BidEnergy	215-732-4480	tim.mayo@bidenergy.com
Silver	Capitol Light	860-520-3115	jordan.english@capitollight.com
Silver	Corporate Mechanical Contractors	225-925-5236	john.edwards@callcmc.com
Silver	Elan Studio Lighting	504-446-1135	jeremy@elanstudiolighting.com
Silver	Energywise Solutions	877-556-8404	scott@energywisemail.com
Silver	Green Light Energy Conservation	732-312-5550	mir@greenlightec.com
Silver	Industrial Energy Services	850-941-7615	agoetz@iesnational.com
Silver	Johnson Controls	866-866-0884	brian.hume@jci.com
Silver	KPB Construction	504-343-5021	kpbconstructionllc@yahoo.com
Silver	LED Supply Plus	504-881-1311	chadmichael@ledsupplyplus.com
Silver	NAC Smart Technologies	228-276-8101	abutler@nacsmart.com
Silver	Pelican Electrical Contractors	504-733-0447	rae@pelicanelectrical.com
Silver	ROI Energy Investments	920-615-1858	mholman@roienergyinvestments.com
Silver	Skylights LED	504-377-1270	alden88@yahoo.com
Silver	Southeast LED	504-915-6267	ajarman5@gmail.com
Silver	The Next Energy	504-323-5711	roger@thenextenergy.com
Silver	WESCO	210-246-2917	mblouin@wesco.com

For a complete list of Energy Smart trade allies visit **www.energysmartnola.com/trade-allies**.

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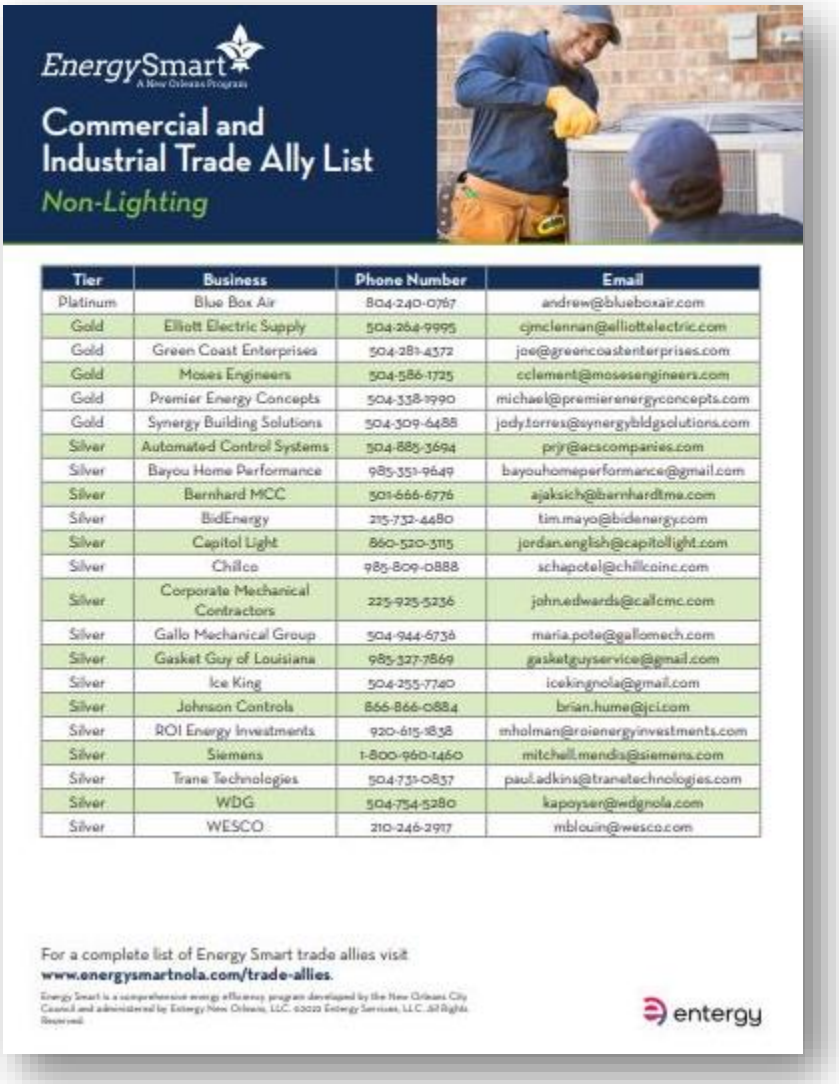
Side 2



EnergySmart
A New Orleans Program

Commercial and Industrial Trade Ally List

Non-Lighting

Tier	Business	Phone Number	Email
Platinum	Blue Box Air	804-240-0767	andrew@blueboxair.com
Gold	Elliott Electric Supply	504-264-9995	cjmclennan@elliottelectric.com
Gold	Green Coast Enterprises	504-281-4372	joe@greencoastenterprises.com
Gold	Moses Engineers	504-586-1725	cclement@mosesengineers.com
Gold	Premier Energy Concepts	504-338-1990	michael@premierenergyconcepts.com
Gold	Synergy Building Solutions	504-309-6488	jody.torres@synergybldgsolutions.com
Silver	Automated Control Systems	504-885-3694	prjr@acscompanies.com
Silver	Bayou Home Performance	985-351-9649	bayouhomeperformance@gmail.com
Silver	Bernhard MCC	501-666-6776	ajaksich@bernhardtme.com
Silver	BidEnergy	215-732-4480	tim.mayo@bidenergy.com
Silver	Capitol Light	860-520-5115	jordan.english@capitollight.com
Silver	Chilco	985-809-0888	schapotel@chillcoinc.com
Silver	Corporate Mechanical Contractors	225-925-5236	john.edwards@callcmc.com
Silver	Gallo Mechanical Group	504-944-6736	maria.pote@gallomech.com
Silver	Gasket Guy of Louisiana	985-327-7869	gasketguyservice@gmail.com
Silver	Ice King	504-255-7740	icekingnola@gmail.com
Silver	Johnson Controls	866-866-0884	brian.hume@jci.com
Silver	ROI Energy Investments	920-615-1838	mholman@roienergyinvestments.com
Silver	Siemens	1-800-960-1460	mitchell.mendis@siemens.com
Silver	Trane Technologies	504-731-0837	paul.adkins@tranetechnologies.com
Silver	WDG	504-754-5280	kapoyser@wdgnola.com
Silver	WESCO	210-246-2917	mblouin@wesco.com

For a complete list of Energy Smart trade allies visit **www.energysmartnola.com/trade-allies**.

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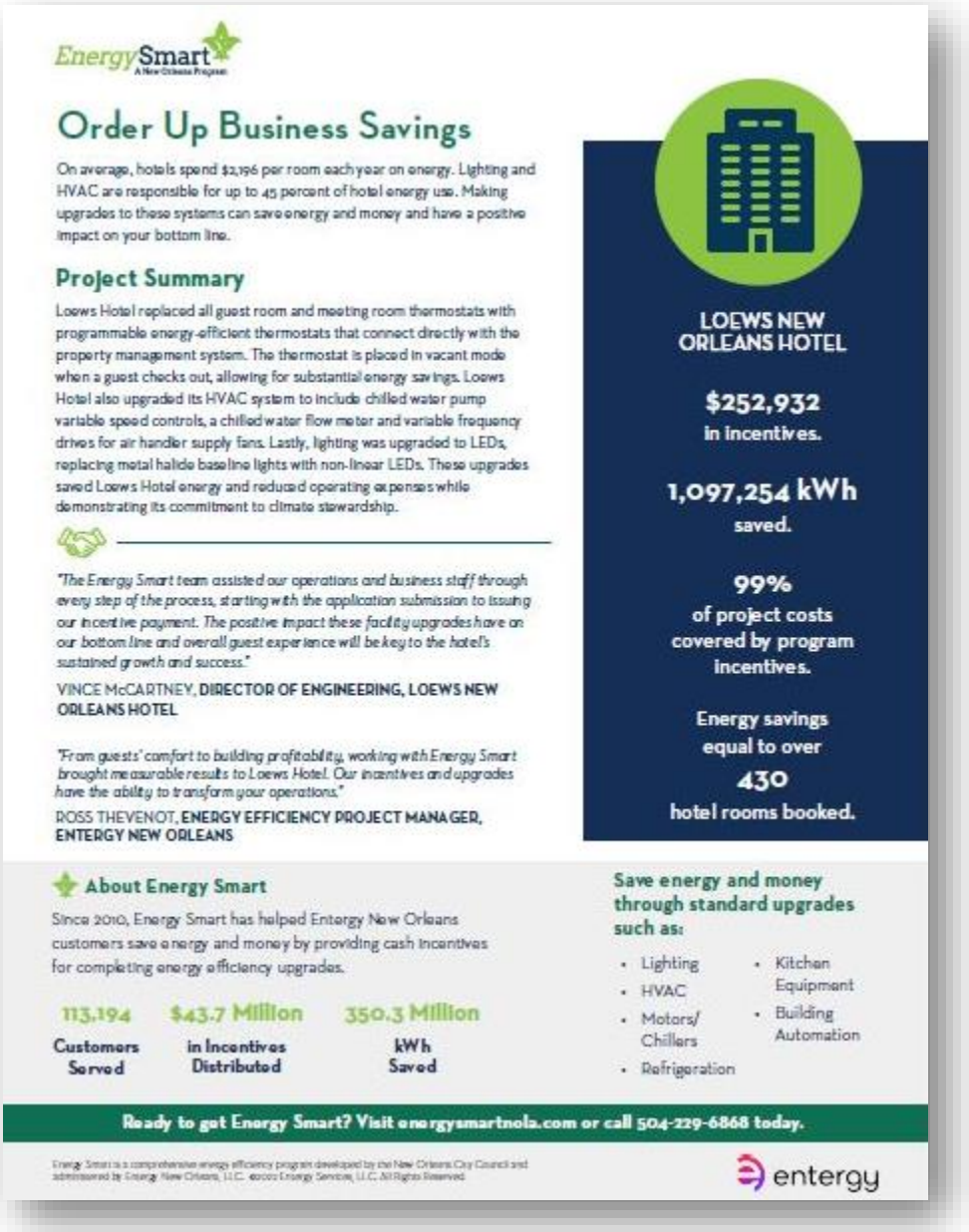
Loews New Orleans Hotel Case Study



EnergySmart
A New Orleans Program

Order Up Business Savings

On average, hotels spend $2,196 per room each year on energy. Lighting and HVAC are responsible for up to 45 percent of hotel energy use. Making upgrades to these systems can save energy and money and have a positive impact on your bottom line.

Project Summary

Loews Hotel replaced all guest room and meeting room thermostats with programmable energy-efficient thermostats that connect directly with the property management system. The thermostat is placed in vacant mode when a guest checks out, allowing for substantial energy savings. Loews Hotel also upgraded its HVAC system to include chilled water pump variable speed controls, a chilled water flow meter and variable frequency drives for air handler supply fans. Lastly, lighting was upgraded to LEDs, replacing metal halide baseline lights with non-linear LEDs. These upgrades saved Loews Hotel energy and reduced operating expenses while demonstrating its commitment to climate stewardship.

"The Energy Smart team assisted our operations and business staff through every step of the process, starting with the application submission to issuing our incentive payment. The positive impact these facility upgrades have on our bottom line and overall guest experience will be key to the hotel's sustained growth and success."

VINCE McCARTNEY, **DIRECTOR OF ENGINEERING, LOEWS NEW ORLEANS HOTEL**

"From guests' comfort to building profitability, working with Energy Smart brought measurable results to Loews Hotel. Our incentives and upgrades have the ability to transform your operations."

ROSS THEVENOT, **ENERGY EFFICIENCY PROJECT MANAGER, ENTERGY NEW ORLEANS**

LOEWS NEW ORLEANS HOTEL

$252,932
in incentives.

1,097,254 kWh
saved.

99%
of project costs covered by program incentives.

Energy savings equal to over
430
hotel rooms booked.

About Energy Smart

Since 2010, Energy Smart has helped Entergy New Orleans customers save energy and money by providing cash incentives for completing energy efficiency upgrades.

113,194	$43.7 Million	350.3 Million
Customers Served	in Incentives Distributed	kWh Saved

Save energy and money through standard upgrades such as:

- Lighting
- HVAC
- Motors/ Chillers
- Refrigeration
- Kitchen Equipment
- Building Automation

Ready to get Energy Smart? Visit energysmartnola.com or call 504-229-6868 today.

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EVALUATION, MEASUREMENT & VERIFICATION OF THE PROGRAM YEAR TWELVE ENTERGY NEW ORLEANS ENERGY SMART PROGRAMS

SUBMITTED TO: ENTERGY NEW ORLEANS

SUBMITTED ON: OCTOBER 06, 2023

SUBMITTED BY: ADM ASSOCIATES, INC.

ADM Associates, Inc.
140 SW Arthur St., Suite 201
Portland, OR, 97211

ACKNOWLEDGEMENTS

ADM Associates, Inc. (ADM) would like to acknowledge the many talented individuals who contributed to this evaluation, measurement, and verification (EM&V) report for program year 12 (PY12).

The Entergy New Orleans, LLC (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 , Energy Wise Alliance, Green Coast Enterprises, Honeywell, and their staff for their insights and information.

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

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Melissa Culbertson | Director
Adam Thomas, PMP | Principal

TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

ACRONYMS/ABBREVIATIONS

TABLE 1 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 / *Ex Ante* 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 / *Ex Post* 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 / *Ex Post* Net	Verified / *Ex Post* 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.

1 EXECUTIVE SUMMARY

1.1 Overview

This report provides a summary of the evaluation effort of the 2022 ("Program Year 12" or "PY12") Energy Efficiency (EE) portfolio by Entergy New Orleans, LLC (ENO). The Energy Smart Programs are administered between January 01, 2022, and December 31, 2022. The evaluation was led by ADM Associates Inc. (herein known as "ADM", or "the Evaluators").

1.2 Evaluation Objectives

The following activities were performed through the PY12 EM&V effort:

- Verify program tracking data and correctly apply the New Orleans Technical Reference Manual Version 5.0 (NO TRM V5.0) to calculate savings and estimate program year 12 (PY12) 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 ±10% of the gross realized savings estimate with 90% confidence;
- In consultation with the Advisors, estimate net-to-gross (NTG) values, which was performed following the NO TRM V5.0 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 programs without process evaluation of the demand and behavioral programs in PY12.

1.3 Energy Smart Portfolio Overview

In PY12, the ENO Energy Smart portfolio included the following programs. The table below shows each programs' sector, type and who implemented the program for ENO.

TABLE 1-1 PY12 ENERGY SMART PORTFOLIO OF PROGRAMS

Program Name	Found in the Report As	Sector	Program Type	Third-Party Implementor
Home Performance with ENERGY STAR	HPwES	Res	EE	APTIM/Franklin
Income Qualified Weatherization	IQW	Res	EE	APTIM/Franklin
Multifamily Solutions	MF Solutions	Res	EE	APTIM/Franklin
A/C Solutions	A/C Solutions	Res	EE	APTIM/Franklin
Retail Lighting and Appliances	RLA	Res	EE	APTIM/Franklin
School Kits and Education	SK&E	Res	EE	Energy Wise Alliance
Appliance Recycling & Replacement	AR&R	Res	EE	Legacy Professional Services
Behavioral	Behavioral	Res	Behavioral	APTIM/Franklin
Rewards	Rewards	Res	Behavioral	APTIM/Franklin
EasyCool Bring Your Own Thermostat	EasyCool BYOT	Res	DR	APTIM/Energyhub
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 Demand Response	Large C&I DR	C&I	DR	Honeywell
EasyCool for Business	EasyCool for Business	C&I	DR	APTIM/Energyhub

In PY12, ENO offered a portfolio of 16 programs; two behavioral, three demand responses (DR), and eleven energy efficiency (EE) programs which provided a comprehensive range of customer options focused on energy efficiency, demand reduction, and educational options. This report includes the Behavioral and EE programs, the DR programs are still undergoing evaluation.

ENO designed its programs to achieve the following objectives:

- PY12 *ex post* gross energy savings (kWh) goal of 96,773,677 kWh and a demand reduction (kW) target of 22,351 kW;[1]
- Significant energy-savings opportunities for all customers and market segments; and
- Broad ratepayer benefits.

Those programs are described below.[2]

- **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 two levels of home energy audits.

[1] These goals represent first-year energy and demand savings at the meter.

[2] The program descriptions below align with the ENO Application for Approval of the Implementation Plan for PY10 through PY12 of the Energy Smart Program. Filed December 09, 2019, in Docket UD-17-03.

The Assessment will include a "walk-through" inspection and direct installation of low-cost measures, such as LEDs and water conservation measures. 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).
- **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.
- **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.
- **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.
- **Appliance Recycling and Replacement (AR&R):** Starting in PY12, this offering will encourage early recycling of low efficiency appliances, such as refrigerators and freezers, for residential customers. The will also offer a refrigerator replacement option for income-qualified residential customers. This new offering will go beyond federal recycling requirements using environmentally friendly best practices for recycling all components of each appliance.
- **Behavioral:** The program will work with new Customer Engagement Platform (CEP) to offer a behavioral program to residential customers. Through the CEP, 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, rewards for taking actions and directs them to other program offerings.
- **Rewards:** This offering is designed to drive engagement in the Behavioral program. It includes a dedicated budget that will be leveraged to reward Behavioral program participants with incentives or prizes for participation.

- **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 a solution 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 PY12 e*x post* gross goal or target.

TABLE 1-2 ENERGY SAVINGS (KWH) GOALS AND DEMAND REDUCTION (KW) TARGETS BY PROGRAM

PY12 Programs	Ex Post Gross Energy Savings (kWh)	Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	Ex Post Gross Demand Reductions (kW)	Ex Post Gross Savings (kW) Target	% to kW Target
HPwES	2,108,669	4,870,449	43%	410.72	1,384.00	30%
RLA	19,806,949	8,131,626	244%	3,370.75	1,102.00	306%
MF Solutions	2,530,865	1,616,270	157%	571.02	470.00	121%
IQW	3,068,747	1,850,708	166%	2,133.62	623.00	342%
A/C Solutions	1,402,624	2,388,674	59%	598.59	687.00	87%
SK&E	596,196	681,132	88%	84.18	81.00	104%
AR&R	168,470	1,897,900	9%	21.35	233.00	9%
Behavioral	5,060,909	21,700,000	23%	821.84	0.00	N/A
C&I NC	135,938	3,172,427	4%	38.00	603.00	6%
Small C&I Solutions	5,451,890	8,830,250	62%	1,286.62	1,948.00	66%
Large C&I Solutions	32,655,323	38,041,497	86%	6,815.61	6,048.00	113%
PFI	4,147,387	3,592,744	115%	105.00	498.00	21%
Portfolio Total	**77,133,968**	**96,773,677**	**80%**	**16,257.30**	**13,677.00**	**119%**

Sums may differ due to rounding.

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 PY12 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 PY12 EM&V Expenditures	Total PY12 Program Expenditures	EM&V as % of Expenditures
$846,000	$18,200,210	4.6%

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 V5.0 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 Evaluators completed surveys with customers and active trade allies as part of the PY12 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.

TABLE 2-2 SUMMARY OF PROCESS PRIMARY DATA COLLECTION

Survey Group	Mode	Survey Time Frame	Number of Contacts*	Number of Completions
HPwES	Online	10/21 – 11/25/22	1,783	121
RLA	Online	10/12 – 10/27/22	271	35
MF Solutions	Telephone/Online	11/1 - 12/13/22	6	5
IQW	Online	10/12 – 10/23/22	635	69
A/C Solutions	Online	10/13 – 10/29/22	408	47
SK&E	NA	NA	NA	NA
AR&R	Online	10/11 – 10/14/22	192	18
Behavioral	NA	NA	NA	NA
C&I NC	Telephone/Online	10/10 – 1/31/23	2	0
Small C&I Solutions	Telephone/Online	10/10 – 1/31/23	112	25
Large C&I Solutions	Online	9/30 – 1/31	119	38
PFI	Telephone/Online	10/10 – 1/31/23	113	20

The third-party Evaluator (TPE) performed staff interviews. Staff interviews with program staff provided insight into program management and operations. Interviews were performed with eight third-party administrator (TPA) and third-party implementation (TPI) team members.

The Evaluator also collected program-related information onsite. Site visits are intended to detail measure installation practices, customer experience, trade ally processes, and condition details. Where site visits cannot be performed, in-depth desk reviews can provide similar details without going onsite. Site visits were not impacted by the pandemic in PY12. These activities collect both process and gross impact information.

To supplement findings from site visits, the Evaluators will also perform participant surveys. In some cases, such as with large commercial participants, surveys are replaced with phone interviews. In the case of multifamily participants, instead of surveying tenants, property manager interviews were performed. These activities collect process, net and gross impact information.

The table below shows the number of surveys, interviews, site visits and desk reviews performed.

TABLE 2-3 SUMMARY OF IMPACT PRIMARY DATA COLLECTION

PY12 Programs	Project Desk Reviews	Site Visits	# Participant Surveys	# Staff Interviews	# Property Manager Interviews	# Trade Ally Interviews
HPwES	Census	21	121	4	0	5
RLA		0	35	4	0	0
MF Solutions		3 MF	0	4	5	0
IQW		25	69	4	0	5
A/C Solutions		18	47	4	0	5
SK&E		NA	1,286	NA	NA	NA
AR&R		0/1 ride-along	5	0	0	0
Behavioral	Census	NA	NA	NA	NA	NA
C&I NC	1	1[3]	0	5	0	10
Small C&I Solutions	72	11	25	5	0	10
Large C&I Solutions	20	4	20	5	0	10
PFI	8	0	1	5	0	10

The table below outlines the scale of staff interviews in PY12.

TABLE 2-4 SUMMARY OF STAFF INTERVIEWS

Programs	Organization	Interviewed Staff Roles	# Staff Interviewed
HPwES	Franklin, APTIM & ENO	Franklin Program Manager, APTIM Program Director, ENO Energy Efficiency Project Manager, and ENO DSM Manager	4
RLA			
MF Solutions			
IQW			
A/C Solutions			
SK&E	Franklin, APTIM, Energy Wise & ENO	Franklin Program Manager, APTIM Program Director, Energy Wise Executive Director, ENO Energy Efficiency Project Manager, and ENO DSM Manager	5
AR&R	Franklin, APTIM, Legacy Professional Services & ENO	Franklin Program Manager, APTIM Program Director, Legacy Professional Services Principal, ENO Energy Efficiency Project Manager, and ENO DSM Manager	5
C&I NC	APTIM & ENO	APTIM Program Director, APTIM Senior Energy Engineer, APTIM Commercial Program Manager, ENO EE Project Manager, and ENO DSM Manager	5
Small C&I Solutions			
Large C&I Solutions			
PFI			

[3] The number of site visits performed on the commercial energy efficiency programs is based on the volume and composition of projects.

2.1.1.1 Response Rates

The table below outlines survey timing and results. Additionally, information on incentives provided to survey participants. Effective contact information was limited in many cases.

TABLE 2-5 SURVEY RESPONSE INFORMATION

Program	Mode	Time Frame	Unique Contacts	# Contacted by Email	# Contacted by Phone	# Complete	Incentive Paid ($)
HPwES	Online	10/21 – 11/25/22	2,003	1,783	0	121	$3,025
RLA	Online	10/12 – 10/27/22	2,523	271	0	35	$875
MF Solutions	Telephone/ Online	11/1 - 12/13/22	9	6	6	5	$125
IQW	Online	10/12 – 10/23/22	993	635	0	69	$1,750
A/C Solutions	Online	10/13 – 10/29/22	430	408	0	47	$1,175
AR&R	Online	10/11 – 10/14/22	204	192	0	18	$425
C&I NC	Telephone/ Online	10/10 – 1/31/23	2	2	2	0	$0
Small C&I Solutions	Telephone/ Online	10/10 – 1/31/23	112	80	46	25	$625
Small C&I OLM	Online	9/30 – 2/1/23	126	119	0	38	$950
Large C&I Solutions	Telephone/ Online	10/10 – 1/31/23	113	70	45	20	$500
PFI	Telephone/ Online	10/10 – 1/31/23	21	10	8	1	$25

2.1.2 IMPACT EVALUATION FINDINGS

The Energy Smart EE programs achieved 79.7% of planned *ex post* gross energy (kWh) savings and 118.9% 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 (PY12) as “first year” impacts.

The information below outlines the ENO goals, first year *ex ante* gross energy savings (kWh) (82,170,770 kWh) and *ex ante* gross demand reductions (11,160.37 kW), gross realization rates (93.9% for kWh, 145.7% for kW), net impacts (67,835,209 kWh and 14,552.20 kW), net-to-gross (NTG) ratios, and *ex post* gross (913,320,867

kWh) and *ex post* net (800,202,068 kWh) lifetime impacts.[4] The levelized cost of energy savings (kWh) for the PY12 portfolio is $0.033 ($/kWh).

The figure below summarizes energy savings (kWh) in each phase of the evaluation, for each program in the portfolio.

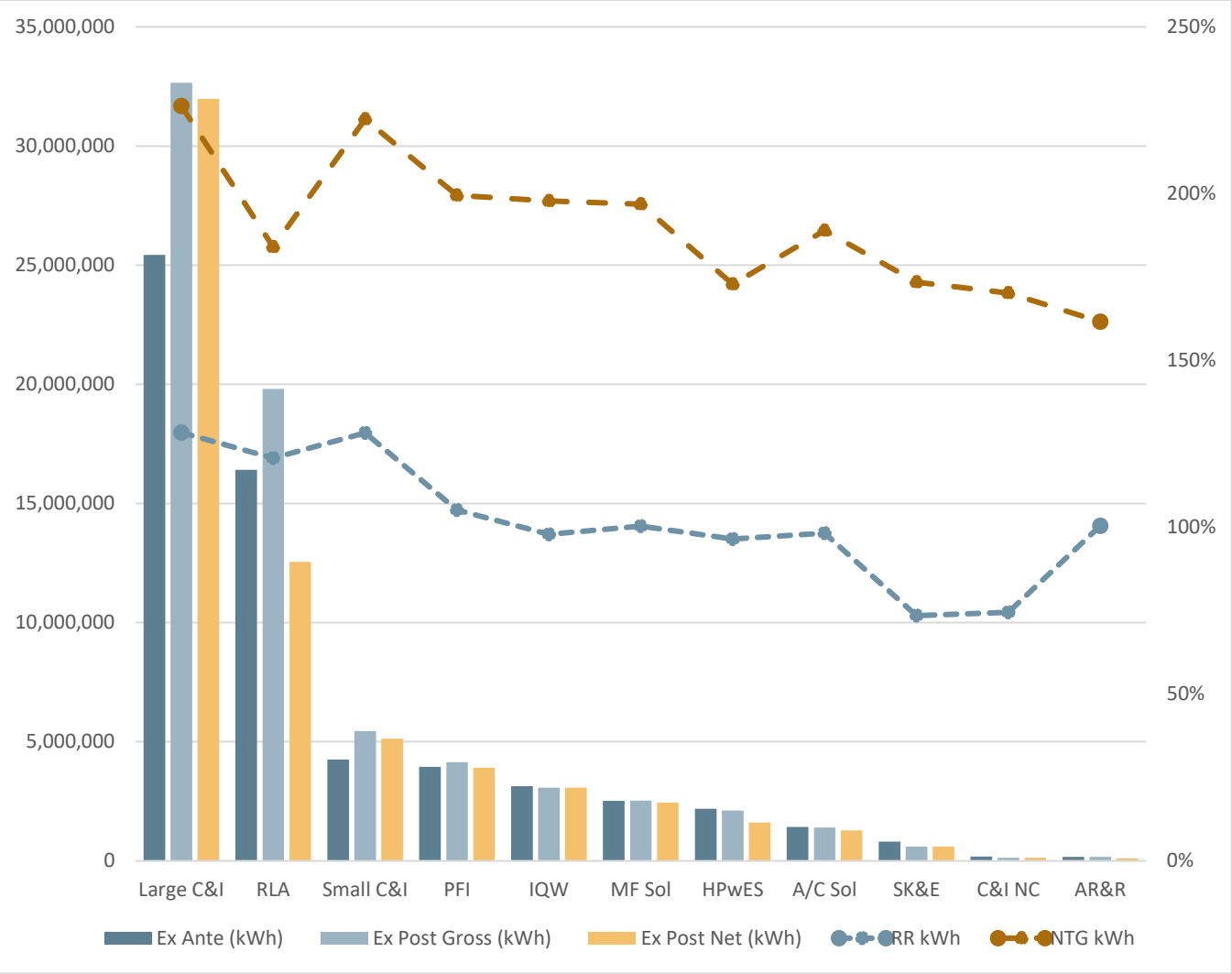


FIGURE 2-1 ENERGY SAVINGS (KWH) SUMMARY BY PROGRAM

[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 ENERGY SAVINGS (KWH) RESULTS

PY12 Programs	*Ex Ante* Energy (kWh)	*Ex Post* Gross Energy (kWh)	*Ex Post* Net Energy (kWh)	*Ex Post* Gross Energy (kWh) Goal	RR	NTG Ratio	% to kWh Goal
HPwES	2,186,043	2,108,669	1,611,427	4,870,449	96.5%	76.4%	43.3%
RLA	16,408,179	19,806,949	12,542,577	8,131,626	120.7%	63.3%	243.6%
MF Solutions	2,522,560	2,530,865	2,441,936	1,616,270	100.3%	96.5%	156.6%
IQW	3,135,817	3,068,747	3,068,747	1,850,708	97.9%	100.0%	165.8%
A/C Solutions	1,427,376	1,402,624	1,271,648	2,388,674	98.3%	90.7%	58.7%
SK&E	810,950	596,196	596,196	681,132	73.5%	100.0%	87.5%
AR&R	167,764	168,470	103,117	1,897,900	100.4%	61.2%	8.9%
Behavioral	21,700,000	5,060,909	5,060,909	21,700,000	23.3%	100.0%	23.3%
C&I NC	182,385	135,938	130,053	3,172,427	74.5%	95.7%	4.3%
Small C&I Solutions	4,249,756	5,451,890	5,125,542	8,830,250	128.3%	94.0%	61.7%
Large C&I Solutions	25,436,680	32,655,323	31,972,242	38,041,497	128.4%	97.9%	85.8%
PFI	3,943,259	4,147,387	3,910,812	3,592,744	105.2%	94.3%	115.4%
Portfolio Total	**82,170,770**	**77,133,968**	**67,835,209**	**96,773,677**	**93.9%**	**87.9%**	**79.7%**

Sums may differ due to rounding.

TABLE 2-7 PORTFOLIO DEMAND REDUCTIONS (KW) RESULTS[5]

PY12 Programs	*Ex Ante* Demand Reductions (kW)	*Ex Post* Gross Demand Reductions (kW)	*Ex Post* Net Savings (kW)	*Ex Post* Gross Savings (kW) Target	RR	NTG Ratio	% to kW Target
HPwES	421.93	410.72	375.54	1,384.00	97.3%	76.4%	29.7%
RLA	2,509.90	3,370.75	2,063.69	1,102.00	134.3%	63.3%	305.9%
MF Solutions	569.56	571.02	547.37	470.00	100.3%	96.5%	121.5%
IQW	2,350.47	2,133.62	2,133.62	623.00	90.8%	100.0%	342.5%
A/C Solutions	610.11	598.59	545.36	687.00	98.1%	90.7%	87.1%
SK&E	116.55	84.18	84.18	81.00	72.2%	100.0%	103.9%
AR&R	6.14	21.35	13.28	233.00	347.7%	61.2%	9.2%
Behavioral	821.84	821.84	821.84	0.00	100.0%	100.0%	N/A
C&I NC	41.67	38.00	36.35	603.00	91.2%	95.7%	6.3%
Small C&I Solutions	947.37	1,286.62	1,225.28	1,948.00	135.8%	94.0%	66.0%
Large C&I Solutions	3,455.33	6,815.61	6,605.21	6,048.00	197.2%	97.9%	112.7%
PFI	131.33	105.00	100.49	498.00	80.0%	94.3%	21.1%
Portfolio Total	**11,982.21**	**16,257.30**	**14,552.20**	**13,677.00**	**145.7%**	**87.9%**	**118.9%**

Sums may differ due to rounding.

TABLE 2-8 PORTFOLIO LIFETIME ENERGY SAVINGS (KWH) RESULTS

PY12 Programs	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Net Energy Savings (kWh)	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
HPwES	2,108,669	1,611,427	18	28,349,659	22,150,186
RLA	19,806,949	12,542,577	20	245,230,133	154,669,139
MF Solutions	2,530,865	2,441,936	14	34,599,447	33,305,307
IQW	3,068,747	3,068,747	15	46,095,950	46,095,950
A/C Solutions	1,402,624	1,271,648	15	18,885,425	16,873,467
SK&E	596,196	596,196	11	6,803,648	6,803,648
AR&R	168,470	103,117	27	2,821,086	1,725,111
Behavioral	5,060,909	5,060,909	1	5,060,909	5,060,909
C&I NC	135,938	130,053	15	1,979,273	1,891,002
Small C&I Solutions	5,451,890	5,125,542	15	77,981,165	73,672,171
Large C&I Solutions	32,655,323	31,972,242	12	383,303,368	379,292,997
PFI	4,147,387	3,910,812	16	62,210,805	58,662,181
Portfolio Total	**77,133,968**	**67,835,209**	**13**	**913,320,867**	**800,202,068**

Sums may differ due to rounding.

[5] This table excludes demand response programs due to ongoing evaluation activities.

The figures below represent the contribution of *ex ante* gross energy savings (kWh), by end use and sector. The figure below summarizes the contributions to the C&I sector and Figure 2-4 summarizes the contributions to the residential sector.

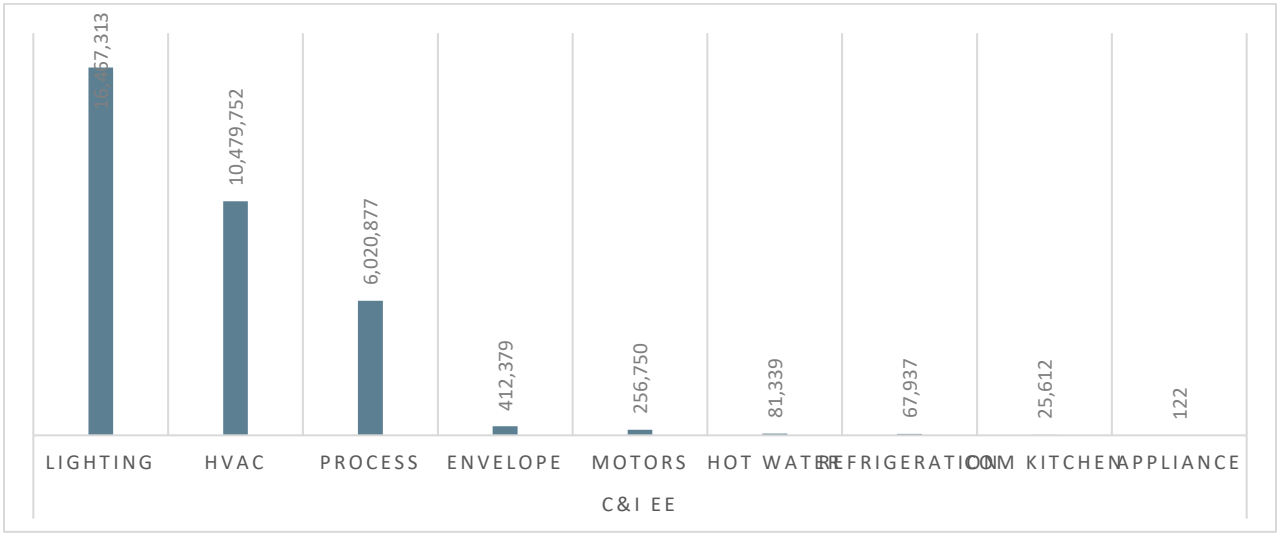


FIGURE 2-2 C&I *EX ANTE* KWH BY END USE

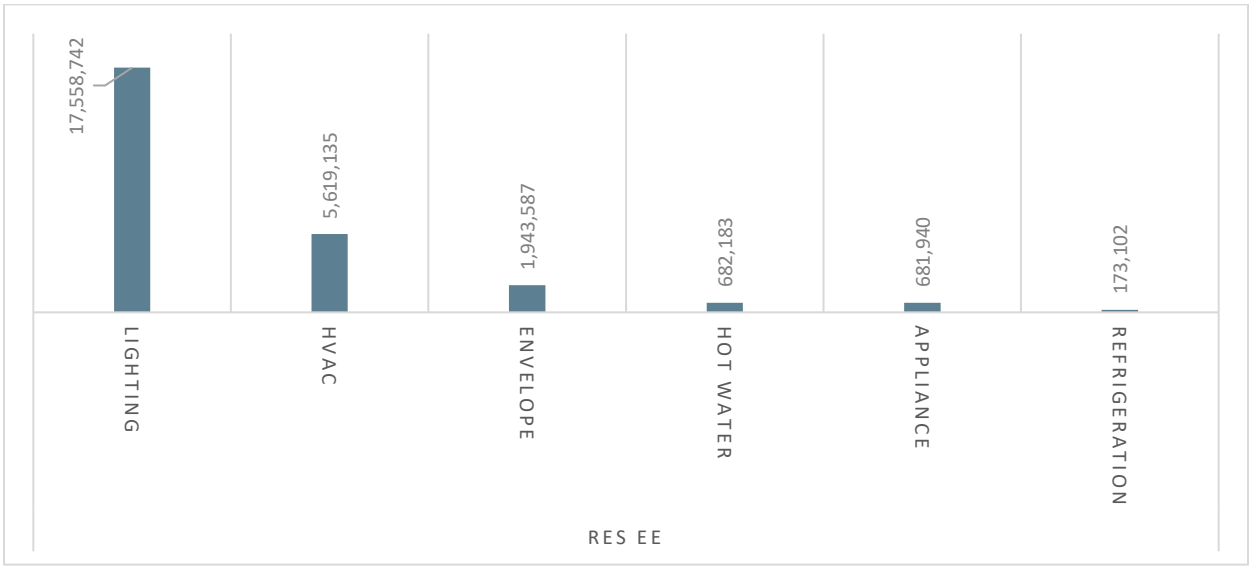


FIGURE 2-3 RESIDENTIAL *EX ANTE* BY END USE

Each bar in the figure below shows the contributions to *ex ante* gross energy savings (kWh) for each measure in the commercial sector. LED lighting (49%), building automation software (28%), and custom process optimization projects (18%) were the high impact measures, and equal to 96% of C&I *ex ante* energy savings.

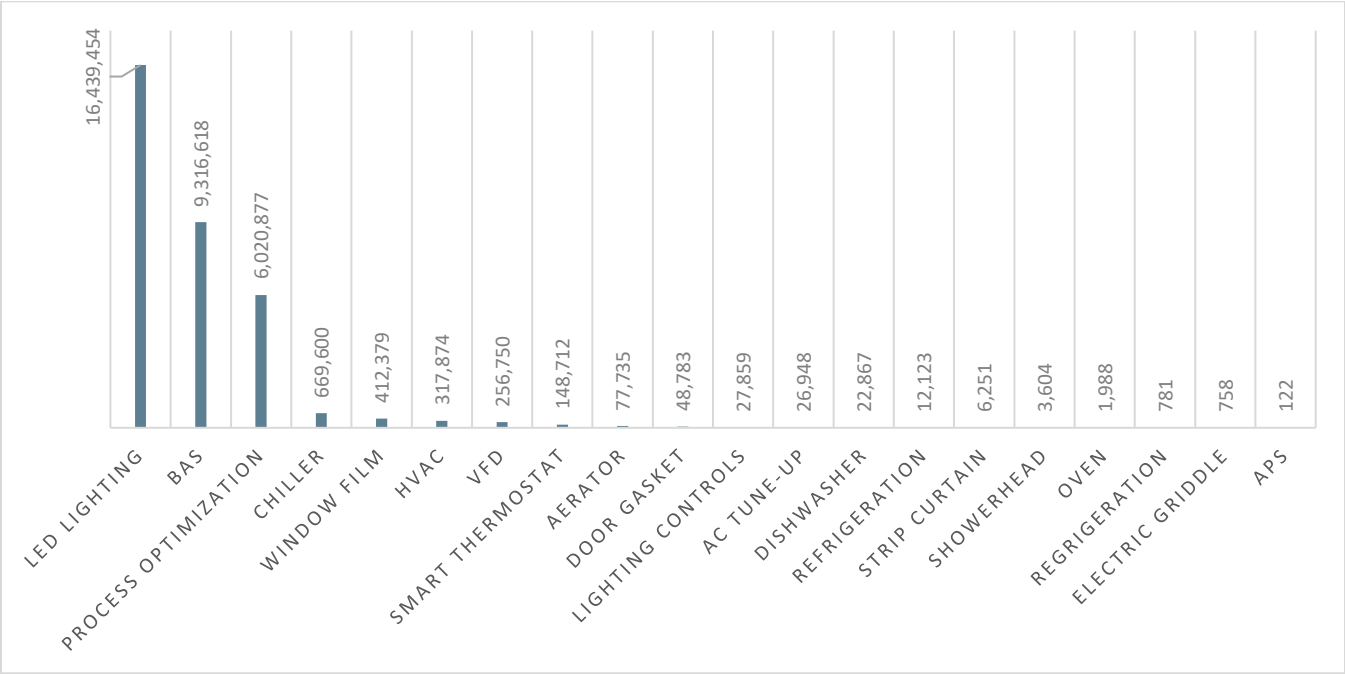


FIGURE 2-4 C&I *EX ANTE* KWH BY MEASURE

Each bar in the figure below shows the contributions to energy savings for each measure in the residential sector. LED lamps (63%), duct sealing (11%), and smart thermostats (7%) are the high impact measures, and equal to 81% of residential *ex ante* energy savings.

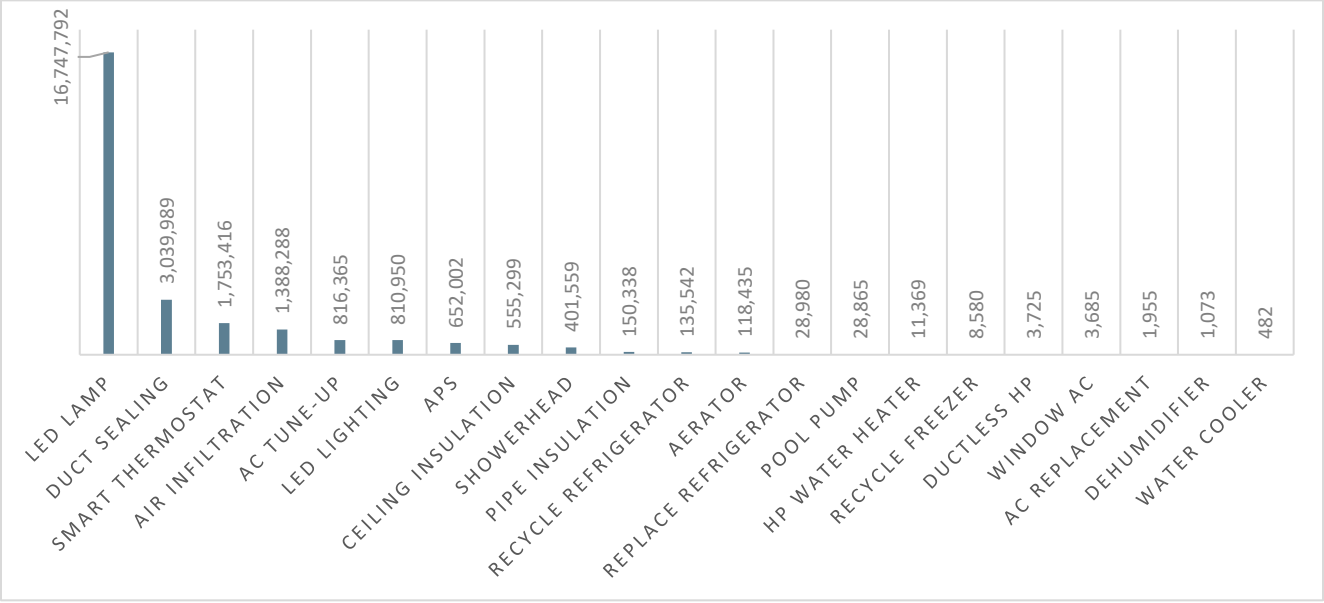


FIGURE 2-5 RESIDENTIAL *EX ANTE* BY MEASURE

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

TABLE 2-9 PARTICIPATION AND INCENTIVE SPEND BY PROGRAM

PY12 Program	*Ex Ante* Gross Incentives / Rebates	Count of Measures / Projects
HPwES	$430,869	9,953
RLA	$1,315,375	11,101
MF Solutions	$511,210	9,094
IQW	$1,330,917	5,347
A/C Solutions	$241,886	1,329
SK&E	$108,325	48
AR&R	$148,950	381
Behavioral	$60,515	79,308
Rewards	$5,240	0
C&I NC	$15,261	9
Small C&I Solutions	$909,072	933
Large C&I Solutions	$3,273,623	485
PFI	$477,363	49
Portfolio Total	**$8,828,606**	**118,037**

Sums may differ due to rounding.

Budgets and expenditures are summarized in the table below.

TABLE 2-10 BUDGETS AND ACTUAL SPEND SUMMARY

Program	Budgeted Expenditures	Actual Expenditures	Spending (% of Budget)	Energy Savings (% of Goal)	Levelized ($ per kWh)
HPwES	$1,967,012	$829,459	42%	43%	$0.043
RLA	$1,646,289	$1,737,152	106%	244%	$0.013
MF Solutions	$623,254	$798,460	128%	157%	$0.037
IQW	$1,530,206	$2,201,042	144%	166%	$0.078
A/C Solutions	$710,720	$499,582	70%	59%	$0.041
SK&E	$531,807	$533,426	100%	88%	$0.094
AR&R	$481,121	$358,181	74%	9%	$0.185
Behavioral	$424,584	$320,035	75%	23%	$0.075
Rewards	$0	$5,240	N/A	N/A	$0.000
C&I NC	$118,455	$102,454	86%	N/A	$0.069
Small C&I Solutions	$2,135,352	$1,784,511	84%	172%	$0.048
Large C&I Solutions	$7,353,246	$6,219,369	85%	370%	$0.035
PFI	$985,182	$1,045,395	106%	11%	$0.027
TRM Development	N/A	$67,608	N/A	N/A	$0.000
Total	**$18,507,228**	**$16,501,914**	**89%**	**80%**	**$0.033**

Sums may differ due to rounding.

2.1.3 PROCESS EVALUATION FINDINGS

There were comprehensive process evaluation activities for the residential, commercial, and industrial energy efficiency programs, which included staff interviews, site visits, participant surveys, trade ally interviews, property manager interviews and the review of program documentation and forward-facing materials.

2.1.3.1 HPwES

2.1.3.1.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions for the evaluation.

- **Program changes included the addition of kits and community partnerships.** Lighting kits were implemented as a marketing strategy to generate leads for the program. A new partnership between Franklin and the Vietnamese Initiatives in Economic Training Organization was established in PY12. The partnership grew from a larger community outreach effort to engage populations who have historically had lower levels of participation due to language and other cultural barriers.
- **Program staff indicated market adoption for smart thermostats increased.** Staff observed that customers have shown an increased interest in smart thermostats, and they are fielding a variety of incentive-related questions. They also noted that opportunities for savings from lighting are likely to decrease as a result of EISA Phase II efficacy requirements. Staff indicated that plenty of opportunities for measure adoption remain.
- **Many trade allies indicated that current incentive rates are too low to encourage more customer adoption.** Among the trade allies interviewed (n=5), most (4 of the 5) indicated that they believe the rebates for smart thermostats, insulation, duct sealing, and AC tune-ups are too low to induce customer adoption. Regarding adding new measures to the residential programs, three trade allies suggested electric water heaters, mechanical ventilation work, and rewrapping metal duct work (or reinsulating metal duct work) added to the list of program-qualifying measures.
- **Most trade allies recommend high efficiency equipment regularly when working with customers.** All respondents indicated that customers experience barriers to purchasing and installing high efficiency equipment, primarily upfront project cost. Overall, residential programs and incentives are important for trade allies when recommending highly efficient equipment and encouraging customers to install recommended equipment.
- **Some trade allies indicated that the upcoming IEEC building code changes impacted their business.** Two trade allies noted the extra costs associated with the code change. In response to the code changes, one trade ally indicated they are educating their staff and stocking up on additional materials.
- **Program satisfaction varied among trade ally respondents.** Two of the five respondents were satisfied with the range of qualifying measures, incentive amounts, communication with staff, and the program overall, however the remaining three respondents were neutral, dissatisfied, or unsure. When asked about their dissatisfaction, one respondent mentioned frustration with the lack of consistency and transparency concerning incentive payment timelines, while another respondent noted that they would like to be able to do their own assessments to help with consistency and rapport with customers.
- **Some trade allies believe the paperwork process has improved.** Three of the five trade allies indicated that the paperwork process has improved since last year, by streamlining the application into one system, where trade allies can track invoices and payments.

- **Emails were common ways participants learned of the program, and they were motivated to participate to save on their energy bills**. Just over one-third (46 of 121) of survey participants learned about the program through an email (38%), followed by a bill insert or utility mailer. Respondents were most motivated to participate in the program in order to save money on their energy bills (28%), followed by conserving energy and/or protecting the environment (18%) and improving the comfort of their home (18%).
- **Just over half of the survey respondents had received an energy assessment through the program.** Most who received an assessment (n=72) were not planning to have one prior to learning about the program and found scheduling one easy. However, some respondents noted that it was difficult to some degree, mostly due to rescheduling or cancellations by program staff and contractors. Respondents who received a home energy assessment were generally satisfied with the process of scheduling those home energy assessments. Those who were dissatisfied with the assessments noted difficulty in scheduling the appointment and unpredictable cancellations as reasons for their dissatisfaction.
- **More than half of the respondents found the home energy assessment report to be helpful**. Those who indicated that their home energy report was not helpful (38 out of 60), noted that it did not yield new information, there was no follow-up from the contractor, or they have not seen any changes in their energy bills. Few respondents made all the recommendations from their home energy assessment report, while a majority made some but not all. Of those who have not yet made some of the recommended energy efficient changes, insulation and sealing were among the most common outstanding improvements. Cost is the biggest prohibitor regarding why respondents have not gone forward with outstanding recommendations from their home energy assessment.
- **Most respondents were satisfied with the home improvements made through the program.** Among the unsatisfied respondents (19%), lack of follow up or incomplete work were their main complaints, followed by needing help installing measures and high energy bills. Eighty-eight percent of the respondents had Franklin as their installing contractor. Satisfaction rates by contractor were:
    - **Franklin (n=106):** 80% satisfied, 20% dissatisfied
    - **Contractors other than Franklin (n=15):** 87% satisfied, 13% dissatisfied

  The 23 respondents who were not satisfied listed the lack of follow up or incomplete work as the top reason for their dissatisfaction.
- **Respondents were generally satisfied with all aspects of the program.** Participants were most satisfied (76%, n=119) with the effort needed for the program application process and were least satisfied with the savings on their monthly utility bills. Respondents who indicated any level of dissatisfaction were most dissatisfied by the lack of follow-up and incomplete work and high energy bills.

2.1.3.1.2 *Recommendations*

The following summarizes key recommendations after completing the evaluation.

- **Consider changing the measure naming convention for LED lamps to help better distinguish kit projects.** HESK and LTN Kits are delivered differently and have different gross and net impacts. As such, the Evaluators recommend a modification in how the LED lamps in the kits are named in the 'Measure Description' and 'Supplier Measure Description' fields.

This will help to quickly identify the LED measures at the start. It may be helpful to add in 'DI' for the direct install project descriptions, 'HESK' for the HESK project descriptions, and 'LTN' for the LTN project descriptions.

- **Consider screwing in the advanced power strips to a more permanent location in homes to improve in-service rates.** In similar programs, gross impacts improve when contractors have reported that they installed the APS more completely, by plugging in the peripherals for the customers, to promote the appropriate use of the device.
- **Consider conducting a focus group with nonparticipant and participant trade allies.** Program staff could host a focus group with nonparticipating and participating trade allies to better understand the barriers that customers face in installing various measures with low adoption rates. The focus group could help inform program staff of ways to improve the offering and reach customers who do not typically participate in HPwES.
- **Explore ways to follow up with customers to ensure their projects are completed to their satisfaction.** While most customers indicated satisfaction with their experience (81%), there were some respondents that indicated dissatisfaction with the program because of lack of follow-up from the contractors they worked with. It would be advantageous to develop a customer journey map to identify all points of contact with customers and ensure that there are quality control procedures in place at all points. It may also be helpful to add a step to verify customer awareness of the home improvements completed through the program to ensure they understand what work was completed and what may require additional follow-up.
- **Offering ongoing training opportunities to participating trade allies can help them stay informed about the internal and external factors that will impact the program.** Participating trade allies will benefit from ongoing training opportunities to alert them of internal and external factors that will impact the offering (e.g., EISA backstop, SEER2 changes, Inflation Reduction Act, IECC building code changes, etc.). These training sessions can also provide an opportunity for program staff to learn from trade allies what trainings they would like to see offered in the future.
- **Utilize home energy assessment and/or installation visit to promote programs and behaviors that will help customers save more energy in their homes.** Approximately 26% of respondents who received an energy assessment were not asked if there were specific issues in their home they wanted to address or could not recall if they were asked. Additionally, 17% of surveyed respondents who received an assessment did not find the report to be helpful. Survey findings suggest the program has opportunities to provide customers with additional information.

2.1.3.2 IQW

2.1.3.2.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **The Vietnamese Initiatives in Economic Training Organization partnership was key, with more community-based organizations coordination planned.** This year, Franklin partnered with the Vietnamese Initiatives in Economic Training organization, as part of a larger community outreach effort, especially with groups who oftentimes have a language barrier, and/or low program participation rates.

- **Program staff have seen an uptick in participation this year.** To accommodate for the increased interest, staff opened the typical 60-day scheduling period, into 2023, to avoid having to put customers on a waitlist.
- **The program website was the most common way participants learned of the program.** Thirty-one percent learned about the program through the website, followed by word of mouth (23%). IQW participants indicated that saving on their monthly utility bills was the number one motivator to participate, followed by improving the comfort of their home and conserving energy.
- **Survey respondents reported higher dissatisfaction.** Program staff hypothesized that this dissatisfaction stems from minimal changes in participants' energy bills (irrespective of equipment upgrades) as bill impacts could be defrayed by rate increases that had occurred and customers do not see their own billing-counterfactual (i.e., what their bill would have been without the retrofit).
- **Most participants found scheduling the home energy assessment easy and were satisfied with the home improvements made through the program**. Participants were most dissatisfied with the savings on their energy bills after completing upgrades through the program. Respondents were also dissatisfied with the amount of incomplete work, non-functional measures, and the time it took to complete the improvements. Less than half of surveyed program participants were satisfied with their electricity service provider.

2.1.3.2.2 *Recommendations*

The following summarizes key recommendations after completing the evaluation.

- **Consider screwing in the advanced power strips to a more permanent location in homes to improve installation rates.** Installation rates improve when contractors have reported that they installed the APS more completely, by plugging in the peripherals for the customers, to promote the appropriate use of the device.
- **Implement recommendations made for the HPwES program.** Since both programs share similar designs and encountered common issues, it would be prudent to explore opportunities to implement the HPwES recommendations. For instance, developing a customer journey map, ensuring prompt customer follow-up, and making better use of home energy assessments could improve the effectiveness and efficiency of the program.

2.1.3.3 RLA

2.1.3.3.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the evaluation.

- **There were a few tracking data inconsistencies that affected the expected savings.** There were three pool pumps that did not have any claimed savings. The Evaluators assigned deemed savings to this measure, improving program-level realization but with measure-level realization not being calculable due to the claim of zero. Additionally, dehumidifier projects had inconsistent savings across line items, even with the same make and model.

- **The addition of smart thermostats has been a success.** This year smart thermostats were added to the online marketplace and constituted a high volume of OLM sales. The lower-cost Amazon smart thermostat was a primary driver of sales for this measure. Additionally, the program added no-cost lighting kits to generate customer leads.
- **More than half of the survey respondents learned about the rebate before they purchased the eligible measure.** Common avenues of program awareness included the program website, marketing emails, and the retailer website.
- **Respondents are interested in receiving more information on other rebate programs and energy-saving tips**. Eighty-eight percent of respondents want to learn more about other rebate programs and want to tips on how to save energy. Most indicated that email is the best way to communicate this information.
- **Survey respondents are satisfied with the program overall**. Respondents were most satisfied with the appliances they purchased and the rebate application process. Several respondents were dissatisfied because they would like to see an increase in the rebate amount and an expansion of the program to include solar measures.

2.1.3.3.2 *Recommendations*

The following summarizes key recommendations after completing the PY12 evaluation.

- **Consider aggregating all program data together into one dataset.** RLA program data is provided as two separate Excel files where it is intended that appliance and lighting data will be provided separately. However, it is common for LED projects to be included in the appliance data. Due to format differences, those projects are missing measure parameters required for savings verification. Aggregating RLA data may reduce discrepancies.
- **Consider providing more measure-specific information on the program website.** Explore ways for customers to understand the characteristics and quality of the measures offered. Additionally, providing more information to customers could benefit the program offering (e.g., noticeable hyperlinks, videos of the actual measured offered, information about the benefits of replacing older inefficient equipment, etc.). Customers also indicated they were interested in learning more about opportunities in surveys.
- **Continue to refine information and messaging surrounding energy savings.** Although satisfaction rates were high, people continued to express some frustration with their expectations on savings after installing measures.

2.1.3.4 MF Solutions

2.1.3.4.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **Program staff noted that more properties engaged in the program later in the calendar year.** Staff indicated that since COVID mandates lifted, property managers seem less apprehensive and more willing to engage in the program. Franklin staff are aware of the need to balance property managers desire for changes to be made before the holiday season, along with program budget and savings goals.

- **Most respondents (4 out of 5) were driven to participate to improve tenants' comfort and satisfaction.**
- **Satisfaction with improvements made through the program is high among surveyed property managers.** All surveyed property managers (n=5) were satisfied with all elements of the participation process.

2.1.3.4.2 *Recommendations*

The following summarizes key recommendations after completing the evaluation.

- **Consider adding tenant contact information and apartment units in tracking data.** Property manager contact information is important for primary data collection. However, in cases where site visits are limited, the Evaluators must conduct tenant surveys to gather additional information. Apartment unit numbers in the addresses is also important to better be able to identify projects within the same address.
- **Seek to engage with multifamily property managers and owners earlier in the program year to potentially expand completed projects.** Recruiting and working with additional multifamily property managers and owners may better ensure program stability and increase the number of projects.
- **Ensure there is sufficient communication with participating decision makers regarding improvements made through the program.** Property manager interview findings indicate there may be an opportunity to increase decisionmakers' awareness of the improvements completed and the impact of the program. Offering decisionmakers a summary report, coupled with a brief service provider discussion to review its details, could act to ensure awareness of the improvements made through the program.

2.1.3.5 A/C Solutions

2.1.3.5.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **The program remained relatively consistent with prior years, yet program participation struggled.** Program staff pointed to hurricane recovery efforts as a barrier to participation. Heat pump replacements were added into the PY12 offerings.
- **Participants largely learned about the program through word-of-mouth.** The top source of program awareness (46%, n=47) was word-of-mouth, followed by the program website, and bill inserts or utility mailers. Program participants indicated that saving money on their monthly utility bills was the number one motivator to participate, followed by optimizing their AC unit, conserving energy, and improving the comfort of their home.
- **About one-third of respondents had regular tune-ups prior to participation.** Among these participants, one customer indicated those tune-ups were part of a regular maintenance contract, while the rest were not part of a contract. The cadence of the regular tune ups ranged from evry six months to as needed.
- **Respondents reported high satisfaction with the home improvements made through the program (85%).** In general, respondents were satisfied with the program, particularly with the application process (88%) and communication with program staff (87% satisfied). Respondents were most dissatisfied with the savings on their energy bill (26%), indicating bills did not decrease as much as anticipated.

2.1.3.5.2 *Recommendations*

The following summarizes key recommendations after completing the evaluation.

- **Consider aggregating all program data together to address macro-level database inconsistencies.** The review of data involved looking at two separate workbooks with inconsistent sizes and inconsistent heading titles for the same data point. There are missing data points required for calculation inputs while the other had inconsistencies in savings and incentives. The Evaluators suggest aggregating all the program data into one workbook, with a focus on providing all of the required fields for all measure calculations.
- **Continue to improve the information and messaging about the availability of HVAC equipment for replacements.** It is recommended to increase customer awareness of the availability of HVAC equipment for customers interested in replacements. Consider offering additional marketing efforts and increase educational resources that could be made available to retailers and HVAC contractors.

2.1.3.6 SK&E

2.1.3.6.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the evaluation.

- **The program added additional schools in PY12.** Participation rates increased from 25 schools in PY11 to 37 schools in PY12.
- **The program offerings have been successful in providing education to 6th and 10th grade students over multiple years.** The program offerings have remained consistent with devices included in kits while increasing the total number of students in the program.
- **Program staff are concerned about the loss of LED savings due to EISA.** Moving forward as LED savings are diminishing, staff are exploring alternative measure offerings for the kits.

2.1.3.6.2 *Recommendations*

The following summarizes key recommendations after completing the evaluation.

- **Consider adding an advanced power strip into the kit offerings**. Advanced power strips are a cost-effective direct-install measure that have the potential to add considerable energy savings into the overall kit offerings if one unit is added into each kit. The Evaluators have seen similar school kit programs that have replaced kit LED lamps with an advanced power strip and have succeeded in achieving the same amount (or more) of energy savings with fewer kits offered.
- **Consider adding hot water restrictor valves into the kit offerings.** These come in both automatic and manual configurations, with both functioning to cut water use from the shower prior to reaching temperature. The manual version of the restrictor valve can be installed alongside a low flow showerhead, or a showerhead can be included instead which has this functionality integrated.
- **Continue to update and improve curriculum and materials. C**onsider gathering feedback from teachers and students to ensure that the curriculum is meeting their needs and addressing any gaps or challenges they are experiencing. Providing professional development opportunities for teachers to learn more about energy efficiency and how to incorporate it into their lessons may also be beneficial. Finally, program staff should ensure that the curriculum and materials are accessible and inclusive for all learners, including those with disabilities or who come from diverse cultural or linguistic backgrounds.

- **Focus efforts on recruiting new teachers for the program.** Program staff could prioritize efforts to recruit new teachers for the program. This might include offering referral incentives, direct outreach to schools, or targeted marketing materials to increase awareness of the program and its benefits. Bringing in new teachers will help to expand the reach of the program and improve the likelihood of achieving energy saving and kit distribution targets.
- **Consider conducting a focus group with willing teachers to learn from them the best ways to improve the program.** Conducting a focus group with willing teachers can provide valuable feedback on how to improve the program, including curriculum, teaching resources, and program outreach. The insights gained from the focus group can be used to make improvements to the program to better meet the needs of teachers and students. It is also an opportunity to show that the program values feedback and is committed to continuous improvement.

2.1.3.7 AR&R

2.1.3.7.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **IQW participants are a focus of AR&R recruitment.** Using Clipboard software, when assessments are done for the IQW program, staff generate a lead for this program, if applicable.
- **Most respondents learned about the program through direct outreach.** Outreach methods included website information, emails, as well as participation in another program.
- **The online sign-up tool was easy to use and informative.** All 12 respondents who signed up online indicated that the sign-up screen was easy to find, the website answered all their questions, and they were able to schedule an appointment.
- **Rebate processing time varied across participants.** Some respondents received their rebate within 2-4 weeks (42%), while others received it within 4-6 weeks (50%) or more than 8 weeks (8%).
- **Most respondents were satisfied with the program.** Respondents were most satisfied with the scheduling process (89%), the overall program experience (84%), and the appliance removal process (84%) . Respondents were least satisfied with the time it took to get the rebate (17%).

2.1.3.7.2 *Recommendations*

The following summarizes key recommendations after completing the evaluation.

- **Consider adding refrigerator replacement product category assumptions in tracking data.** If the implementer provides all of the data required for savings verification, such as product categories that align with Table C-26 in the NOLA TRM V5.0 in the tracking data, the Evaluators will be better able to identify the differences between the *ex ante* and *ex post* calculations.
- **Consider adding refrigerator/freezer recycling staff contact information in tracking data.** Learning about their overall program participation, communication, and satisfaction can help the Evaluators better understand potential gaps in the program.
- **Consider providing email confirmation of appointments to customers who sign up online.** Consider providing email confirmation of appointments to customers who sign up online. Eighty-three percent of customers who followed up with a program representative after signing up did so because they wanted to confirm their appointment.

If the program does not already provide customers with a confirmation email, it should consider adding this feature or using text messaging to alert customers about their appointments. The program could also look into sending a follow-up email or text message to customers after their appliance is picked up.

2.1.3.8 Behavioral Program

2.1.3.8.1 *Key Findings & Conclusions*

The following summarizes the key findings and conclusions for the evaluation.

- **The Evaluators estimated savings through billing analysis of cohorts.** The Evaluators found positive annual savings that is statistically significant savings for three of the six cohorts in the 2022 calendar year evaluation. The Evaluators verified program savings of 5,060,909 kWh for PY12 and verified demand reductions of 821.84 kW.
- **The regression analysis resulted in unadjusted program savings of 5,525,727 kWh for PY12.** The Evaluators estimated downstream double counted savings at 464,818 for PY12. The Evaluators removed this double counted savings from the regression results, leading to total verified, adjusted program savings of 5,060,909 kWh.
- **The Neighbor Compare – New, and Neighbor Compare – Original, and Self Compare – Original groups display an average household annual savings of 0.59%, 2.24%, 1.75% respectively.** Typically, behavioral energy report programs display a range between 0.5% and 2.5% annual household savings. The Behavioral Program displayed lower than typical behavioral program savings.
- **These groups displayed deflated savings due to changes in implementation**. This led to the treatment of 75% of the control group, data disruptions in customer emails which disabled implementors from sending reports to a large number of customers, potentially leading to a decrease in treatment effect during the 2022 evaluation year.
- **The Evaluators are unable to estimate savings for the Neighbor Compare – ADM, Neighbor Compare – Original, and Self Compare – New cohorts.** The Evaluators attempted to match valid counterfactual groups and although the ad-hoc counterfactual groups passed validity testing, the regression results were improbable with zero or negative average household savings, which likely demonstrates inherent differences between the treatment and control groups. The Evaluators recommend that all future cohorts align with RCT designs and are randomly selected by a third-party evaluator.
- **The Evaluators emphasize that the Behavioral Program PY12 results are atypical due to disruption of randomized control trial cohort assignment and reduced mailed and emailed reports to customers due to data disruptions.** For future program years and program planning, the Evaluators estimate a range between 0.5% and 2.5% annual household savings would better align with typical year savings.

2.1.3.8.2 *Recommendations*

The following summarizes key recommendations after completing the evaluation.

- **The Evaluators recommend that the implementors continue to halt treatment of all control group customers.** This will enable the Evaluators to employ the RCT designs created at program outset, which allow the Evaluators to estimate verified savings as recommended by the NREL Behavioral Protocol.

- **The Evaluators recommend that the implementors correct data disruptions to allow treatment of all customers assigned to a treatment cohort.** This will allow behavioral changes to accumulate, leading to observable changes in energy consumption.
- **The Evaluators recommend that the implementors consult third party evaluators to select all future cohorts.** The Evaluators also recommend that all future cohorts align to NREL Behavioral Protocol RCT experimental design and contain at least 25,000 treatment customers in each cohort to ensure measurable treatment effects. This will alleviate the need to employ propensity score matching and will ensure that treatment and control groups are equivalent, thus allowing proper and accurate measurement of treatment effect in the post-period.

2.1.3.9 Small Commercial Solutions

2.1.3.9.1 *Key Findings & Conclusions*

Below are key findings for this program after the evaluation.

- **Outreach efforts improved this year, but the program still had significant challenges.** In response to low participation rates, Entergy staff brought on external marketing and outreach teams to help promote the program, as well as added more staff to help with application processing. New marketing techniques included door-door visits, bill inserts, digital and social media marketing, Entergy-sponsored trade ally training, as well as television, radio, and newspaper ads.
- **The program application process is being streamlined.** Program staff streamlined the application process by eliminating the need for customer involvement and instead relied solely on trade allies and program staff. This move was in response to previous feedback regarding the application as a barrier to participation.
- **Kits were utilized as a marketing and outreach tool in PY12.** Unlike in PY11, small business kits are only given to customers who request them. Kits are then used as a means of promoting other Entergy offerings. Staff made this change in the hopes of increasing installation rates.
- **The program added refrigeration's measures and integrated stepdown bonuses, though which participation bonuses decreased as the year went on.** Staff introduced stepdown bonuses to help promote engagement earlier in the program year and spread-out applications throughout year, in an attempt to avoid an influx of applications at the end of the year.
- **Trade allies indicated that they find program-sponsored trainings helpful.** Trade allies who were surveyed about their program experience indicated that the training they received was effective. Three respondents noted that they would like to see additional training opportunities, including trainings on the new rules and regulations.
- **All ten surveyed trade allies were satisfied with the program.** Most trade allies were satisfied overall. Four trade allies acknowledge that improvements have been made to the application process including the ability to combine prescriptive and custom calculator, a more user-friendly Excel sheet, and streamlining the application materials into one location. Three trade allies provided suggestions on how to improve the program. Suggestions included adding zip codes of the service territory provided, projections for the project rebate amount, and adding the DLC/ES and product part numbers attached to the application or program forms.

- **The OLM influenced customers' product purchases.** Some survey respondents (43%) did not plan to purchase a smart thermostat before learning they could receive a free or discounted thermostat through the online marketplace, and no respondents had plans to purchase LED exit signs or low flow showerheads.
- **OLM customers were generally satisfied with the online store and the products they purchased, however room for improvement remains.** Suggestions for improvement include improving website navigation and offering customer service assistance to help with equipment usage inquiries.
- **Customer satisfaction with trade allies is high.** Respondents who worked with a contractor (n=16 of 25) during their program reported high satisfaction with their contractor.
- **Most Small C&I customers are satisfied with the program overall (88%).** Respondents were most satisfied with the energy efficiency improvement(s) made through the program, the equipment that was installed, and the program staff who assisted them.

2.1.3.9.2 *Recommendations*

Below are recommendations for this program after the PY12 evaluation.

- **Continue to offer energy saving measures to small businesses through the online marketplace.** Surveyed participants were satisfied with their online marketplace purchases but did suggest improving the navigation of the website. Program staff should review website analytics and conduct period audits to ensure optimal user experience.
- **Explore ways to expedite rebate processing.** While most surveyed participants were satisfied with their experience, wait time for rebates was rated lowest among respondents (18% dissatisfied). Program staff could focus on reducing the time from project completion to rebates being processed. It might be advantageous to set up performance indicators to track this to ensure customers are completely satisfied with the wait time for rebates.
- **Create targeted marketing or focus efforts to promote the availability of non-lighting measures.** Developing additional marketing or outreach efforts to increase the number of small business projects that include more non-lighting than lighting measures.
- **Continue to offer trade allies up-to-date and relevant training.** To ensure that trade allies are equipped to help small businesses, consider offering a mix of online and in-person training opportunities. These opportunities could also include hands-on workshops, webinars, and conference calls. In addition, solicit feedback from to ensure that the training is meeting their needs and that they have the necessary tools and resources to effectively promote and implement the program's non-lighting measures. Finally, program staff should consider providing incentives for trade allies who successfully complete training or who refer new small business customers to the program.

2.1.3.10 Large C&I Solutions

2.1.3.10.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the evaluation.

- **Outreach efforts improved this year, but the program still had significant challenges.** Implementation staff noted being able to add more outreach staff to the program to assist customers with the application process, as well as returning to in-person engagement. In response to low participation rates, Staff brought external marketing and outreach teams to help. Common marketing tactics included door-door visits, bill inserts, digital and social media marketing, trade ally training, as well as television, radio, and newspaper ads.
- **The program application process is being streamlined.** Program staff sought to streamline the application process by eliminating the need for customers to fill it out themselves and allowing trade allies and program staff to assist in completion of required program paperwork. This move was in response to customer application process being identified as a barrier to program participation.
- **Small Business Kits were utilized as a marketing and outreach tool in PY12.** Program staff indicated they are no longer distributing the kits to anyone, but specifically distributing kits to customers who have order one from them. They indicated this may result in a higher chance of customers installing the kit items.
- **The program added refrigeration's measures and integrated stepdown bonuses.** Stepdown bonuses were integrated into the program for two reasons. Number one is to help minimize overloading the staff at the end of the year, by incentivizing more projects at the beginning of the year. This would help spread out applications and not rush process all last-minute applications at the end of the year. Additionally, program staff wanted to increase the incentive amounts.
- **Trade allies agreed that trainings are helpful.** Trade allies who were surveyed about their program experience, indicated the training they received was effective. Three respondents noted that they would like to see additional training opportunities, including trainings on the new rules and regulations.
- **All ten surveyed trade allies were satisfied with the program.** Most trade allies were satisfied with the Energy Smart Programs overall. Trade allies were least satisfied with the required paperwork needed for projects. That said, many trade allies did acknowledge that improvements have been made to the application process including the ability to combine prescriptive and custom calculator, a more user-friendly Excel sheet, and streamlining the application materials into one location. Several trade allies provided suggestions on how to improve the program. Suggestions included adding zip codes of the service territory provided, projections for the project rebate amount, and adding the DLC/ES and product part numbers attached to the application or program forms.
- **The OLM influenced customers' energy efficient product purchases.** Some survey respondents (43%) did not plan to purchase a smart thermostat before learning they could receive a free or discounted thermostat through the online marketplace, and no respondents had plans to purchase LED exit signs or low flow showerheads.

- **OLM customers were generally satisfied with the online store and the products they purchased, however room for improvement remains.** Suggestions for improvement include improving website navigation and offering customer service assistance to help with equipment usage inquiries.
- **Reducing energy use or power outages were the most popular motivating factors for participating in the program.** More than half of respondents noted that they have personnel committed to managing their business's energy usage and policies requiring energy usage be considered when purchasing equipment.
- **Customer satisfaction with trade allies is high.** Respondents who worked with a contractor (n=16 of 25) during their program participation indicated high satisfaction with their experience working with the contractor. Four respondents worked with a new contractor who was recommended to them, and three respondents worked with a contractor registered with the program.

2.1.3.10.2 *Recommendations*

The following summarizes key recommendations after completing the PY12 evaluation.

- **Continue to offer energy saving measures to small businesses through the online marketplace.** Surveyed participants were satisfied with their online marketplace purchases but did suggest improving the navigation of the website. Program staff should review website analytics and conduct period audits to ensure optimal user experience. Also, program staff could explore adding additional measures to the offering.
- **Explore ways to expedite rebate processing.** While most surveyed participants were satisfied with their experience, wait time for rebates was rated lowest among respondents. Program staff could focus on reducing the time from project completion to rebates being processed. It might be advantageous to set up performance indicators to track this to ensure customers are completely satisfied with the wait time for rebates.
- **Create targeted marketing or focus efforts to promote the availability of non-lighting measures.** Developing additional marketing or outreach efforts to increase the number of small business projects that include more non-lighting than lighting measures.
- **Continue to offer trade allies up-to-date and relevant training.** To ensure that trade allies are equipped to help small businesses, consider offering a mix of online and in-person training opportunities. These opportunities could also include hands-on workshops, webinars, and conference calls. In addition, solicit feedback from trade allies to ensure that the training is meeting their needs and that they have the necessary tools and resources to effectively promote and implement the program's non-lighting measures. Finally, program staff should consider providing incentives for trade allies who successfully complete training or who refer new small business customers to the program.

2.1.3.11 C&I NC

2.1.3.11.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **Participation was low but projects were comprehensive.** In PY12, there were two participants in the C&I Construction Solutions program, despite the low participation, the program was able to show strong savings and can be a large contributor to future program years.

2.1.3.11.2 *Recommendations*

The following summarizes key recommendations after completing the PY12 evaluation.

- **Explore how to leverage IRA funds to increase funding available for commercial new construction projects.** The program staff should conduct research on how to maximize the available funds for commercial new construction energy efficiency projects by exploring the potential of leveraging funds from the Infrastructure Reduction Act (IRA), such as the 179D deduction.
- **Investigate additional partnerships to increase awareness of the program offering.** To raise awareness of the program, program staff should consider establishing new partnerships. One approach could be to provide training or education to commercial real estate brokers and agents, or to builders. This would help these stakeholders better understand the benefits of the program and how it can help their clients save money on energy costs. Additionally, staff could explore other partnership opportunities to reach new audiences and increase program participation.

2.1.3.12 PFI

2.1.3.12.1 *Findings and Conclusions*

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **Program participation was a challenge for PFI in PY12.** Program staff noted they have had difficulties recruiting and maintaining projects this year due to many publicly funded customers being hesitant to get on board with the energy smart program.

2.1.3.12.2 *Recommendations*

There were no recommendations to the PFI in PY12.

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. There are $8,394,468 in TRC net benefits.

TABLE 2-11 COST TEST RESULTS BY PROGRAM

Program	TRC	UCT	RIM	PCT	SCT
HPwES	1.10	1.03	0.36	4.40	1.47
RLA	3.64	3.13	0.41	9.06	4.50
MF Solutions	1.61	1.52	0.40	5.10	2.13
IQW	1.29	1.31	0.55	2.85	1.83
A/C Solutions	1.40	1.49	0.45	4.54	1.86
SK&E	0.47	0.41	0.21	5.23	0.56
AR&R	0.14	0.15	0.11	1.47	0.20
Behavioral	0.47	0.47	0.19	8.74	0.47
Rewards	0.00	0.00	0.00	1.00	0.00
C&I NC	0.62	0.71	0.32	3.72	0.82
Small C&I Solutions	1.00	1.50	0.40	2.70	1.31
Large C&I Solutions	1.28	1.99	0.38	3.69	1.65
PFI	1.36	1.51	0.32	6.20	1.78
TRM Development	0.00	0.00	0.00	0.00	0.00
Total	**1.39**	**1.71**	**0.39**	**4.18**	**1.80**

2.1.4.2 Avoided Replacement Costs

The Evaluators included an adjustment to incremental costs accounting for ARC associated with LED lamps.

Table 2-12 Avoided Replacement Cost Summary by Program

Program	*Ex Post* Gross ARC ($)	*Ex Post* Net ARC ($)
HPwES	$60,430	$31,623
RLA	$1,585,379	$969,274
Multifamily Solutions	$39,803	$39,803
IQW	$44,714	$44,714
A/C Solutions	$0	$0
SK&E	$32,538	$32,538
AR&R	$0	$0
Behavioral	$0	$0
Small C&I Solutions	$3,521	$3,345
Large C&I Solutions	$180,771	$171,873
PFI	$496,098	$486,782
C&I NC	$37,527	$35,859
Total	**$2,480,781**	**$1,815,812**

Sums may differ due to rounding.

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

3 EVALUATION METHODOLOGY

3.1.1 GROSS IMPACT CALCULATIONS

The general approach for calculation of verified energy savings (kWh) and demand reductions (kW) was to use the NO TRM V5.0. Further detail can be found in each program chapter for relevant measures.

The gross impact evaluation effort included the following:

- **Desk Reviews:** The Evaluators utilized the NO TRM V5.0 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.

3.2 Introduction

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 PY12 evaluation. This section will present full descriptions of gross savings estimation; net savings estimation; sampling methodologies; process evaluation methodologies; and data collection procedures.

3.3 Glossary of Terminology

As a first step to detailing the evaluation methodologies, the Evaluators have provided a glossary of terms to follow:

- **Baseline:** Conditions, including energy consumption, which would have occurred without implementation of the subject energy efficiency activity. Baseline conditions are sometimes referred to as “business-as-usual” conditions.
- **Deemed Savings:** An estimate of an energy savings or demand savings outcome (gross savings) for a single unit of an installed energy efficiency measure. This estimate (a) has been developed from data sources and analytical methods that are widely accepted for the measure and purpose and (b) is applicable to the situation being evaluated (e.g., assuming 284 kWh savings for a low flow showerhead)
- **Effective useful life (EUL):** Sometimes referred to as measure life and often used to describe persistence. EUL is an estimate of the duration of savings from a measure.

- **Evaluation**: The performance of a range of assessment studies and activities aimed at determining the effects of a program (and/or portfolio) and understanding or documenting program performance, program or program-related markets, program induced changes in energy efficiency markets, levels of demand or energy savings, or program cost-effectiveness.
- **Evaluation, Measurement and Verification (EM&V):** Catch-all term for evaluation activities at the measure, project, program and/or portfolio level; can include impact, process, market and/or planning activities. EM&V is distinguishable from Measurement and Verification (M&V) defined below.
- **Savings:** presents the savings types.
- **Impact Evaluation:** Determination of the program-specific, directly, or indirectly induced changes (e.g., energy and/or demand usage) attributable to an energy efficiency program.
- **International Performance Measurement and Verification Protocol (IPMVP):** A guidance document with a framework and definitions describing the four M&V approaches; a product of the Energy Valuation Organization (www.evo-world.org).
- **Measure:** Installation of a single piece of equipment, subsystem or system, or single modification of equipment, subsystem, system, or operation at an end-use energy consumer facility, for the purpose of reducing energy and/or demand (and, hence, energy and/or demand costs) at a comparable level of service.
- **Measurement and Verification (M&V):** A subset of program impact evaluation that is associated with the documentation of energy savings at individual sites or project, using one or more methods that can involve measurements, engineering calculations, statistical analyses, and/or computer simulation modeling. M&V approaches are defined in the International Performance Measurement and Verification Protocol (IPMVP - available at www.evoworld.org).
- **Portfolio**: Collection of all programs conducted by an organization. In the case of ENO, portfolio includes electric energy efficiency and demand response programs that address different customer segments. Portfolio can also be used to refer to a collection of similar programs addressing the market. In this sense of the definition, ENO has an electric portfolio with programs addressing the various customer segments.
- **Process Evaluation**: A systematic assessment of an energy efficiency program or program component for the purposes of documenting operations at the time of the examination and identifying and recommending improvements to increase the program's efficiency or effectiveness for acquiring energy resources while maintaining high levels of participant satisfaction.
- **Program or offering**: An activity, strategy or course of action undertaken by an implementer. Each program or offering is defined by a unique combination of program strategy, participation pathway, market segment, marketing approach and energy efficiency measure(s) included. Examples are a program to install energy-efficient lighting in commercial buildings and residential weatherization program.
- **Project:** An activity or course of action involving one or multiple energy efficiency measures at a single facility or site.
- **Gross Realization Rate:** Ratio of *Ex Post* Gross Savings / *Ex Ante* Gross Savings (e.g., if the Evaluators verify 268 kWh per showerhead, Gross Realization Rate = 268/274= 99% realization rate).

- **Rigor:** The level of expected confidence and precision. The higher the level of rigor, the more confident one is that the results of the evaluation are both accurate and precise, i.e., reliable.
- **Technical Reference Manual:** A prepared resource document that contains (ex-ante) savings estimates, assumptions, sources for those assumptions, guidelines, and relevant supporting documentation for the prescriptive energy efficiency measures which is populated and vetted by the Administrators, Implementers, Evaluators and other relevant stakeholders.
- **Uncertainty:** The range or interval of doubt surrounding a measured or calculated value within which the true value is expected to fall within some degree of confidence.
- **Verification:** An assessment that the program or project has been implemented per the program design. An assessment that the program or project has been implemented per the program design. For example, the objectives of measure installation verification are to confirm (a) the installation rate, (b) that the installation meets reasonable quality standards, and (c) that the measures are operating correctly and have the potential to generate the predicted savings.

3.4 Overview of Methodology

3.4.1 SAMPLING

Programs are evaluated on one of three bases:

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

3.4.1.1 Census

A census of participant data was used for selecting programs where such review is feasible. All program measures were evaluated. Programs that received analysis of a census of participants include: HPwES, IQW, A/C Solutions, RLA and SK&E.

3.4.1.2 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:

$$CV = \frac{Standard\ Deviation_x}{Mean_x}$$

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

3.4.1.3 Stratified Sampling

For the ENO Small C&I and Large C&I 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 Small C&I and Large C&I were reduced to the following strata.

TABLE 3-1 STRATIFIED SAMPLING SUMMARY

Program	Strata	Sites Sampled
Small C&I Solutions	4	25
Large C&I Solutions	4, plus 1 certainty	48
C&I NC	1	1
PFI	4	10

3.4.2 NET IMPACT CALCULATIONS

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

TABLE 3-2 SUMMARY OF NET SAVINGS APPROACHES

Program	Self-Report Surveys	Literature Review	Billing Analysis/ Price Response Modeling	Deemed Value
Home Performance with ENERGY STAR	✓			
Home Performance with ENERGY STAR (Kits)	✓			
Income Qualified Weatherization (IQW)				✓
Multifamily Solutions	✓			✓
Residential Lighting and Appliances			✓	✓
A/C Solutions				✓
School Kits and Education				✓
Behavioral			✓	
Small C&I Solutions	✓			
Large C&I Solutions	✓			
Publicly Funded Institutions	✓			

3.5 Impact Evaluation

3.5.1 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.

3.5.1.1 New Orleans TRM V5.0

Whenever possible, deemed savings values and algorithms from the New Orleans Technical Reference Manual version 5.0[6] (herein referred to as the "New Orleans TRM" or simply, "NO TRM V5.0") were used to determine verified *Ex Post* gross energy (kWh) and demand (kW) 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 (kWh) and demand (kW) savings were determined as a product of the number of measures verified as qualifying for an incentive and the deemed savings per measure.

3.5.1.2 Energy Savings (kWh) Calculations

For the PY12 evaluation, the Evaluators utilized the NO TRM V5.0 for deemed projects. The varied approaches are as follows below.

- **Deemed Savings:** The deemed savings approach includes any analysis based upon the TRM or current ENO work papers. This approach involves using stipulated savings for measures for which average savings values are well known and documented. When applying deemed values, our verification efforts include verifying installations through on-site inspection or telephone surveys.

[6] The New Orleans TRM can be found here: https://www.entergy-neworleans.com/energy_efficiency/energy_smart_filings/

The effort may involve using one savings value for all installations of a particular measure (for example, a residential refrigerator) or a site-specific analysis that uses partially deemed unit energy savings algorithms (such as assessing the savings from deemed commercial lighting retrofits). In the latter case, some inputs into the savings calculation are site specific (for example, lighting hours of use).

- **Billing Data Analysis:** Billing data analysis may be applied where there is a large, relatively homogenous pool of participant customers implementing similar energy efficiency measures. Billing analysis may be particularly effective when a program installs a number of measures in individual homes, which affect similar end uses and therefore have interactive effects. Such analysis typically involves regression modeling of participants and a non-participant control group. Examining bills of these two groups before and after participation has occurred. Analysis based on comparison of energy use in a participant and non-participant control group is applicable for the Behavioral Program and could possibly be expanded to weatherization programs.
- **Site-Specific Custom:** This refers to any program where savings must be calculated on a per-site basis using primary data collected on-site or facility bills for a unique, premise-level analysis (as opposed to the large-scale, whole-program analysis detailed under the "Billing Data Analysis" bullet). This includes the C&I programs in the portfolio for which custom protocols would need to be applied (e.g., IPMVP).

The table below summarizes the approaches that were applied.

TABLE 3-3 SAVINGS ESTIMATION APPROACHES FOR ENERGY SMART PROGRAMS

Sector	Program	Approach to Savings Estimation
Residential	HPwES	Deemed Savings
	IQW	Deemed Savings
	MF Solutions	Deemed Savings
	A/C Solutions	Deemed Savings
	RLA	Deemed Savings
	SK&E	Deemed Savings
	Behavioral	Whole Program Billing Analysis
	AR&R	Deemed Savings
C&I	Small C&I Solutions	Deemed Savings
	Large C&I Solutions	Deemed Savings/Site-Specific Custom
	PFI	Deemed Savings/Site-Specific Custom
	C&I NC	Site-Specific Custom/Site-Specific Custom

3.5.1.3 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:

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

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

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:

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

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:

$$Avoided\ Replacement\ Cost = ARC\ (Tier\ 1) + ARC\ (Tier\ 2)$$

$$ARC\ (Tier\ 1) = -PV(RDR, NY - EUL_{T1}, RLCC_{T1})/(1+RDR)^{EUL_{T1}}$$

$$ARC\ (Tier\ 2) = -PV(RDR, ML - NY, RLCC_{T2})/(1+RDR)^{NY}$$

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.

3.5.1.4 Deviations from the New Orleans TRM

There were no diversions from the NO TRM.

3.5.1.5 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.

3.5.1.6 Site Visits

Site visits resumed in PY12. Site visits summaries can be found within each chapter.

3.5.2 NET IMPACT

This section discusses the approaches used to estimate net savings.

The table below summarizes the net savings approach used for each program.

TABLE 3-4 SUMMARY OF NET SAVINGS APPROACHES

Program	Self-Report Surveys	Literature Review/ NO TRM	Billing Analysis	Deemed Value
HPwES Non-kit	✓	✓		✓
HPwES Kit	✓			✓
IQW				✓
MF Solutions	✓	✓		✓
RLA	✓	✓		
A/C Solutions	✓	✓		
SK&E				✓
AR&R	✓			✓
Small C&I Solutions	✓			
C&I NC Solutions	✓			
Large C&I Solutions	✓			
PFI	✓			
Behavioral			✓	

3.5.2.1 Literature Review

The Evaluators applied literature review values for specific measures in some programs for which survey responses were not obtained. Table 3-5 summarizes the measures for which literature review-based values were applied to estimate net savings. Table 3-6 through Table 3-12 summarize the literature review findings.

TABLE 3-5 SUMMARY OF LITERATURE REVIEW-BASED NET-TO-GROSS VALUES

Program	Measure	NTG
Small C&I Solutions	OLM Advanced Power Strips	72%
A/C Solutions	AC Replacement	72%
HPwES	Showerhead	86%
	LED Lighting (Upstream)	61%
RLA	OLM LED Lamp	74%
	Upstream LED Lamp	61%
	OLM Advanced Power Strip (Tier 1)	72%
	OLM Aerator (1.0 GPM)	92%
	OLM Aerator (1.5 GPM)	92%
	OLM Pipe Insulation	88%
	OLM Showerhead	94%
	ENERGY STAR Heat Pump	74%
	ENERGY STAR Water Cooler	53%
	LED Lighting (Upstream)	61%

TABLE 3-6 UPSTREAM LIGHTING NTG LITERATURE REVIEW SUMMARY

Reference Number	NTG	PY	State
1	59%	2020	IL
2	64%	2019	MO
Average		61%	

1. https://www.ilsag.info/wp-content/uploads/ComEd_NTG_History_and_CY2020_Recs_2019-10-01.pdf
2. https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=936298055

TABLE 3-7 MARKETPLACE LED NTG LITERATURE REVIEW SUMMARY

Reference Number	NTG	PY	State
1	83%	2021	WI
2	69%	PY8	IL
3	69%	2019	NY
Average		74%	

1. Focus on Energy Calendar Year 2021 Evaluation Report. Volume II Program Evaluations.
2. https://www.ilsag.info/wp-content/uploads/AIC-2023-NTGR-Recommendations-for-SAG-FINAL-2022-09-28.xlsx
3. Process Evaluation of Online Marketplace, Appliance Recycling, Residential Rebates, and ESRPP Programs

TABLE 3-8 ADVANCED POWER STRIPS NTG LITERATURE REVIEW SUMMARY

Reference Number	NTG	PY	State
1	100%	2019	MA
2	96%	2021	IN
3	20%	2021	WI
Average		72%	

1. https://ma-eeac.org/wp-content/uploads/MA20X04-E-PRODNTG_Res-Products-NTG-Report_FINAL_2021.06.08.pdf
2. https://www.indianamichiganpower.com/lib/docs/community/projects/demand-side-management/ExhibitB-2021IMIndianaResidentialPortfolioEMVReportVolumeI-04-22-2022.pdf
3. Focus on Energy Calendar Year 2021 Evaluation Report. Volume II Program Evaluations.

TABLE 3-9 FAUCET AERATOR NTG LITERATURE REVIEW SUMMARY

Reference Number	NTG	PY	State
1	100%	2021	IN
2	84%	2021	WI
Average		92%	

1. https://www.indianamichiganpower.com/lib/docs/community/projects/demand-side-management/ExhibitB-2021IMIndianaResidentialPortfolioEMVReportVolumeI-04-22-2022.pdf
2. Focus on Energy Calendar Year 2021 Evaluation Report. Volume II Program Evaluations.

TABLE 3-10 SHOWERHEAD NTG LITERATURE REVIEW SUMMARY

Reference Number	NTG	PY	State
1	100%	2019	MA
2	100%	2021	IN
3	82%	2021	WI
Average		94%	

1. https://ma-eeac.org/wp-content/uploads/MA20X04-E-PRODNTG_Res-Products-NTG-Report_FINAL_2021.06.08.pdf
2. https://www.indianamichiganpower.com/lib/docs/community/projects/demand-side-management/ExhibitB-2021IMIndianaResidentialPortfolioEMVReportVolumeI-04-22-2022.pdf
3. Focus on Energy Calendar Year 2021 Evaluation Report. Volume II Program Evaluations.

TABLE 3-11 WATER COOLER NTG LITERATURE REVIEW SUMMARY

Reference Number	NTG	PY	State
1	58%	2019	OK
2	48%	2021	OK
Average		53%	

1. PSO 2019 Evaluation: https://oklahoma.gov/content/dam/ok/en/occ/documents/pu/energyefficiency/demand-program-annual-reports/pso-2019-demand-report.pdf
2. https://oklahoma.gov/content/dam/ok/en/occ/documents/pu/energyefficiency/demand-program-annual-reports/2021-pso-demand-report.pdf

TABLE 3-12 PIPE INSULATION NTG LITERATURE REVIEW SUMMARY

Reference Number	NTG	PY	State
1	88%	2021	WI
Average		88%	

1. Focus on Energy Calendar Year 2021 Evaluation Report. Volume II Program Evaluations.

3.5.2.2 Demand Response Programs

Assigned a NTG of 1.0 for demand response programs because the timing of the peak events that produce the demand reductions is at the discretion of the utility. The impact approach for each is as follows: Large C&I DR: Assigned 50% of the nomination when sites had missing meter data; and EasyCool for Business: Deemed per-ton kW from metering.

3.5.2.3 Deemed Values for Low Income Programs

Assigned a NTG of 1.0 for the IQW program, and applicable IQ refrigerator replacement participants in the AR&R.

3.5.2.4 Self-Report Methodology for Non-Low Income Residential Energy Efficiency Programs

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

3.5.2.4.1 *Major Measure Free Ridership*

The major measure free ridership approach was applied to measures rebated through the HPwES, RLA, and AC Solutions. The objective of the free ridership analysis is to estimate the share of program activity would have occurred in the absence of the program. 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. Program participants were asked questions regarding:

- Whether or not they had plans to complete the project and if they could afford to complete it without the program discount;
- The likelihood of completing the project without the discount or the incentivized assessment;
- The timing of the project in the absence of the program.

3.5.2.4.1.1 Prior Plans

Respondents who indicated that they did not have plans to install the efficient measure or the financial ability to do so were determined to not be free riders. Free ridership scores were developed for the remaining respondents using survey response data on likelihood of completing the efficiency project or installing the efficient equipment and the program's impact on when that would have occurred.

3.5.2.4.1.2 Likelihood of Project Completion Score

The score reflecting the likelihood of completing the project in the absence of the program was based on the following questions:

- Prior to learning about the program, did you have plans to have an energy assessment of your home performed?
- How likely is it that you would have installed the same measure that you completed through the if the rebate was not available?
- How likely is it that you would install the same measure had it not been recommended through the energy assessment of your home?

The first question assesses the existence of prior plans to have the assessment performed while the second and third questions assess the likelihood of the customer implementing the project in the absence of the rebate or energy assessment. A score was assigned to each response for the second and third questions as follows:

- Very likely: 1
- Somewhat likely: .75
- Neither particularly likely nor unlikely: .5
- Somewhat unlikely: .25
- Very unlikely: 0

If the participant did not have an assessment performed, or had prior plans to have an assessment performed, the score based on the rating for the likelihood of completing the project without the discount.

If the participant had an assessment and did not have prior plans to have an assessment, the score is based on the multiplication of the following two scores:

- The likelihood of completing the project without the assessment; and
- The likelihood of completing the project without the incentive.

3.5.2.4.1.3 Timing Score

To account for the impact the program may have had on project timing, the likelihood score was multiplied by a timing score. The timing score was developed from responses to a question on when the participant might have completed a project in the absence of the program. Specifically, timing was scored as follows:

- Project would have been completed in 0 to 6 months: 1;
- Project would have been completed in 6 months to a year: .67;
- Project would have been completed in 1 to 2 years: .33; or
- Project would have been completed in more than 2 years: 0.

3.5.2.4.1.4 Final Free Ridership Score

The procedures used to estimate free ridership are summarized below in Figure 3-1.

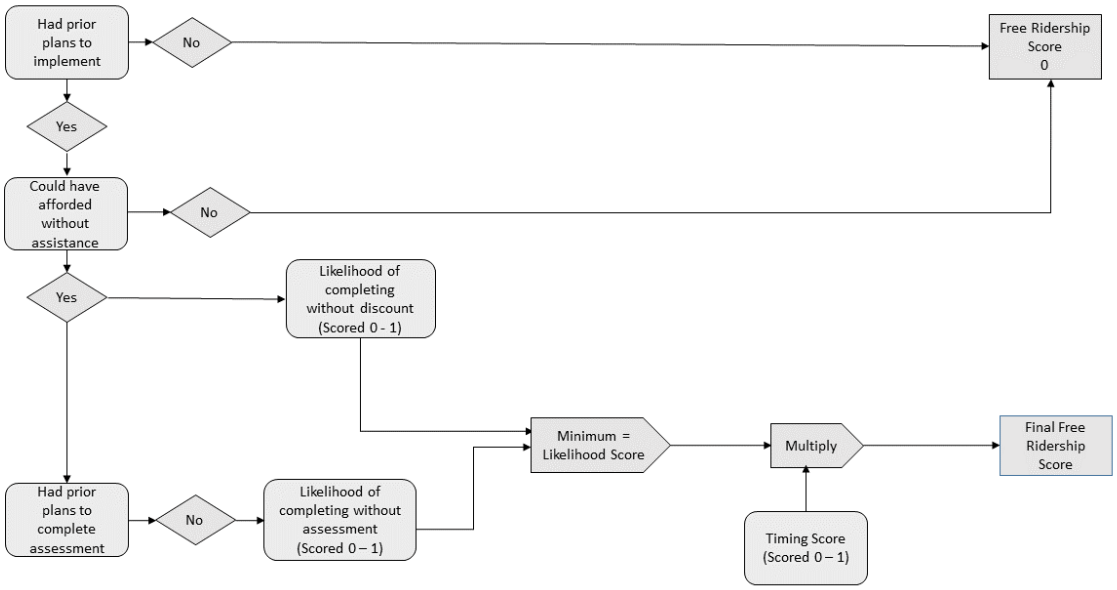


FIGURE 3-1 MAJOR MEASURE FREE RIDERSHIP SCORING

3.5.2.4.2 *HPwES Direct Install Free Ridership Assessment*

The approach to estimating free ridership for the direct install measures was similar to the approach described above but differs in three regards. First, because the direct install measures are relatively low-cost items, financial ability is less likely to be a factor for participants. Second, because of their relatively low cost and the ability to easily self-install the items, it is unlikely that participants would have had plans to install the equipment for an extended period. As such, the free ridership methodology did not factor in financial ability or the program's impact on the project's timing. Third, for LED lamps, which respondents received several of, the respondent's plans may have been to install fewer than the total number of bulbs received through the program. Consequently, the number of lamps that would have been installed in the absence of the program was taken into consideration.

The free ridership scoring is summarized in Figure 3-2. Under this approach, a respondent is considered to have prior plans to implement the measure if they 1) stated that they had prior plans and 2) that they had previously purchased that measure type.

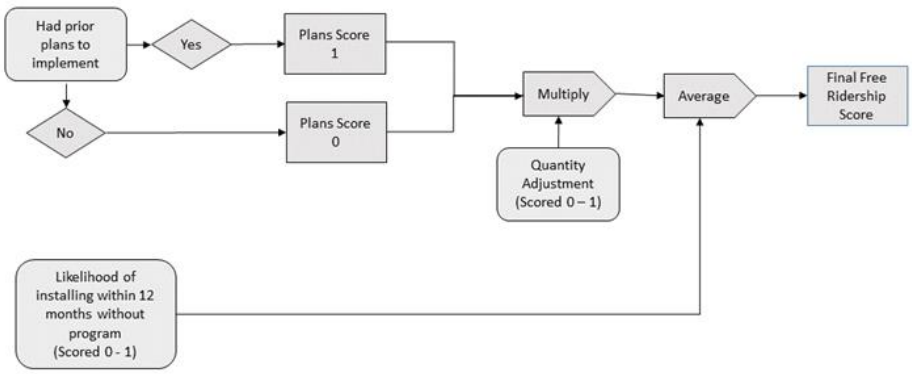


FIGURE 3-2 HPWES DIRECT INSTALL FREE RIDERSHIP SCORING METHODOLOGY

3.5.2.4.3 *Multifamily Direct Install Free Ridership Assessment*

The multifamily direct install free ridership assessment approach was similar to the approach used for HPwES but differed because it included an assessment of financial ability. The assessment of financial ability because the cost of the low-cost direct install measures can be higher when installed in multiple residences. Figure 3-3 summarizes the free ridership scoring approach.

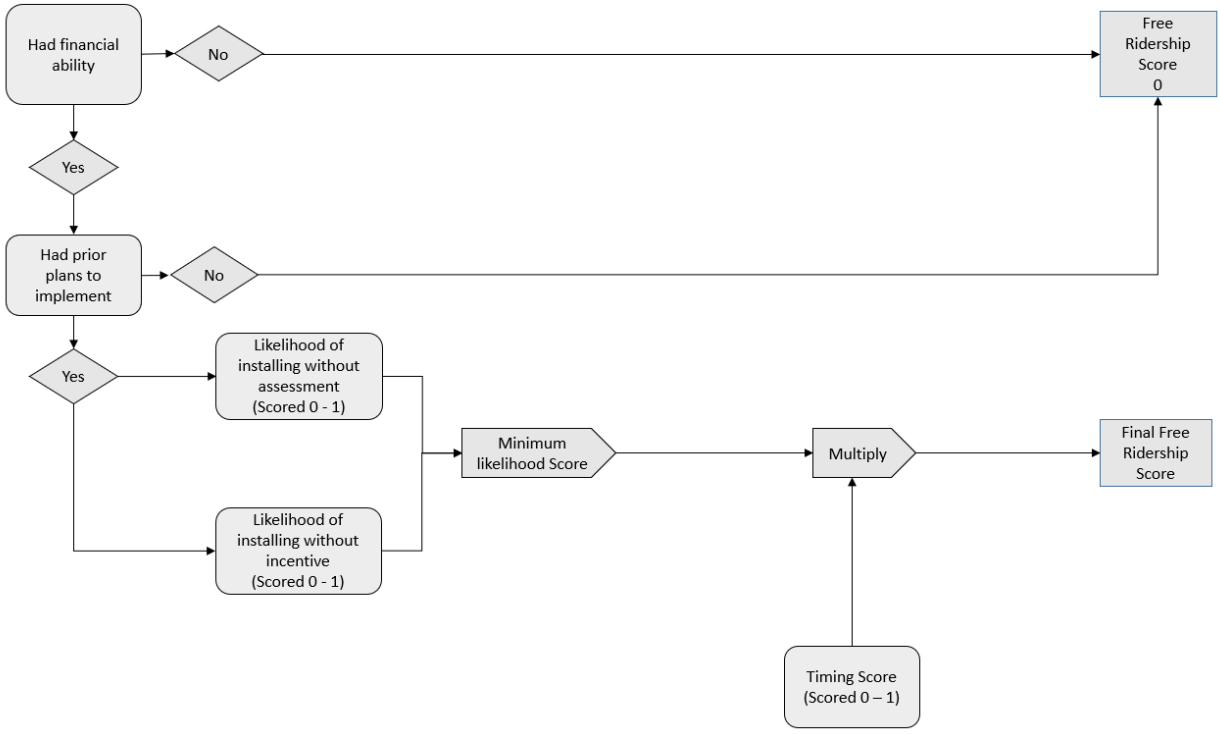


FIGURE 3-3 MULTIFAMILY DIRECT INSTALL FREE RIDERSHIP ASSESSMENT

3.5.2.4.4 *HPwES Energy Efficiency Kit Free Ridership*

Participants that received an energy efficiency kit responded to questions about each of the measures provided through the kit to assess the likelihood that they would have installed the measures in the absence the program. The respondents were asked questions on the following:

- If they had previously installed the kit item before receiving it for free.
- If they had plans to purchase the kit item before receiving it for free.
- How likely they would have been to purchase the items in the next 12 months if they had not received them for free.

Kit recipients who indicated that they did not have plans or had not previously installed the kit items were determined to not be free riders. For all other respondents, free ridership was based on the respondent's likelihood that they would have installed the kit item in the next 12 months. Specifically, the rate likelihood was scored as follows:

- Very likely: 1
- Somewhat likely: .75
- Neither particularly likely nor unlikely: .5
- Somewhat unlikely: .25
- Very unlikely: 0

3.5.2.4.5 *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 did install additional measures were asked two questions to assess whether or not the savings are attributable to the program. Specifically, respondents were asked:

"How important was your experience with the <PROGRAM> in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all important and 10 is extremely important?"

"If you had not participated in the <PROGRAM>, how likely is it that your organization would still have implemented this measure, using a 0 to 10 scale, where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure?"

The energy savings associated with the measure are considered attributable to the program if the average of the rating for the first question, and 10 – the rating for the second question, is greater than seven, the savings are counted as attributable to the program.

3.5.2.5 Appliance Recycling

The NTG approach was consistent with the Uniform Methods Protocol (UMP) chapter seven refrigerator recycling protocol. This approach utilizes customer self—report data to estimate what participating customers would have done with the unit in the absence of the program and what would have happened with discarded units (free ridership). The approach also incorporates the secondary market impacts that arise when a would-be

buyer of a recycled unit would do given that it was not available. The counterfactual for this approach is not what units would not have been recycled, but instead what units would remain on the grid.

3.5.2.5.1 *Free Ridership*

Free ridership occurs when an appliance recycled through the program would have been taken off the grid even in the absence of the program. The first step of the free ridership analysis was to ask participants if they had considered discarding the program appliance before learning about the program. If the participant indicated no previous consideration of unit disposal, they are categorized as non-free riders and removed from the subsequent free ridership analysis.

Next, the remaining participants (i.e., those who had previously considered discarding the program appliance) were asked a series of questions to determine the distribution of program appliances that would have been kept within participant households versus those that would have been discarded. If one considers the counterfactual scenario where there is no program intervention, there are essentially three outcomes for participating appliances:

- The appliance would have been kept in use by the participant household.
- The appliance would have been discarded in such a way that it was transferred to another customer for continued use.
- The appliance would have been discarded in such a way that it would be taken out of service.

Of the three outcomes, participants who respond that their appliance would have been discarded and taken out of service is indicative of free ridership. This is because the recycled units would have been removed from the grid even without program intervention.

3.5.2.5.2 *Secondary Market Impacts*

Secondary market impacts refer to the effect the program has on would-be acquirers of program participating units. In the event that a program unit would have been transferred to another customer (sold, gifted, donated), the question then becomes what other appliance acquisition decisions are made by the would-be acquirer of the program unit now that it is decommissioned and unavailable. The would-be acquirer could:

- Not purchase/acquire another unit.
- Purchase/acquire a different non-program used appliance.
- Purchase a new appliance instead.

Ultimately, the true market level outcome in the absence of the program is difficult to assess. As a result, this evaluation took a midpoint approach, as recommended by the UMP protocol. That is, 50% of would-be acquirers of program avoided transfers are assumed to find an alternate unit. The next question of interest is whether the alternative units acquired would be used (similar to those recycled by the program) or new. Again, this market distribution is difficult to estimate with any certainty. This evaluation took the UMP recommendation and assumed that 50% of the alternative units would be used and 50% would be new, standard efficiency units.

Figure 3-4 summarizes the complete net-to-gross calculation that will be used in the evaluation of the program. Note that this diagram depicts net savings as calculated under the UMP gross savings definition.

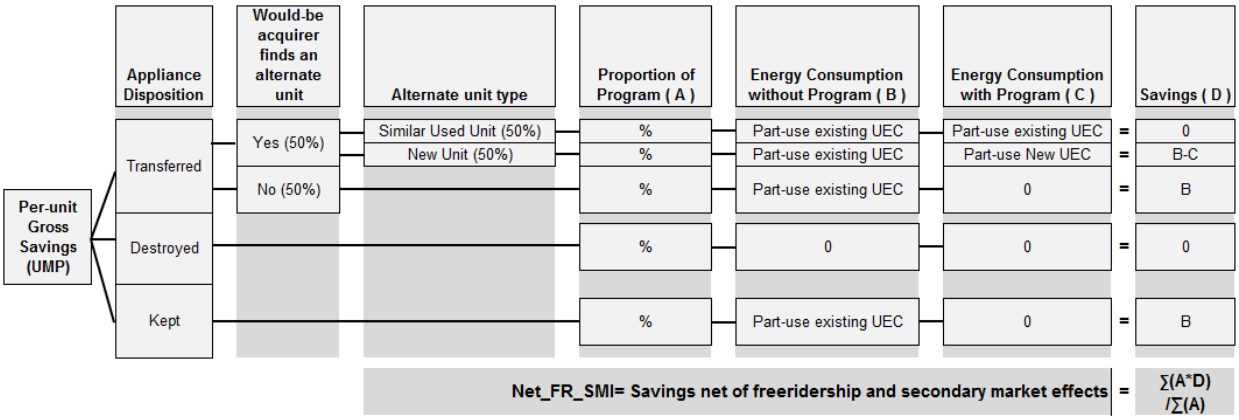


FIGURE 3-4 UMP NET-TO-GROSS CALCULATION METHODOLOGY

3.5.2.5.3 *Appliance Recycling Spillover*

In accordance with the UMP guidance, the Evaluators did not assess spillover for appliance recycling.

3.5.2.6 Self-Report Methodology for C&I Energy Efficiency Programs

Participant survey 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: “Before participating in the Program, had you installed any equipment or measure similar to energy efficient [Measure/Equipment] at the location?”
- The respondent answers “yes” to the following question: “Has your organization purchased any significant energy efficient equipment in the last three years at the location?” and answered “yes” to the question: “Did you install any of that equipment without applying for a financial incentive through an energy efficiency program?”

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. Table 3-8 shows these values.

TABLE 3-13 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%

3.5.2.6.1 *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 did install additional measures were asked two questions to assess whether or not the savings are attributable to the program. Specifically, respondents were asked:

"How important was your experience with the <PROGRAM> in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all important and 10 is extremely important?"

"If you had not participated in the <PROGRAM>, how likely is it that your organization would still have implemented this measure, using a 0 to 10 scale, where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure?"

The energy savings associated with the measure are considered attributable to the program if the average of the rating for the first question, and 10 – the rating for the second question, is greater than seven, the savings are counted as attributable to the program.

3.5.2.7 Self-Report Methodology for Small Business Online Marketplace

Information collected through a survey of a sample of program participants was used for the net-to-gross analysis for the online marketplace measures. The approach taken for each of the measure types is presented below.

3.5.2.7.1 *Smart Thermostats*

The criteria indicating customer had plans and intentions that likely signify free ridership are as follows:

- FR1: “Did you plan to purchase smart thermostats before learning you could get a [free/discounted] smart thermostat from the Energy Smart Business Store?”
- FR2: [IF YES] “Just to be clear, did you have plans to purchase a smart thermostat as opposed to a programmable or non-programmable thermostat?”

If respondent answered “no” to FR1 or “yes” to FR1 and then “yes” to FR2, they were not considered to have plans or intentions.

Participants were asked about the direct influence of the program on their decision to purchase the measures. Specifically, participants were asked:

- FR3: “How likely is that you would have purchased the same smart thermostat(s) in the next 12 months if you had not received a [free/discounted] thermostat from the Energy Smart Business Store?”

A program influence score was developed based on this response in the following manner:

Program Influence = FR3 / 10

Respondents who were found to not have plans or the financial ability to purchase the measures were deemed not free riders. If respondent had plans, their free ridership score equals their program influence score.

3.5.2.7.2 *LED Light Bulbs*

The criteria indicating customer had plans and intentions that likely signify free ridership are as follows:

- FR1: Did you have any LED light bulbs installed at your organization before learning about the discount from the Energy Smart Small Business Store?
- FR2: Prior to receiving LED light bulb(s) from the Energy Smart Business Store, had your organization purchased any LED bulbs within the last three years?
- FR3: Before learning about the Energy Smart Business Store discounts, did you have plans to purchase LED light bulb(s) for your organization?

If respondent answered “no” to FR1, “no” to FR2 or “no” to FR3, they were not considered to have plans or intentions.

Participants were asked about the direct influence of the program on their decision to purchase the measures. Specifically, participants were asked:

- FR4: If you had not received the discount through the Energy Smart Small Business Store, how many LED light bulb(s)would you have purchased within the next 12 months?
- FR5: How likely would you have been to purchase [Field-LED_Quant] LED light bulb(s) within the next 12 months, if you did not receive the discounted bulbs?

A program influence score was developed based on this response in the following manner: Program Influence = FR5 / 10

Respondents who were found to not have plans to purchase the measures were deemed to not be free riders. If respondent had plans, their free ridership score equals their program influence score.

3.5.2.7.3 *LED Exit Sign Retrofit Kits*

The criteria indicating customer had plans and intentions that likely signify free ridership are as follows:

- FRI: Did you have any LED exit sign(s) installed at your organization before learning about the discount from the Energy Smart Small Business Store?
- FR2: Did you plan to purchase LED exit sign(s) before learning about the discount from the Energy Smart Small Business Store?

If respondent answered “no” to FR1 or “no” to FR2, they were not considered to have plans or intentions.

Participants were asked about the direct influence of the program on their decision to purchase the measures. Specifically, participants were asked:

- FR3: How likely would you have been to purchase [Field-Exit_Quant] LED exit sign(s) within the next 12 months, if you did not receive the discount from the Energy Smart Small Business Store?

A program influence score was developed based on this response in the following manner:

Program Influence = FR3 / 10

Respondents who were found to not have plans to purchase the measures were deemed to not be free riders. If respondent had plans, their free ridership score equals their program influence score.

3.5.2.7.4 *Low Flow Showerheads*

The criteria indicating customer had plans and intentions that likely signify free ridership are as follows:

- FR1: Did you have any low flow showerheads installed at your organization before learning about the discount from the Energy Smart Small Business Store?
- FR2: Had you heard of low flow showerhead before you purchased from the Energy Smart Small Business Store
- FR3: Did you plan to purchase low flow showerheads before learning about the discount from the Energy Smart Small Business Store?

If respondent answered “no” to FR1, “no” to FR2 or “no” to FR3, they were not considered to have plans or intentions.

Participants were asked about the direct influence of the program on their decision to purchase the measures. Specifically, participants were asked:

- FR4: "How many low flow showerheads do you think you would have purchased in the next 12 months if you had not received a discount through the Energy Smart business store?”
- FR5: "How likely would you have been to purchase [Field-Shower Quant] low flow showerheads within the next 12 months, if you did not receive the discount from the Energy Smart Small Business Store?

A program influence score was developed based on this response in the following manner:

Program Influence = FR5 / 10

Respondents who were found to not have plans to purchase the measures were deemed to not be free riders. If respondent had plans, their free ridership score equals their program influence score.

3.5.2.7.5 *High Efficiency Aerators*

The criteria indicating customer had plans and intentions that likely signify free ridership are as follows:

- FR1: Did you have any low flow sink aerators installed at your organization before learning about the discount from the Energy Smart Small Business Store?
- FR2: Had you heard of low flow sink aerators before you purchased from the Energy Smart Small Business Store
- FR3: Did you plan to purchase low flow aerators before learning about the discount from the Energy Smart Small Business Store?

If respondent answered “no” to FR1, “no” to FR2 or “no” to FR3, they were not considered to have plans or intentions.

Participants were asked about the direct influence of the program on their decision to purchase the measures. Specifically, participants were asked:

- FR4: "How many low flow aerators do you think you would have purchased in the next 12 months if you had not received a discount through the Energy Smart business store?”
- FR5: "How likely would you have been to purchase [Field-Shower Quant] low flow aerators within the next 12 months, if you did not receive the discount from the Energy Smart Small Business Store?

A program influence score was developed based on this response in the following manner:

Program Influence = FR5 / 10

Respondents who were found to not have plans to purchase the measures were deemed to not be free riders. If respondent had plans, their free ridership score equals their program influence score.

3.5.2.7.6 *Advanced Power Strips*

The criteria indicating customer had plans and intentions that likely signify free ridership are as follows:

- FR1: Were you using any Tier 1 Advanced Power Strips at your organization before you received one from ENO?
- FR2: Had you heard of Tier 1 Advanced Power Strips before learning about the discount from the Energy Smart Small Business Store?
- FR3: Did you have plans to purchase Tier 1 Advanced Power Strips before you learned about the discount from the Energy Smart Small Business Store?
- FR4: Just to be clear, did you have plans to purchase a Tier 1 Advanced Power Strips that manages energy use instead of a standard power strip that does not manage energy use?

If respondent answered “no” to FR1, “no” to FR2 or “no” to FR3, they were not considered to have plans or intentions. If respondent answered “yes to FR3 and then “no” to FR4, they were not considered to have plans or intentions.

Participants were asked about the direct influence of the program on their decision to purchase the measures. Specifically, participants were asked:

- FR5: How likely is that you would have purchased [Field-APS Quant] Tier 1 Advanced Power Strip(s) in the next 12 months if you had not received a discount from the Energy Smart Business Store?

A program influence score was developed based on this response in the following manner:

Program Influence = FR5 / 10

Respondents who were found to not have plans to purchase the measures were deemed to not be free riders. If respondent had plans, their free ridership score equals their program influence score.

3.6 Process Evaluation

3.6.1 APPROACH

The Evaluator's general approach to process evaluation begins with a review of the tests for timing and appropriateness of process evaluation. In this review, the Evaluators determined what aspects of the program warrant a process evaluation.

In general, process evaluations assess organizational and procedural aspects of programs to provide feedback on features of programs that are functioning well and contribute recommendations when areas of improvement are identified. These evaluations are based on criteria that justify conducting a process evaluation. Table 3-14 provides details on those criteria that should be met prior to proceeding with a process evaluation.

TABLE 3-14 GENERAL OVERVIEW OF PROCESS EVALUATION GUIDANCE

Process Evaluation Guidance
Process evaluation required if: ▪ Program is new. ▪ No process evaluation has been undertaken during current funding cycle.
Process evaluation potentially needed if: ▪ Program impacts are lower than expected. ▪ Goals (both informational and educational) are not being achieved. ▪ Rates of participation are lower/slower than expected. ▪ Program operational system is slow to get up and running. ▪ Cost-effectiveness of the program is less than expected. ▪ Participants (both customers and market actors) report problems/low rates of satisfaction with program.

A process evaluation is a culmination of information from a variety of sources, including program staff, trade allies, and program participants (collectively referred to as market actors). To increase the validity of the findings, the Evaluators gathered data from multiple sources and then "triangulated" the data to compare it across multiple groups. This methodology increases the overall validity of the findings.

It should also address a variety of issues, including:

- Help program designers and managers structure programs to achieve cost-effective savings while maintaining high levels of customer satisfaction;
- Determine program awareness levels to refine marketing strategies and reduce barriers to program participation;
- Provide recommendations for changing the program's structure, management, administration, design, delivery, operations, or target;
- Test for use of best practices and determine what best practices should be incorporated; and
- Gather data from a variety of sources to minimize bias in the findings.

TABLE 3-15 KEY PROCESS EVALUATION ACTIVITIES

	Process Evaluation Activity					
Key Researchable Issues	**Materials Review**	**Database Review**	**Staff Interview**	**Market Actor Interview**	**Part. Trade Ally Survey**	**Part. Customer Survey**
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					✓	✓
Reasons for Non-Participation					✓	

The process evaluation for PY12 consists of a multiple step process that is outlined in the following section.

3.6.2 REVIEW OF PROGRAM MATERIALS

The Evaluators reviewed reports and supporting materials for clarity and consistency with program objectives. As an initial step in the PY12 process evaluation, the Evaluators reviewed available program documents such as delivery schedules, sample reports and samples of any additional engagement materials. The purpose of reviewing these materials is to understand what information is communicated to participants, how it is communicated, and to identify any gaps or opportunities for improvement.

3.6.3 PROGRAM STAFF AND MARKET ACTOR IMPLEMENTER INTERVIEWS

The program staff in-depth interviews were conducted via telephone and addressed the key process evaluation objectives discussed previously. The initial evaluation interviews focus on the program history, design, and identifying areas for improvement, while the subsequent process evaluation interviews focused on "lessons

learned" and the overall effectiveness of the program. These interviews are open-ended, in that there is a discussion guide, but responses will not be limited to a specific set of choices. Moreover, all respondents are promised confidentiality throughout the interview process to assure that these findings truly reflect program operations and activities. The results of these interviews were summarized for each program. Overall themes from these interviews are summarized for the entire portfolio.

The third-party implementer interviews were conducted by telephone. Particular attention was paid to the program implementers' perceptions of how the programs operate, what program data are tracked and captured, how that data are managed and maintained, and how the programs are promoted to motivate trade allies and customers.

3.6.4 TRADE ALLY SURVEYS AND INTERVIEWS

The Evaluators conducted trade ally surveys or in-depth interviews with participating trade allies. The specifics of these trade ally activities are described more fully in each Energy Smart Program chapter. These interviews focused on identifying areas of program effectiveness, overall satisfaction, and identifying barriers to program participation. The results from these interviews are summarized at the program and portfolio level.

3.6.5 REVIEW OF PROGRAM MATERIALS

The Evaluators reviewed reports and supporting materials for clarity and consistency with program objectives. As an initial step in the PY12 process evaluation, the Evaluators reviewed available program documents such as the program website and engagement materials. The purpose of reviewing these materials is to understand what information is communicated to participants, how it is communicated, and to identify any gaps or opportunities for improvement.

3.6.6 PARTICIPANT SURVEYS

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

3.7 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.

Behavioral, Rewards and EasyCool BYOT evaluations are not complete due to data. The portfolio and most programs pass the TRC and the UCT, with the exception of EasyCool for Business, Large C&I DR, C&I NC, SK&E and AR&R. The portfolio has $7,180,117 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 PY12 HPWES ENERGY SAVINGS (KWH)

Measure	*Ex Ante* Gross Energy Savings (kWh)	Realization Rate (kWh)	*Ex Post* Gross Energy Savings (kWh)	NTG	*Ex Post* Net Energy Savings (kWh)
1.0 Bathroom Aerator	2,412	50%	1,205	101%	1,216
1.0 Bathroom Aerator - KIT	6,915	70%	4,857	103%	4,993
1.5 Kitchen Aerator	911	50%	455	101%	459
1.5 Kitchen Aerator - KIT	4,112	63%	2,597	103%	2,670
1.5 Showerhead	13,224	98%	12,959	86%	11,145
1.5 Showerhead - KIT	48,843	65%	31,815	101%	32,086
Air Infiltration	183,521	95%	174,804	101%	176,386
Assessment	0	100%	0	100%	0
Attic Insulation	24,148	100%	24,185	101%	24,404
Duct Sealing	476,377	102%	487,598	100%	487,485
Indoor LED Lamp (Specialty)	130,423	91%	119,266	39%	46,569
Indoor LED Lamp (Standard)	130,230	103%	134,505	39%	52,519
LED 15W A-Type - KIT	19,500	123%	23,911	67%	16,100
LED 15W A-Type - LTN KIT	209,236	100%	209,224	65%	135,995
LED 15W PAR38 - LTN KIT	403,748	100%	403,765	65%	262,447
LED 9W A-Type - KIT	34,950	122%	42,788	67%	28,811
LED 9W A-Type - LTN KIT	114,529	100%	114,545	65%	74,454
Outdoor LED Lamp (Specialty)	112,905	85%	96,453	39%	37,661
Outdoor LED Lamp (Standard)	1,448	85%	1,237	39%	483
Pipe Insulation	6,256	91%	5,708	101%	5,760
Smart Thermostats	64,141	100%	64,165	95%	60,736
Advanced Power Strip (Tier 2)	198,217	77%	152,627	98%	149,047
Total	**2,186,043**	**96%**	**2,108,669**	**76%**	**1,611,427**

Sums may differ due to rounding.

TABLE 4-2 PY12 HPWES DEMAND REDUCTIONS (KW)

Measure	*Ex Ante* Gross Demand Reductions (kW)	Realization Rate (kW)	*Ex Post* Gross Demand Reductions (kW)	NTG	*Ex Post* Net Demand Reductions (kW)
1.0 Bathroom Aerator	0.25	50%	0.13	101%	0.13
1.0 Bathroom Aerator - KIT	0.00	100%	0.51	103%	0.52
1.5 Kitchen Aerator	0.10	50%	0.05	101%	0.05
1.5 Kitchen Aerator - KIT	0.00	100%	0.27	103%	0.28
1.5 Showerhead	1.37	98%	1.35	86%	1.16
1.5 Showerhead - KIT	0.00	100%	3.31	101%	3.34
Air Infiltration	77.43	95%	73.76	101%	74.42
Attic Insulation	80.83	87%	70.67	101%	71.31
Duct Sealing	167.64	102%	171.64	100%	171.60
Indoor LED Lamp (Specialty)	22.18	88%	19.50	39%	7.62
Indoor LED Lamp (Standard)	22.11	101%	22.23	39%	8.68
LED 15W A-Type - KIT	3.30	123%	4.06	67%	2.73
LED 15W A-Type - LTN KIT	0.00	100%	0.00	65%	0.00
LED 15W PAR38 - LTN KIT	0.00	100%	0.00	65%	0.00
LED 9W A-Type - KIT	5.98	122%	7.27	67%	4.89
LED 9W A-Type - LTN KIT	19.41	100%	19.46	65%	12.65
Outdoor LED Lamp (Specialty)	0.00	100%	0.00	39%	0.00
Outdoor LED Lamp (Standard)	0.00	100%	0.00	39%	0.00
Pipe Insulation	0.71	91%	0.65	101%	0.66
Smart Thermostats	0.00	100%	0.00	95%	0.00
Advanced Power Strip (Tier 2)	20.62	77%	15.88	98%	15.51
Total	**421.93**	**97%**	**410.72**	**91%**	**375.54**

Sums may differ due to rounding.

TABLE 4-3 PY12 HPWES LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
1.0 Bathroom Aerator	10	12,053	12,163
1.0 Bathroom Aerator - KIT	10	48,568	49,932
1.5 Kitchen Aerator	10	4,554	4,595
1.5 Kitchen Aerator - KIT	10	25,974	26,703
1.5 Showerhead	10	129,593	111,450
1.5 Showerhead - KIT	10	318,146	320,863
Air Infiltration	11	1,922,846	1,940,245
Attic Insulation	20	483,710	488,087
Duct Sealing	18	8,776,770	8,774,729
Indoor LED Lamp (Specialty)	13	1,490,828	582,107
Indoor LED Lamp (Standard)	13	1,681,317	656,485
LED 15W A-Type - KIT	12	298,884	201,251
LED 15W A-Type - LTN KIT	13	2,615,294	1,699,941
LED 15W PAR38 - LTN KIT	13	5,047,059	3,280,588
LED 9W A-Type - KIT	12	534,844	360,134
LED 9W A-Type - LTN KIT	13	1,431,806	930,674
Outdoor LED Lamp (Specialty)	13	1,205,666	470,763
Outdoor LED Lamp (Standard)	13	15,458	6,036
Pipe Insulation	13	74,203	74,875
Smart Thermostats	11	705,818	668,091
Advanced Power Strip (Tier 2)	10	1,526,268	1,490,475
Total	**13**	**28,349,659**	**22,150,186**

Sums may differ due to rounding.

TABLE 4-4 PY12 HPWES COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend ($)
1.0 Bathroom Aerator	34	$342
1.0 Bathroom Aerator - KIT	623	$872
1.5 Kitchen Aerator	34	$238
1.5 Kitchen Aerator - KIT	623	$1,402
1.5 Showerhead	40	$910
1.5 Showerhead - KIT	623	$4,797
Air Infiltration	144	$56,665
Assessment	775	$96,875
Attic Insulation	10	$4,176
Duct Sealing	222	$76,891
Indoor LED Lamp (Specialty)	456	$29,849
Indoor LED Lamp (Standard)	603	$30,122
LED 15W A-Type - KIT	623	$3,582
LED 15W A-Type - LTN KIT	1,197	$5,985
LED 15W PAR38 - LTN KIT	1,197	$11,372
LED 9W A-Type - KIT	623	$8,037
LED 9W A-Type - LTN KIT	1,198	$25,757
Outdoor LED Lamp (Specialty)	107	$6,305
Outdoor LED Lamp (Standard)	2	$78
Pipe Insulation	68	$440
Smart Thermostats	158	$32,725
Advanced Power Strip (Tier 2)	593	$33,450
Total	**9,953**	**$430,870**

Sums may differ due to rounding.

4.2 Program Description

The HPwES 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 LEDs 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 2,611 distinct households participated in PY12. Participation included:

- 775 homes receiving traditional assessments;
- 334 homes receiving major measures;
- 718 homes receiving direct install measures;
- 622 homes receiving Home Energy Savings Kit (HESK); and
- 1,197 homes receiving Light-the-Night Kit (LTN Kit).

4.2.1.1 Home Energy Savings Kit (HESK)

A total of Home Energy Savings Kits (HESK) 622 kits were distributed to residences through orders from the Online Marketplace (OLM). Kits were free of charge and included the following items:

- (3) 9W A-Type LED;
- (1) 15W A-Type LED;
- (1) 1.5 GPM Kitchen Aerator;
- (1) 1.0 GPM Bathroom Aerator;
- (1) 1.5 GPM Showerhead;
- Literature on included measures; and
- ENERGY STAR promotional materials.

Expected and verified savings from the HESK are presented in the sections below.

4.2.1.2 Light the Night Kit (LTN Kit)

New for PY12, the LTN kits were distributed to ENO customers that have the following characteristics:

- Customers who have not been served by a DI program (HPwES or IQW);
- Customers who have not requested a traditional kit; and
- Customers in neighborhoods with higher crime levels.

The campaign premise is to “Light up the Night” and help people illuminate their porches and yards to help deter illegal/inappropriate behavior. A total of LTN 1,197 kits were distributed to residences through orders from the OLM. Kits were free of charge and included the following items:

- (5) 9W A-Type LED;
- (1) 15W A-Type LED;
- (2) 15W PAR38 LED;
- Literature on included measures; and
- Energy Smart promotional materials.

Expected and verified savings from the LTN Kits are presented in the sections below.

4.2.1.3 Direct Install and Major Measures

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

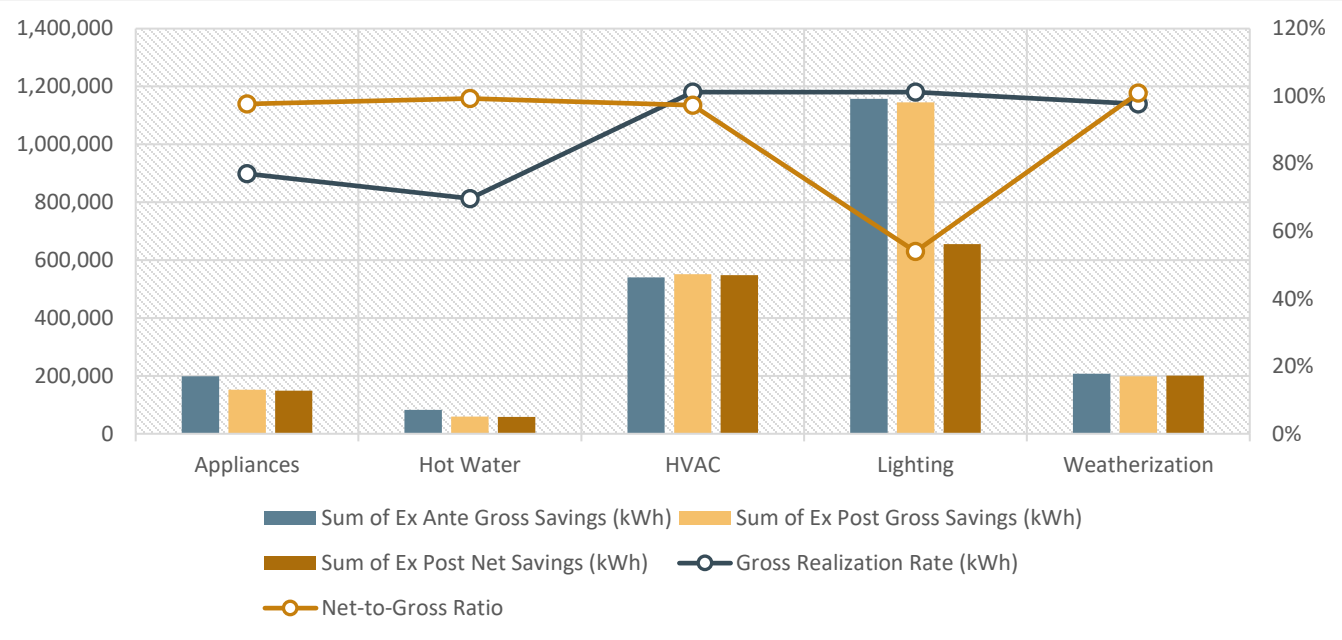


FIGURE 4-1 HPWES CONTRIBUTION TO SAVINGS BY END USE

Lighting measures (LED lamp) contribute 52.9% and HVAC measures (Smart thermostat and duct sealing) contribute 24.7%, weatherization measures (air infiltration and attic insulation) contribute 9.5%, appliance measures (advanced power strip) contribute 9.1%, and hot water measures (pipe wrap, aerator, showerhead) contribute 3.8% of expected savings. The bulk of energy savings (kWh) come from duct sealing and LED lamps.

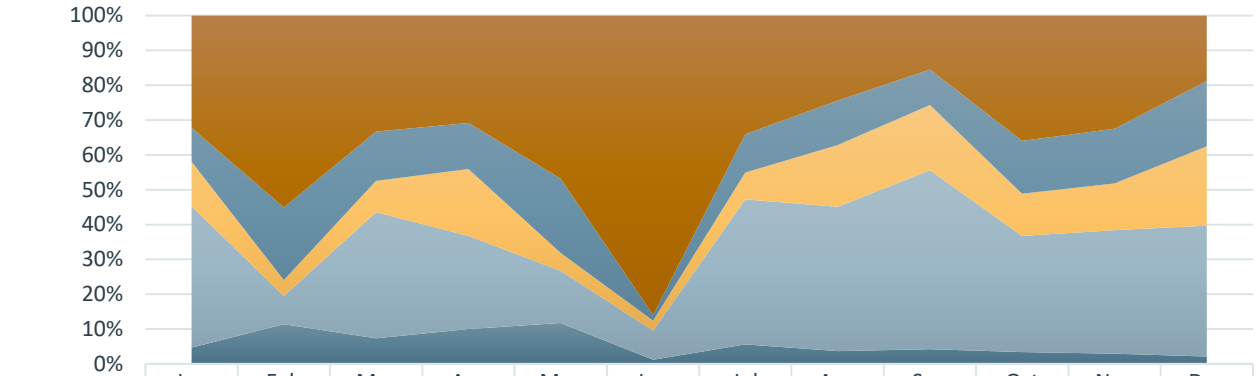
The HESK and then LTN Kit accounted for the 841,833 kWh of savings.

Additionally, there a total of 842 distinct non-kit homes accounting for 1,344,210 kWh of non-kit expected savings. The non-kit expected savings account for a 5.0% decrease in expected savings, compared to the normalized PY12 expected savings. The HESK and LTN Kits accounted for the remaining 841,833 kWh of expected savings.

In PY12, 38.5% of ex ante gross energy savings (kWh) for HPwES are from kits, both the LTN kits (33.3%) and HESK (5.2%). Year-over-year, savings attributed to HESK decreased, and although there was a significant drop in HESK savings, a large portion of expected savings was shifted over to the LTN Kits. Going forward, the contribution to savings from residential lighting will likely decrease as the impacts of EISA are further realized.

4.2.2 TIMING OF PROJECTS

The figure below shows *ex ante* energy savings (kWh) for HPwES by end use, by month. There is a decrease in lighting savings after June.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lighting	20,312	35,268	29,406	41,900	32,498	761,929	62,863	47,548	21,916	42,461	37,990	22,876
Appliances	6,129	13,300	12,493	17,930	14,755	14,448	20,389	25,000	14,448	17,930	18,444	22,949
Envelope	8,082	2,969	7,974	26,095	3,579	25,598	14,267	34,648	26,503	14,388	15,718	27,848
HVAC	25,606	5,173	32,012	36,275	10,415	73,900	76,829	80,732	72,782	39,454	41,564	45,779
Water	2,941	7,286	6,461	13,637	8,156	10,576	10,423	7,248	5,937	3,987	3,390	2,632

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

4.2.3 TRADE ALLIES

There are 13 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, attic insulation, and duct sealing. Franklin projects represent 69% of *ex ante* gross energy savings (kWh) and 68% of incentives paid.

There were AC tune-up projects in PY11 HPwES, however, there are no AC tune-up projects in the PY12 program.

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

TABLE 4-5 HPWES TRADE ALLY ACTIVITY

Trade Ally	*Ex Ante* Gross Energy Savings (kWh)	% of kWh Savings
Franklin	1,501,998	69%
TA 2	320,102	15%
TA 3	97,421	4%
TA 4	88,545	4%
TA 5	51,530	2%
TA 6	37,817	2%
TA 7	33,656	2%
TA 8	24,717	1%
TA 9	10,890	< 1%
TA 10	8,699	< 1%
TA 11	7,141	< 1%
TA 12	2,162	< 1%
TA 13	1,366	< 1%

4.2.4 GOAL ACHIEVEMENT

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

TABLE 4-6 PY12 HPWES PROGRAM VERIFIED SAVINGS

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
4,870,449	43%	2,108,669	1,384.00	30%	410.72

4.3 EM&V Methodology

The HPwES program has received comprehensive impact and process evaluations in PY12. The evaluations performed site visits, trade ally interviews, and participant surveys which provided NTG and in-service rate estimates, feedback on program satisfaction and strategic recommendations for program improvement, and information on how trade ally experience program participation.

Verified savings were calculated using methods and inputs in the NO TRM V5.0 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 twenty-one site visits on projects in the program. The table below outlines the measures captured in the site visits. Not noted below, several of these site visits also captured findings from the A/C Solutions program, where four homes had two units each.

TABLE 4-7 SITE VISIT SUMMARY

Measure	PY12 Participant Count	Found in PY12 Site Visit
Advanced Power Strip (Tier 2)	593	10
Air Infiltration	144	11
Attic Insulation	10	2
Duct Sealing	222	20
Faucet Aerator	1,314	1
LED Lamp	6,006	14
Low flow Showerhead	663	1
Smart Thermostat	158	1
Water Heater Pipe Insulation	68	0

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

- Air Infiltration: during the site visits conducted in PY12, the Evaluators' field staff conducted blower door testing in 11 homes to validate post-retrofit home leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 95.3% of expected leakage reductions. That is, of 11 homes the Evaluators found that duct sealing CFM50_post results were 4.7% lower than those reported in tracking data.

- Duct Sealing: during the site visits conducted in PY12, the Evaluators' field staff conducted duct system pressurization testing in 20 homes to validate post-retrofit duct leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 102.4% of expected leakage reductions. That is, of 20 homes the Evaluators found that duct sealing CFM25_post results were 2.4% higher than those reported in tracking data.

Additional measure-specific impacts were derived from the PY12 participant survey, which is described further in Section 4.4.3.5 below. There were surveys for both kit and non-kit offerings.

ISR results are presented in the table below. Air infiltration, attic insulation, and duct sealing gross impacts were derived solely from site visit findings. The remaining are from the participant survey. All results are also benchmarked against similar programs in the region to ensure they are within industry standards.

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

TABLE 4-8 MEASURE-SPECIFIC GROSS IMPACTS FOR HPWES

Measure	In-Service Rate
1.0 Bathroom Aerator	50.0%
1.0 Bathroom Aerator - KIT	46.0%
1.5 Kitchen Aerator	50.0%
1.5 Kitchen Aerator - KIT	41.0%
1.5 Showerhead	98.0%
1.5 Showerhead - KIT	59.0%
Air Infiltration	95.3%
Attic Insulation	100.0%
Duct Sealing	102.4%
Indoor LED Lamp (Specialty)	92.0%
Indoor LED Lamp (Standard)	92.0%
LED 15W A-Type - KIT	85.0%
LED 15W A-Type - LTN KIT	71.0%
LED 15W PAR38 - LTN KIT	71.0%
LED 9W A-Type - KIT	85.0%
LED 9W A-Type - LTN KIT	71.0%
Outdoor LED Lamp (Specialty)	92.0%
Outdoor LED Lamp (Standard)	92.0%
Pipe Insulation	96.3%
Smart Thermostat	100.0%
Advanced Power Strip (Tier 2)	77.0%

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 V5.0, Section C.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 4-9 summarizes the deemed savings values for New Orleans.

TABLE 4-9 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:

$$Air\ Infiltration\ Savings = 0.4108 \frac{kWh\ Savings}{CFM_{50}} \times \left(7{,}200\ CFM_{50\ pre} - 3{,}500\ CFM_{50\ post}\right)$$

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

4.3.2.2 Duct Sealing

Duct sealing savings were calculated using the following savings algorithms from the NO TRM V5.0, Section C.3.8.

Energy (kWh) savings:

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

$$kWh_{savings\ (Heating)} = \frac{\left(DL_{pre} - DL_{post}\right)/(((CAP/12{,}000) \times 400) \times EFLH_h \times CAP \times TRFheat}{\eta\text{Heat} / 3{,}412}$$

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)[7]

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

$TRFheat$ = Thermal Regain Factor for heating = 1.0 Unconditioned; 0.4 Semi-conditioned space

ŋHeat = Efficiency in COP of Heating equipment = Actual. If unavailable, use 1.0.

$3{,}412$ = 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 4-10 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	11.5
HSPF	7.30

4.3.2.3 LED Lamp

Methods for calculating deemed savings came from NO TRM V5.0. The methodology for ENERGY STAR directional and decorative LED lamp is found in Sections C.5.3, while the methodology for ENERGY STAR omni-directional LED lamp is found in Section C.5.4.

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

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

[7] ASHRAE Fundamentals 2009, Chapter 1: Psychometrics, Equation 11, Equation 41, Table 2.

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: 880.5 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 4-11 LED ENERGY AND DEMAND INTERACTIVE FACTORS

Parameter Input	IEF_E	IEF_D
Gas Heat with AC	1.10	1.29
Electric Resistance Heat with AC	0.83	1.29
Heat Pump	0.96	1.29
Heating/Cooling Unknown[8]	0.91	1.21

4.3.2.4 Other Measures

For remaining HPwES program measures, the Evaluators used the following NO TRM V5.0 sections and tables to verify savings.

TABLE 4-12 NO TRM V5.0 SECTIONS FOR OTHER MEASURES - HPWES

Measure	TRM Section	Calculated / Deemed	TRM Table(s)	Table Page(s)
Faucet Aerator	C.2.4	Deemed	Table 42	C-55
Attic Insulation	C.4.2	Calculated	NA	C-106
Pipe Wrap	C.2.3	Deemed	Table 40	C-51
Advanced Power Strip	C.1.6	Deemed	Table 12	C-19
Showerhead	C.2.5	Deemed	Table 47	C-60
Smart Thermostat	C.3.9	Deemed	Table 75	C-102

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 669 units installed at 593 homes.

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

TABLE 4-13 PY12 HPWES EXPECTED AND VERIFIED ADVANCED POWER STRIP SAVINGS

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
198,217	152,627	77%	20.62	15.88	77%

4.4.1.2 Aerator (Bathroom & Kitchen)

Expected and verified savings for aerators are summarized below.

TABLE 4-14 PY12 HPWES EXPECTED AND VERIFIED AERATORS SAVINGS

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
3,323	1,661	50%	0.35	0.17	49%

4.4.1.3 Air Infiltration

The savings resulting from using NO TRM V5.0 algorithms and deemed savings parameters, plus the application of the field result average are summarized in Table 4-15. There were 144 installations.

TABLE 4-15 PY12 HPWES EXPECTED AND VERIFIED AIR INFILTRATION SAVINGS

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
183,521	174,804	95%	77.43	73.76	95%

4.4.1.4 Attic Insulation

Expected and verified savings for the attic insulation projects are summarized below. There were 10 installations of this measure.

TABLE 4-16 PY12 HPWES EXPECTED AND VERIFIED ATTIC INSULATION SAVINGS

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
24,148	24,185	100%	80.83	70.67	87%

4.4.1.5 Duct Sealing

The savings resulting from using NO TRM V5.0 algorithms and deemed savings parameters, plus the application of the field result average are summarized in Table 4-17. There were 222 installations of duct sealing.

TABLE 4-17 PY12 HPWES EXPECTED AND VERIFIED DUCT SEALING SAVINGS

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
476,377	487,598	102%	167.64	171.64	102%

4.4.1.6 HESK (Kit)

The savings resulting from using NO TRM V5.0 algorithms and deemed savings parameters, plus the application of the recipient survey results are summarized in Table 4-18. There were 632 kits. High realization rates are due to the underestimation of claimed savings.

TABLE 4-18 PY12 HPWES EXPECTED AND VERIFIED HESK SAVINGS

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
114,321	105,967	93%	9.28	15.41	166%

4.4.1.7 LED Lamp (Direct Install)

Expected and verified savings LED lamps are summarized below. There were 4,505 specialty and 4,803 standard LED lamps; installed in both indoor and outdoor applications.

TABLE 4-19 PY12 HPWES EXPECTED AND VERIFIED LED SAVINGS

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
375,004	351,462	94%	44.29	41.74	94%

4.4.1.8 LTN Kit

The savings resulting from using NO TRM V5.0 algorithms and deemed savings parameters are summarized in Table 4-20. High realization rates, in comparison to the ISR, is due to the underestimation of claimed savings. There were 1,197 kits distributed.

TABLE 4-20 PY12 HPWES EXPECTED AND VERIFIED LTN KIT SAVINGS

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
727,512	727,533	100%	19.41	19.46	100%

4.4.1.9 Water Heater Pipe Wrap

Expected and verified savings for the pipe wrap projects are summarized below. Pipe wrap was installed at 68 residences.

TABLE 4-21 PY12 HPWES EXPECTED AND VERIFIED PIPE WRAP SAVINGS

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
6,256	5,708	91%	0.71	0.65	92%

4.4.1.10 Low flow Showerhead

Expected and verified savings for showerheads are summarized below. There were 58 low flow showerheads installed at 40 residences.

TABLE 4-22 PY12 HPWES EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

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
13,224	12,959	98%	1.37	1.35	98%

4.4.1.11 Smart Thermostat

Expected and verified savings for smart thermostats are summarized below. There were 187 smart thermostats installed at 158 residences.

TABLE 4-23 PY12 HPWES EXPECTED AND VERIFIED SMART THERMOSTAT SAVINGS

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
64,141	64,165	100%	0.00	0.00	NA

4.4.1.12 Avoided Replacement Cost

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarize the ARC by measure in HPwES.

Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 4-24 SUMMARY OF ARC FOR HPWES

LED Lamp Type	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	NPV ARCs ($)
Indoor LED Lamp (Specialty)	$13,807	$5,391	$5,391
Indoor LED Lamp (Standard)	$14,640	$5,716	$5,716
LED 15W A-Type - KIT	$1,757	$1,183	$1,183
LED 15W A-Type - LTN KIT	$2,819	$1,833	$1,833
LED 15W PAR38 - LTN KIT	$6,345	$4,124	$4,124
LED 9W A-Type - KIT	$5,270	$3,549	$3,549
LED 9W A-Type - LTN KIT	$14,108	$9,170	$9,170
Outdoor LED Lamp (Specialty)	$1,666	$650	$650
Outdoor LED Lamp (Standard)	$18	$7	$7
Indoor LED Lamp (Specialty)	$13,807	$5,391	$5,391
Total	**$60,430**	**$31,623**	**$31,623**

Sums may differ due to rounding.

4.4.2 NET IMPACT FINDINGS

The Evaluators conducted NTG surveys. Their results have been applied to PY12, with some exception. See those details outlined below.

- 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 and direct install measures, weighted by the participants' gross energy savings and demand reductions. The major and direct install measure free ridership ratios were used to factor the program verified gross savings for the two measure types to estimate free ridership.
- A spillover ratio was developed by dividing the total energy savings and demand reductions resulting from spillover measures by the total gross energy savings and demand reductions for the sample of survey respondents. The methodology is cited in Section 3.5.2.4.5. The spillover ratios were 2.8% for the kits and 0.9% for the other measures.
- In instances where there are insufficient survey responses, either the NO TRM V5.0 deemed value, or a literature review was performed.

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

TABLE 4-25 NET IMPACTS FOR HPWES

Measure	Net-to-Gross Ratio
1.0 Bathroom Aerator	100.9%
1.0 Bathroom Aerator - KIT	102.8%
1.5 Kitchen Aerator	100.9%
1.5 Kitchen Aerator - KIT	102.8%
1.5 Showerhead	86.0%
1.5 Showerhead - KIT	100.9%
Air Infiltration	100.9%
Attic Insulation	100.9%
Duct Sealing	100.0%
Indoor LED Lamp (Specialty)	39.0%
Indoor LED Lamp (Standard)	39.0%
LED 15W A-Type - KIT	67.3%
LED 15W A-Type - LTN KIT	65.0%
LED 15W PAR38 - LTN KIT	65.0%
LED 9W A-Type - KIT	67.3%
LED 9W A-Type - LTN KIT	65.0%
Outdoor LED Lamp (Specialty)	39.0%
Outdoor LED Lamp (Standard)	39.0%
Pipe Insulation	100.9%
Smart Thermostat	94.7%
Advanced Power Strip (Tier 2)	97.7%

TABLE 4-26 PY12 HPWES PROGRAM NET SAVINGS

Ex Post Gross Energy Savings (kWh)	*Ex Post* Net Energy Savings (kWh)	NTG kWh	*Ex Post* Gross Demand Reductions (kW)	*Ex Post* Net Demand Reductions (kW)	NTG kW
2,108,669	1,611,427	76%	410.72	375.54	91%

4.4.3 PROCESS FINDINGS

The Evaluators conducted a process evaluation in PY12 of the HPwES. Process activities included a database review, participant survey, staff and implementer interviews, and trade ally interviews.

The HPwES program aligns with the Department of Energy (DOE) requirements and uses a whole-house approach. This program may or may not include customer co-pay, dependent on the trade ally costs and if they exceed the incentive; all residential customers who live in a single-family home are eligible. The activities used to support this evaluation are summarized in Table 4-27.

TABLE 4-27 HPWES DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Impact	Process
Staff & TPI Interviews	3		X
Database Reviews	Census	X	X
Participant Surveys	121	X	X
Trade Ally Surveys	5		X
Desk Reviews	Census	X	
Site Visits	68	X	X

4.4.3.1 Staff and Implementer Interviews

The following section summarizes the key findings from in-depth interviews with two ENO program staff, one APTIM staff, and one Franklin staff. These in-depth interviews aimed to learn more about HPwES program design and operations, and the successes and challenges experienced during PY12. Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission. The following narrative summarizes these interviews.

4.4.3.2 Program Changes

In PY12, Franklin and ENO implemented energy saving kits into the HPwES program as a marketing strategy to generate leads for both HPwES and the RLA programs. Staff noted that this strategy was successful as it enabled them to generate savings faster than in previous years. Other changes in PY12, included a new partnership between Franklin and the Vietnamese Initiatives in Economic Training organization. This partnership grew from a larger community outreach effort to engage populations who often have low participation rates due to language and other cultural barriers. Franklin staffed note that the partnership has been a success and they are looking to expand the model to more community-based organizations in the coming years. This partnership has benefited other residential programs in addition to HPwES.

Franklin staff also noted that hurricane recovery efforts have created barriers to program participation, particularly with this program and other residential programs.

4.4.3.3 Operations and Trends

Program staff highlighted changes in customers' interests over the past year. Staff observed an increase in interest in smart thermostats and that they fielded a variety of incentive related questions. They also noted that that lighting and duct sealing may become a challenge in the coming years, as opportunities for savings may decrease.

Staff indicated that plenty of opportunities remain for additional measure adoption within the program. Staff discussed being prepared for factors that might impede in-person interaction, as this program relies heavily on face-to-face interaction.

4.4.3.4 Trade Ally Survey Results

4.4.3.4.1 *Methodology*

The Evaluators conducted a survey with residential trade allies, who were active in the program in PY12, to gain insight into feedback and the trade ally experience. Thirteen trade allies were contacted through email to complete the survey, and five completed it. The following sections summarize those responses.

4.4.3.4.2 *Trade Ally Background*

Most survey participants are owners of their respective companies, with one participant identifying as an executive or decision maker (Figure 4-3).

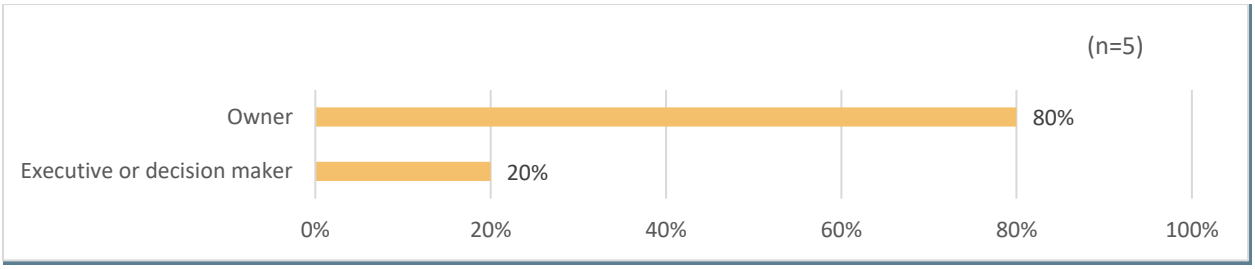


FIGURE 4-3 TRADE ALLY ROLE

Regarding the type of work each respondent is in, weatherization and HVAC work are the two most common responses (Table 4-28).

TABLE 4-28 TRADE ALLY SPECIALTY

Response	% of Survey Respondents (n = 9*)	Count
Weatherization	44%	4
HVAC	33%	3
Commercial Compressed Air	11%	1
Other	11%	1

**Respondents could select more than one option*

Trade ally tenure with residential programs varied between all respondents, ranging from two and half years to five years. Additionally, the number of completed projects for PY12 also varied between each respondent, resulting in a range from five to 200 projects. Comparing the number of completed projects for PY12 to the previous years (

Figure 4-4).

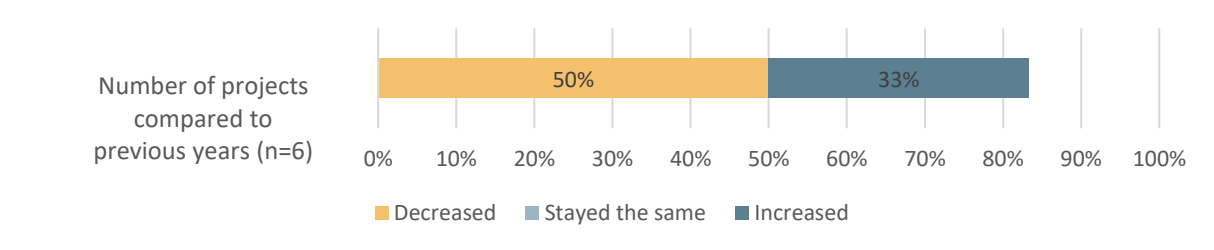


FIGURE 4-4 NUMBER OF COMPLETED PROJECTS COMPARED TO PREVIOUS YEARS

Additionally, survey respondents had experience with other residential programs, including the HPwES, A/C Solution, and IQW programs, were the most common.

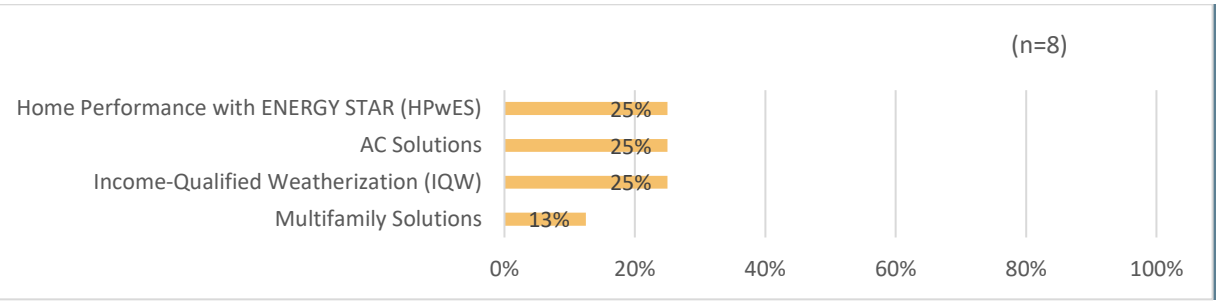


FIGURE 4-5 FAMILIARITY WITH OTHER ENO PROGRAMS

4.4.3.4.3 *Incentives and Measures*

Most surveyed trade allies indicated that current incentive rates are too low to encourage more measure adoption among the customers they work with. They felt this was applicable to smart thermostats, insulation, duct sealing and HVAC tune-ups. Additionally, two respondents noted inflation and the rising cost of living and that rebates should increase to help offset costs and increase measure adoption. Regarding the addition of new measures, three respondents would like to see electric water heaters, mechanical ventilation work, and rewrapping metal duct work (or reinsulating metal duct work) added to the list of program-qualifying measures. They below that be adding these measures, the out-of-pocket cost for customers would be eliminated, help with ventilation, and air flow, and help reduce temperatures in the attic which will help the system work more efficiently.

Three respondents indicated that customers are likely to install program-qualifying equipment without applying for the incentive or rebate (Table 4-29). Lack of knowledge about the program or they already did the work themselves were common reasons for not applying for a rebate.

TABLE 4-29 CUSTOMERS INSTALLING EQUIPMENT WITHOUT A REBATE

Response	Percent of Survey Respondents (n = 5)
Yes	60%
No	40%

4.4.3.4.4 *Marketing and Adoption of Energy Efficient Equipment*

A majority of surveyed trade allies recommend high efficiency equipment most of the time or always, while one respondent indicated they do it some of the time. They elaborated that they only recommend efficiency equipment if the customer is interested. Respondents indicated that customers would install the recommended, high efficiency equipment, some of the time (Table 4-30).

TABLE 4-30 CUSTOMER FREQUENCY TO INSTALL HIGH EFFICIENCY EQUIPMENT

Response	Percent of Survey Respondents (n = 5)
Always	20%
Most of the time	20%
Some of the time	40%
Never	0%
Don't know	20%

All respondents indicated that customers experience barriers to purchasing and installing high efficiency equipment, and cost is the biggest barrier. One participant also explained that certain customers need assistance with installing equipment, such as direct installation measures.

Regarding the marketing approach or selling of high efficiency equipment, two trade allies emphasize the benefits (comfort, lower energy bills, etc.) to customers. One respondent uses available incentives or rebates, and two other respondents were not sure (Table 4-31). All respondents indicated that they do not have ENO Smart program marketing materials they can use with customers, and three respondents indicated that having those materials would be beneficial.

TABLE 4-31 APPROACH TO MARKETING EE EQUIPMENT

Response	Percent of Survey Respondents (n = 5)
Benefits	40%
Incentives	20%
Don't know	40%

Overall, the program and its incentives are important for encouraging trade allies to recommend high efficiency equipment, and are also important to some degree, to encourage customer to install that recommended equipment (Figure 4-6).

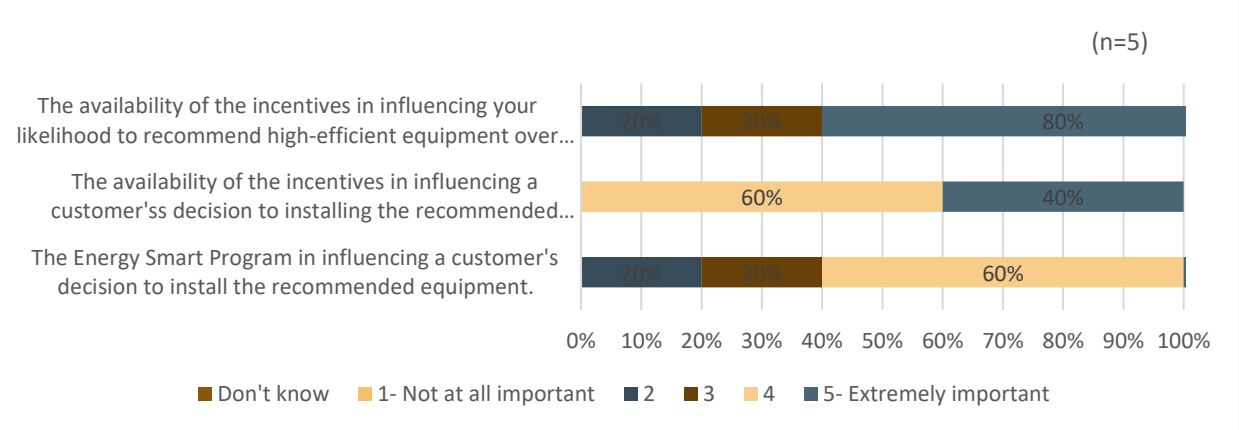


FIGURE 4-6 ROLE AND INFLUENCE OF PROGRAM AND INCENTIVES

In terms of the general acceptance of energy efficiency now, most survey respondents indicated that there is increased acceptance. None of the respondents see a decreased acceptance of energy efficient equipment (Table 4-32).

TABLE 4-32 AVERAGE CUSTOMER'S ACCEPTANCE OF ENERGY EFFICIENCY

Response	Percent of Survey Respondents (n = 5)
Increased acceptance	80%
No change	20%
Decreased acceptance	0%

4.4.3.4.5 *Upcoming Code Changes*

The state of Louisiana recently upgraded their building code to IECC 2021[9]. To prepare for the upcoming IEEC building code changes, three trade allies indicated that the code changes are already impacting their business. However, they did not elaborate as to how. One trade ally did state they are educating their staff and stocking up on additional materials in preparation for the changes. The biggest challenge trade allies are facing as the IEEC change is coming, is cost, as well as homebuilders meeting the new standards. The trade ally respondents were not able to provide feedback about the EISA backstop changes.

Two trade ally respondents were aware of the SEER2 change that will affect ratings for AC units and heat pumps starting in 2023. One respondent indicated that they are updating their inventory in preparation of this. Additionally, one respondent is already seeing SEER2-rated equipment become available from distributors, while the other trade ally had yet to see that inventory. These two trade allies both believed that the SEER2 change will increase costs for lower efficiency A/C units and heat pumps. One believes that cost will increase by 20 to 30%, and another commented that the price of everything is increasing under inflation, regardless of the SEER2 change. Further, both respondents believe the cost of the high efficiency A/C units and heat pumps will also increase by 20 to 30%. However, neither trade allies anticipate seeing an impact on the availability of standard efficient versus high efficiency equipment but do anticipate to see an increase in costs for higher efficient equipment over all, compared to standard equipment.

4.4.3.4.6 *Trade Ally Trainings*

Three trade allies indicated that they attended ENO-sponsored training events in 2022. All three of those respondents noted that those trainings were helpful to some degree (Figure 4-7).

[9] https://www.energycodes.gov/status/states/louisiana

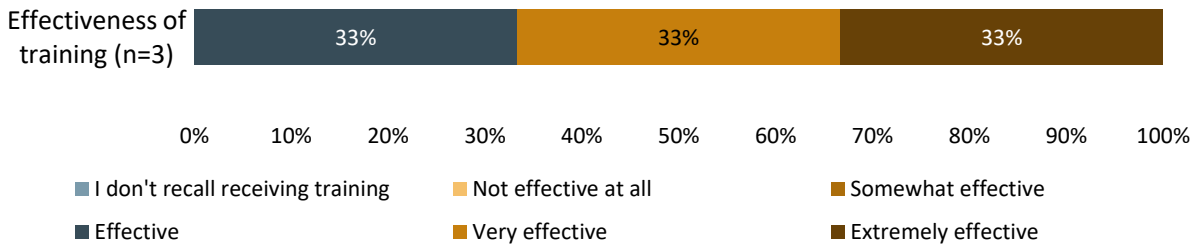


FIGURE 4-7 EFFECTIVENESS OF ENO-PROVIDED TRAININGS

Three of the survey respondents would like to see additional trainings added, as well as funding for those trainings and changing the time and locations of the trainings to better suit trade allies' schedules. All respondents prefer email as the best way to receive information from ENO, regarding any program changes or updates.

Respondents are generally satisfied, to some degree, with all aspects of the program. They are most satisfied with the range of qualifying equipment or measures, the incentive amounts, and the required paperwork. Respondents are most dissatisfied with the required paperwork and project turnaround time due to the lack of consistency with project timelines (when they get paid) and lack of transparency from the program staff. Additionally, one respondent noted that they would like to be able to do their own assessments to help with consistency and rapport with customers.

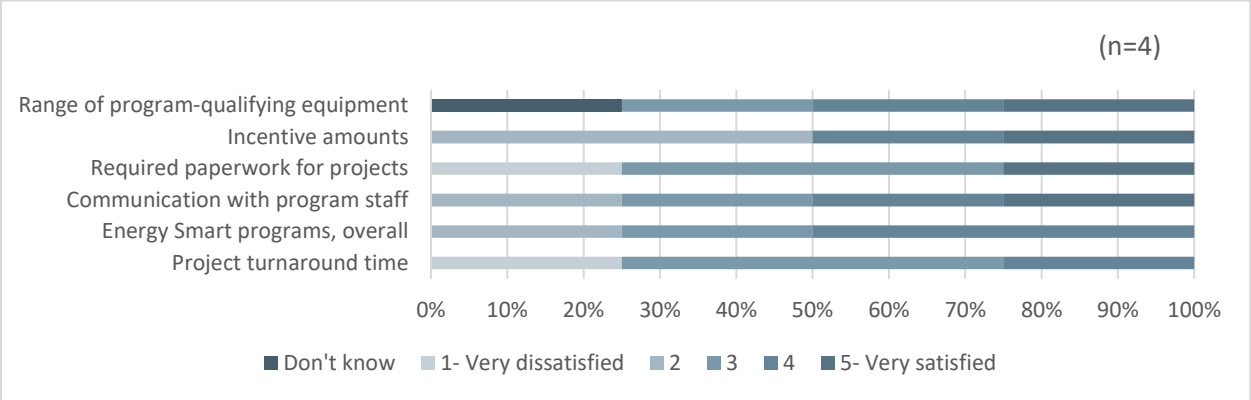


FIGURE 4-8 PROGRAM SATISFACTION

Three-fourths of the survey respondents indicated that improvements to the paperwork process have been made since last year (PY11), by streamlining the application into one system, where trade allies can track invoices and payments. Regarding suggested improvements to the program, one respondent noted the poor communication between trade allies and the program staff and wishes to see that improved. They elaborated on the difficulty in getting questions answered or any kind of response from Franklin staff, and the poor turnaround time. This same respondent also highlighted that they did not receive their PY12 program badges until six months into the year. Another respondent would like to see the incentive amounts increase, as well as being able to do their own energy assessments.

Table 4-33 and Table 4-34 summaries the takeaways, along with a breakdown for each respondent.

TABLE 4-33 TRADE ALLY KEY FINDINGS SUMMARY (N=5)

Resp.	Incentives are too low	Frequency of recommending high efficiency equipment	IECC impacts on business	Awareness of SEER2 changes
Trade Ally 1	No	Always	Yes	*NA
Trade Ally 2	Yes	Always	No change	Yes
Trade Ally 3	Yes	Some of the time	No change	*NA
Trade Ally 4	Yes	Most of the time	Yes	*NA
Trade Ally 5	Yes	Most of the time	Yes	Yes

**NA=Not answered*

TABLE 4-34 TRADE ALLY SATISFACTION SUMMARY

Program Satisfaction	Range of measures	Incentive amounts	Required paperwork	Communication w/ staff	Project turnaround time	Program overall
Response						
Trade Ally 1	Satisfied	Satisfied	Satisfied	Satisfied	Neutral	Satisfied
Trade Ally 2	Don't know	Dissatisfied	Dissatisfied	Dissatisfied	Dissatisfied	Satisfied
Trade Ally 3	Satisfied	Satisfied	Neutral	Satisfied	Neutral	Neutral
Trade Ally 4	Don't know	Don't know	Don't know	Don't know	Don't know	Don't know
Trade Ally 5	Neutral	Dissatisfied	Neutral	Neutral	Satisfied	Dissatisfied

4.4.3.5 Participant Survey Results

4.4.3.5.1 *Methodology*

The Evaluators conducted an online survey with customers who participated in the program to gain insight into customers' experiences and satisfaction. The Evaluator contacted 1,783 participants through email to complete an online survey and 121 completed it. The precision of the survey is +/- 7.5% at the 10% level of confidence. The following sections summarize those responses.

TABLE 4-35 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of Customers contacted by email	1,783
Undeliverable emails	140
Completed	121
Incentives paid	$3,025
Response rate	7%

4.4.3.5.2 *Program Awareness and Influence*

Most survey participants learned about the program through an email from ENO (32%), followed by a bill insert or utility mailer (14%) (Figure 4-9).

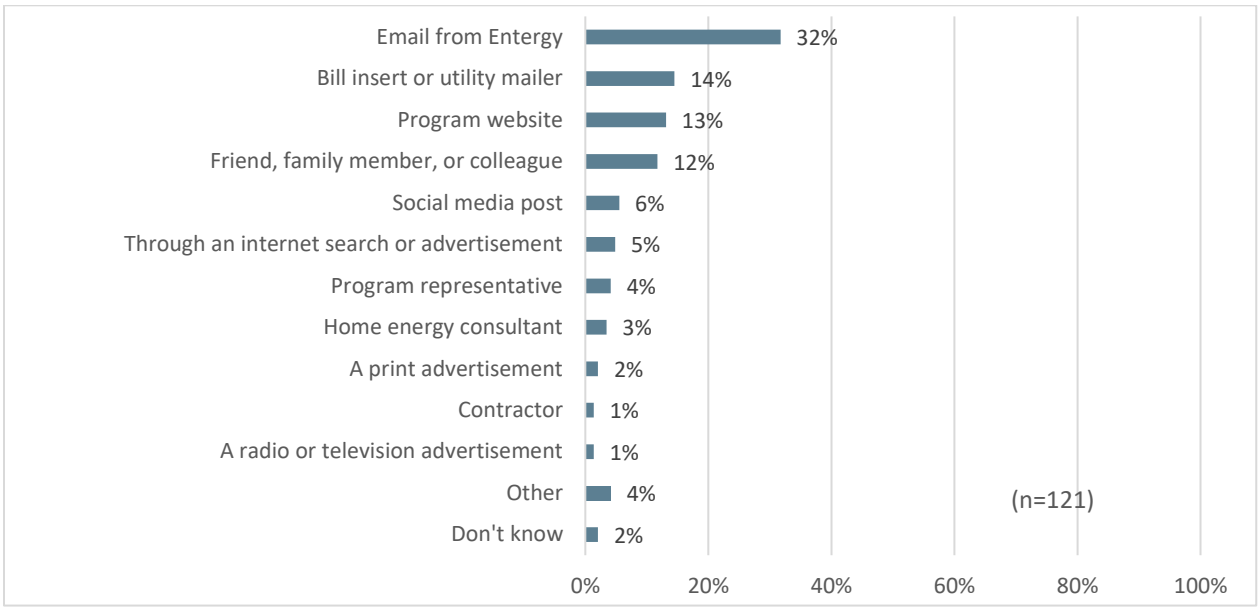


FIGURE 4-9 PROGRAM AWARENESS

Respondents were most motivated to participate in the program to save money on their energy bills (28%), followed by conserving energy and/or protecting the environment (18%). Respondents were also generally interested in improving the comfort of their home (18%) while receiving the program incentives (Figure 4-10).

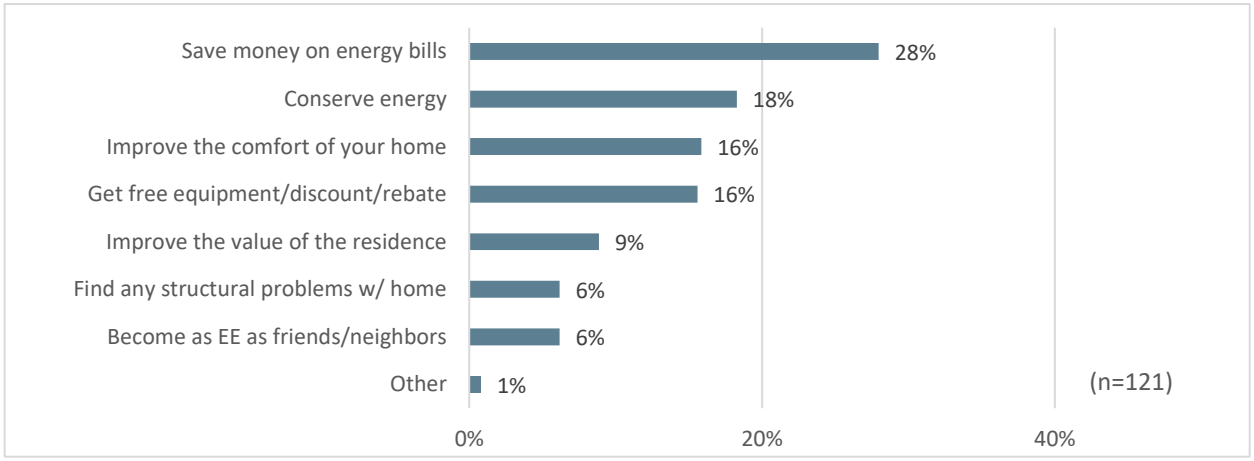


FIGURE 4-10 MOTIVATION FOR PARTICIPATION

4.4.3.5.3 *Program Experience*

Among survey respondents, 72 had received an energy assessment through the program. Most of them (86%) were not planning to have an energy assessment of their home prior to learning about their availability through the program (Table 4-36).

TABLE 4-36 PLANNING ON RECEIVING A HOME ENERGY ASSESSMENT PRIOR TO PARTICIPATING IN THE PROGRAM

Response	Percentage of Responses (n = 72)
Yes	11%
No	86%
Don't know	3%

Regarding the ease of scheduling the home energy assessment, most (86%) noted it was easy to some degree (Figure 4-11). However, six respondents noted that it was difficult to some degree, mostly due to rescheduling or cancellations among program staff and/or contractors (Figure 4-11). One respondent indicated the assessment did not address their needs, and another indicated that there was incomplete work.

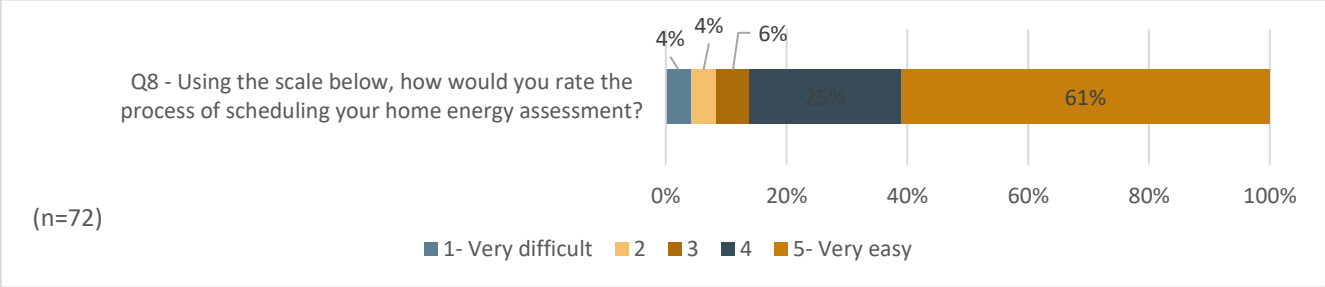


FIGURE 4-11 EASE OF SCHEDULING HOME ENERGY ASSESSMENT

Those who were dissatisfied with the scheduling of the home assessment noted the difficulty in scheduling the appointment, and rescheduling and cancellations, as reasons for their dissatisfaction.

TABLE 4-37 FOR DIFFICULTY OF SCHEDULING HOME ENERGY ASSESSMENT

Response	Percentage of Responses (n = 6)
Reschedule or cancellations	67%
Program did not address homes' needs	17%
Incomplete work	17%

Generally, participants who received a home assessment were provided a report by the assessor (Franklin TA who performs the initial assessment), discussed energy savings via improvements with the assessor, were asked by the assessor if there was anything about their home they wanted to address, and the assessor installed energy efficient measures (direct install measures) on the day of the assessment (Figure 4-12).

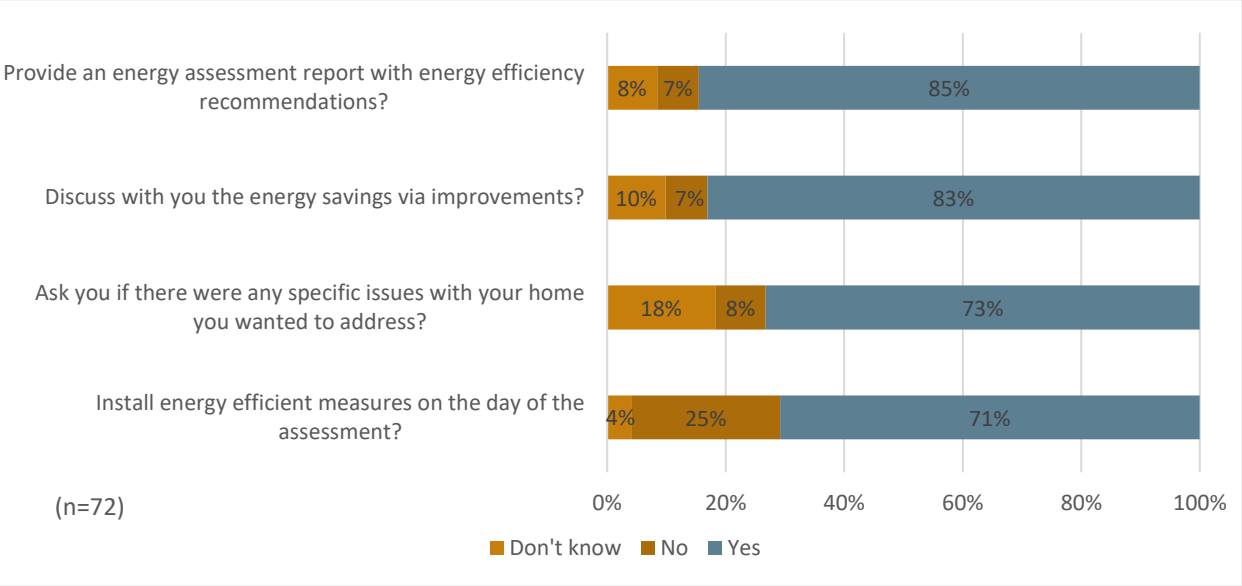


FIGURE 4-12 HOME ENERGY ASSESSMENT EXPERIENCE

More than half of the respondents (63%) found the home energy assessment report to be somewhat or very helpful (Figure 4-13). Among those who did not find the assessment helpful (n = 9), four respondents indicated it did not provide new information, followed by three who said there was no follow up or incomplete work, and two who saw no change to their energy bills.

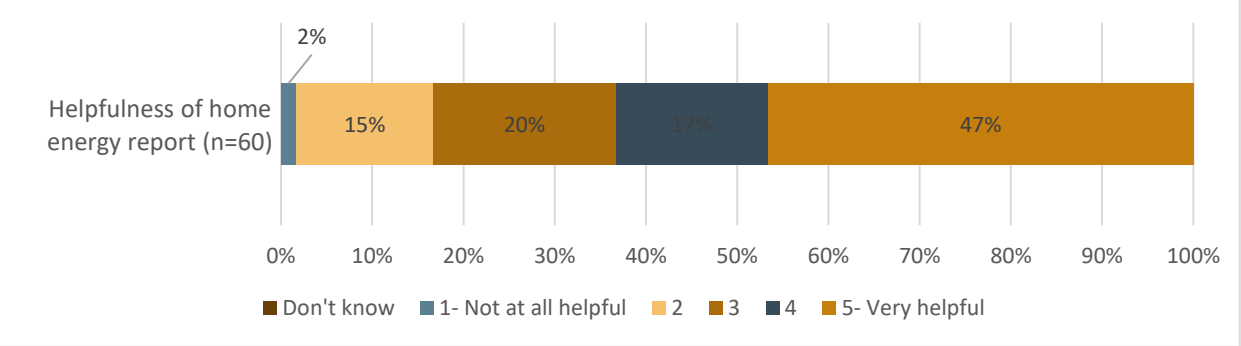


FIGURE 4-13 HELPFULNESS OF HOME ENERGY ASSESSMENT REPORTS

Twenty percent of respondents made all the recommendations from their home energy assessment report, while 66% made some but not all (n = 71). Ten percent indicated they have not implemented any of the recommendations. Of those who have not yet made all of the recommended energy efficient improvements, windows, duct sealing, air infiltration and insulation were among the most common outstanding improvements (Figure 4-14).

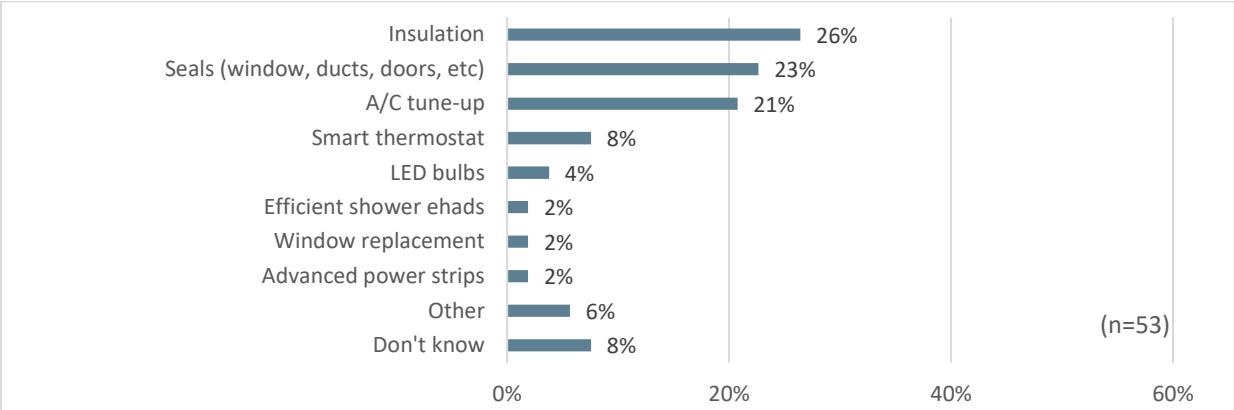


FIGURE 4-14 SUGGESTED ENERGY EFFICIENT IMPROVEMENTS FROM HOME ENERGY ASSESSMENT NOT YET COMPLETED

Cost was the biggest prohibitor for not implementing all the home improvement recommendations from their home energy assessment (Figure 4-15). However, 25% were still making plans to implement the energy efficient improvements and 14% needed more information.

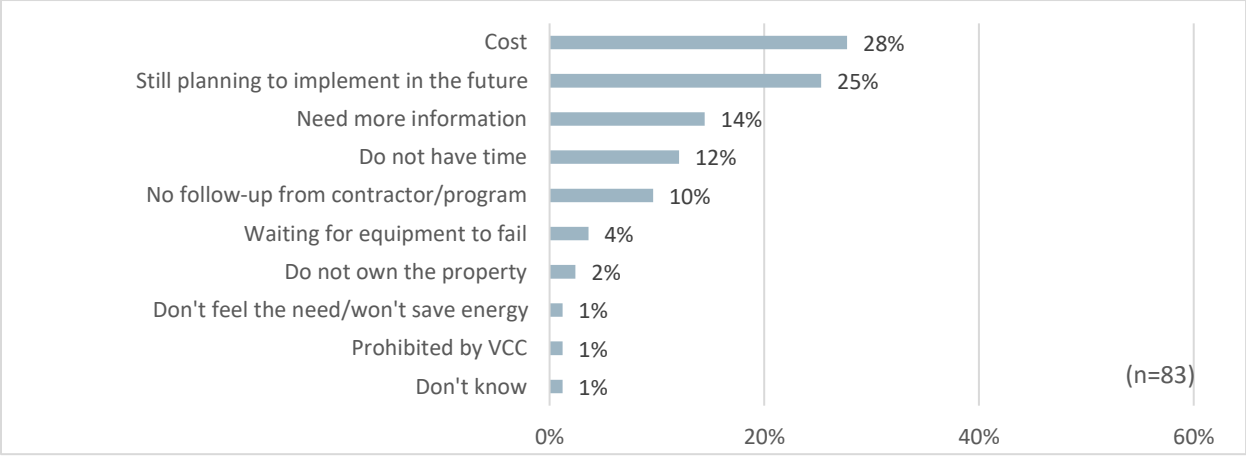


FIGURE 4-15 BARRIERS TO IMPLEMENTATION OR INSTALLATION

Customers who received direct install measures as part of the HPwES program provided feedback on whether any of the measures had been removed. Of the 71 respondents who had LED lamp installed as part of the program, five indicated they had removed the bulbs either because they were too dim or did not like the color of the light. Two respondents had bathroom aerators installed and none had removed them. Of those respondents who had water efficient showerheads installed through the program, one respondent has since removed it because they stated that it was “old.”

Fifty-eight participants received advanced power strips and 91% indicated they were currently installed. Among those, ten noted they have removed it either because it did not work right or was damaged, were not interested in it, or the power would turn off while in use. Additionally, respondents indicated that their televisions are the most common device or appliance that is plugged into the advanced power strips, followed by nothing, computers, or something else.

4.4.3.5.4 *Home Energy Saving Kit*

Almost all 37 survey respondents who received a Home Energy Saving Kit (HESK) recalled ordering it via the online marketplace. All energy savings kit recipients indicated they had received the four LED bulbs. Twenty-four percent of kit recipients indicated that the bathroom aerator was currently installed, while 62% had not installed it yet and 14% indicated that it was not received. More than half of the respondents (68%) indicated that the kitchen aerator has not been installed and 8% had not received on in their kit. Just less than half of the respondents (43%) indicated that the showerhead was currently installed while 51% say it is not installed and 5% had not received it in their kit. Survey participants provided feedback on why aerators and showerheads were not installed. Most did not have the time to install it, followed by the fact that it did not fit their faucet or shower, they did not like low flow devices, or needed help with installation (Table 4-38).

TABLE 4-38 REASONS FOR REMOVING BATHROOM AND KITCHEN AERATOR

Response	Percentage of Responses Bathroom Aerators (n = 28*)	Percentage of Responses Kitchen Aerators (n = 30*)	Percentage of Responses Showerheads (n = 22*)
Have not had time to install it	43%	33%	32%
Doesn't fit on your faucet/shower	25%	37%	18%
Do not like low flow devices	18%	10%	18%
Need help / don't know how to install it	11%	13%	14%
Some other reason	4%	7%	18%

*Survey respondents could select multiple answers.

4.4.3.5.5 *Program Satisfaction*

Most survey respondents (81%) were satisfied with the home improvements made through the program (n = 120). However, 19% of respondents were not satisfied. Lack of follow up or incomplete work was the main reason for participants' dissatisfaction, followed by needing assistance with installing measures and still having high energy bills (Figure 4-16).

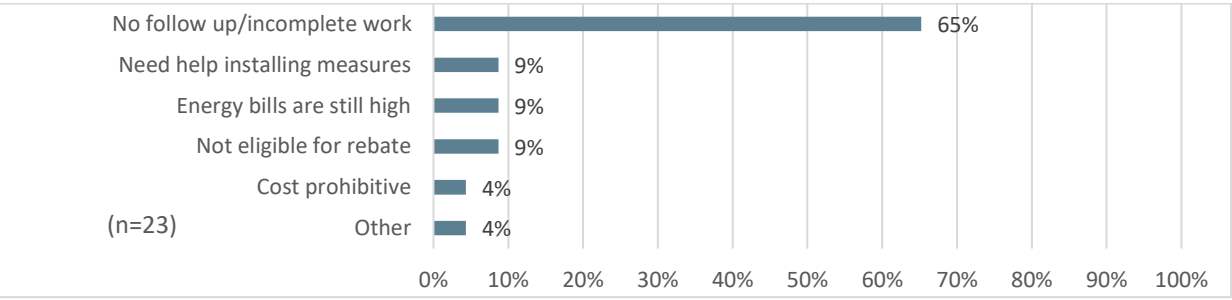


FIGURE 4-16 REASONS FOR DISSATISFACTION WITH HOME IMPROVEMENTS

Although all assessments and direct install measures are installed by Franklin, only 88% of the respondents had Franklin as their TA for their home improvement project. Among those who reported to experience a Franklin TA (n = 106), 80% of respondents were satisfied with the home improvements, whereas 20% were not satisfied. The 21 respondents who were not satisfied listed the lack of follow up or incomplete work as the top reason for their dissatisfaction.

TABLE 4-39 HELPFULNESS OF FRANKLIN'S HOME ENERGY ASSESSMENT REPORT

Response	Count	Percentage of Responses (n = 21)
No follow-up/incomplete work	14	67%
Energy bills are still high	2	10%
Not eligible for rebate	2	10%
Cost prohibitive	1	5%
Need help installing measures	1	5%
Other	1	5%

HPwES survey participants indicated overall satisfaction with the program, with 45% indicating they were very satisfied and 26% were somewhat satisfied (Figure 4-17).

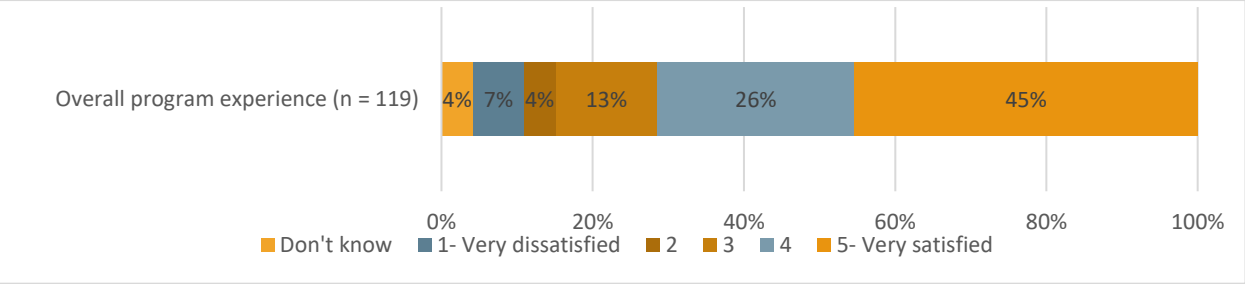


FIGURE 4-17 OVERALL SATISFACTION WITH HPWES PROGRAM

Respondents were generally satisfied with all aspects of the program, being most satisfied with the effort needed for the program application process and the interactions with program staff. Respondents were least satisfied with the savings on their monthly utility bills (Figure 4-18). This finding could suggest that participants' expectations for savings on their bill was higher than what could be achieved by the home improvements.

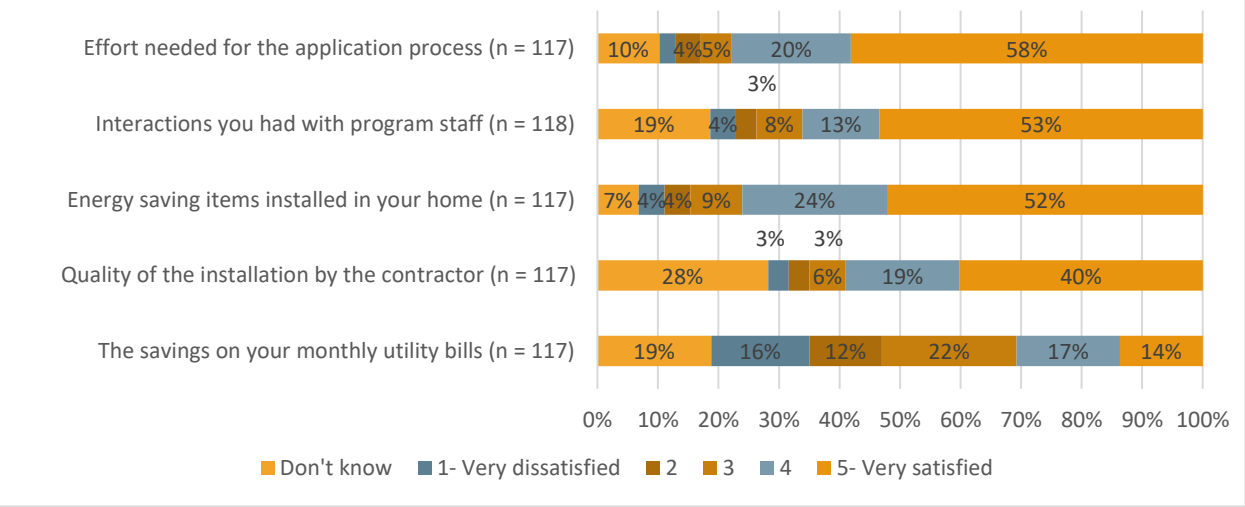


FIGURE 4-18 SATISFACTION WITH ASPECTS OF THE HPWES PROGRAM

Respondents who indicated any level of dissatisfaction with the above, elaborated and again, were most dissatisfied by the lack of follow-up and incomplete work, followed by high energy bills (Figure 4-19).

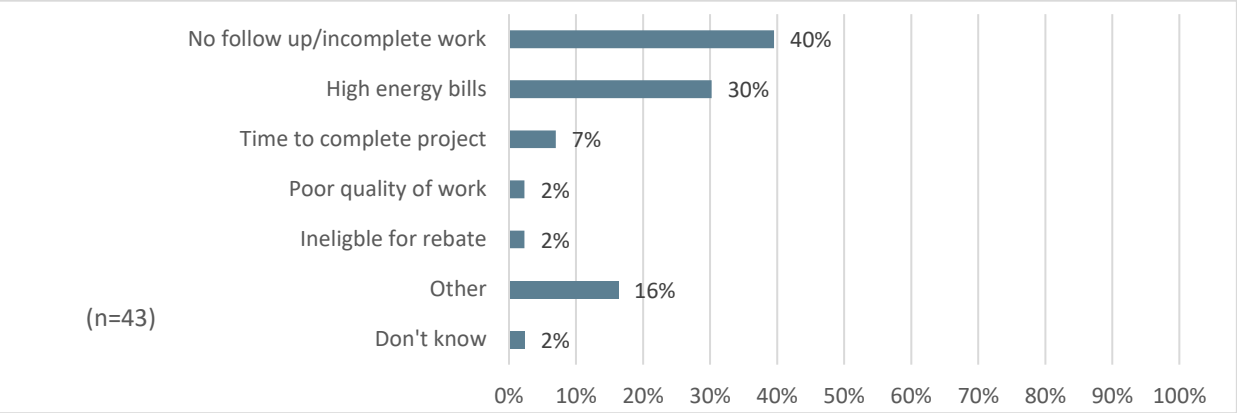


FIGURE 4-19 PARTICIPANTS' REASONS FOR DISSATISFACTION WITH HPWES

Although all assessments and direct install measures are installed by Franklin, only 80% of respondents remembered, and were less satisfied with various elements of the program. This includes interactions, the scheduling process, and the quality of the work. (Figure 4-20).

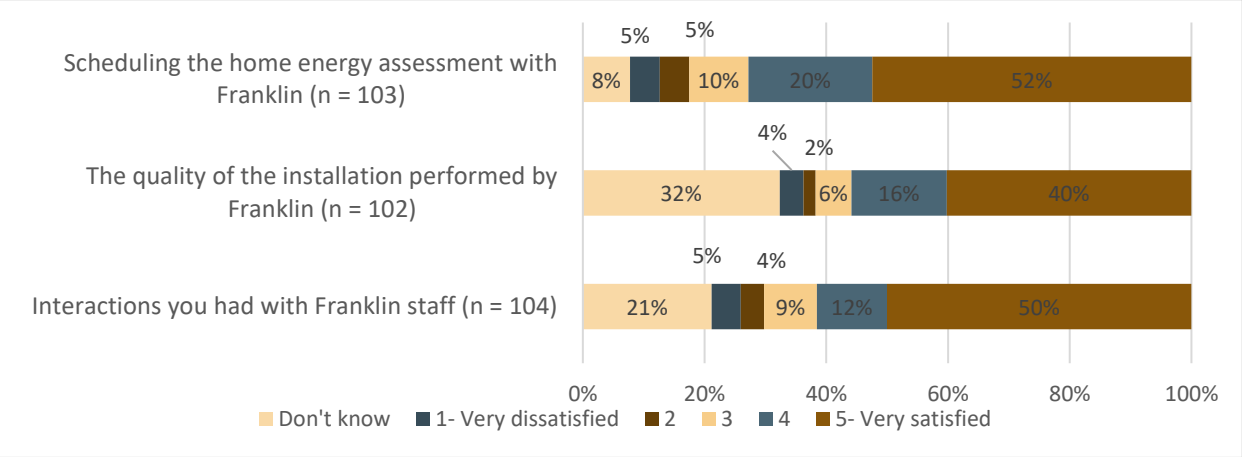


FIGURE 4-20 PROGRAM SATISFACTION (FRANKLIN)

Nearly half of the survey respondents were not satisfied to some degree, with ENO as their electricity provider, while 36% of respondents are satisfied, to some degree, with ENO (Figure 4-21).

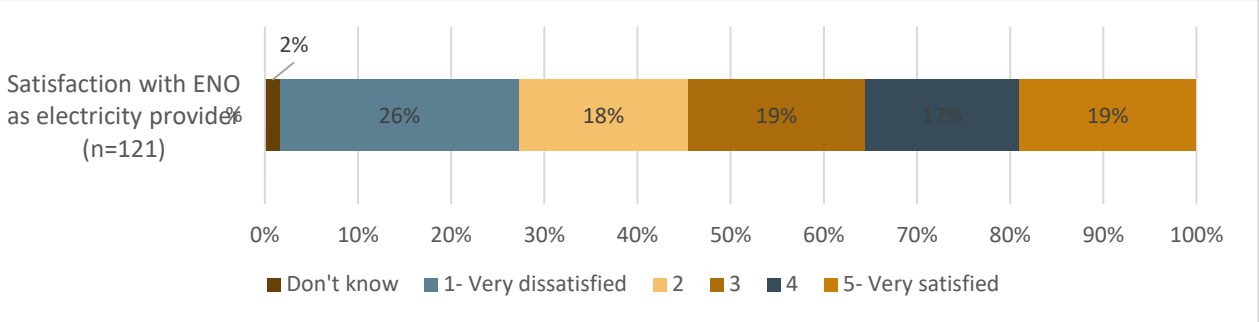


FIGURE 4-21 SATISFACTION WITH ENO AS ELECTRICITY SERVICE PROVIDER

4.4.3.5.6 *Participant and Residence Characteristics*

Most respondents reported living a single family, detached home, followed by a duplex or triplex. Three-fourths of respondents own their home while an additional 20 respondents are renters. Eight respondents own their home but rent it out to someone else. The type of fuel used to heat the homes were almost evenly split between natural gas and electricity. Six respondents were not sure. Additionally, more than half of respondents' homes rely on natural gas to heat their water. Table 4-40 provides additional information about survey respondents' home characteristics.

TABLE 4-40 HOME CHARACTERISTICS

Response	Percentage of Survey Respondents	Count
Year Home was Built		
Before 1970s	56%	67
1970 -1979	10%	12
1980 -1989	3%	4
1990 -1999	5%	6
2000-2009	7%	8
2010 - 2019	9%	11
2020 or newer	1%	1
Prefer not to state	9%	11
Residence Type		
Single family detached home	70%	83
Townhome	1%	1
Duplex or Triplex	23%	27
Apartment building	3%	3
Don’t know	1%	1
Prefer not to state	3%	4
Home Size (Square Feet)		
Less than 1,000	11%	13
1,001-1,500	41%	49
1,501-2,000	19%	23
2,001-2,500	13%	15
Greater than 2,500	3%	4
Don't know	8%	9
Prefer not to state	6%	7
Home ownership		
Own	75%	89
Rent	17%	20
Own and rent to someone else	7%	8
Prefer not to state	2%	2
Fuel Type for Home Heating		
Natural gas	48%	57
Electricity	45%	54
Other	1%	1
Don't know	5%	6
Prefer not to state	1%	1
Fuel Type for Water Heating		
Natural gas water heater	55%	66
Electric water heater	34%	41
Other	1%	1
Don't know	9%	11

Nearly half of the survey respondents have a graduate or professional degree, while 12% have either an associate degree (vocational/technical, or some college) and 26% have a four-year college degree. Respondents' income level varied, with most indicating they make between $50,000 and $150,000 per year. Ninety percent of the survey respondents live in a household size of one to four people living in the home year-round. Table 4-41 provides additional details about survey respondents' education, income, and household size.

TABLE 4-41 SURVEY RESPONDENTS' EDUCATION, INCOME, AND HOUSEHOLD SIZE

Response	Percentage of Respondents	Count
Respondent Education Level		
Less than high school graduate	1%	1
High school graduate	3%	1
Associates degree, vocational/technical school, or some college	12%	4
Four-year college degree	26%	14
Graduate or professional degree	49%	31
Don't know	1%	58
Prefer not to state	8%	1
Household Income		
Less than $10,000	2%	2
$10,000 to less than $20,000	2%	2
$20,000 to less than $30,000	4%	5
$30,000 to less than $40,000	6%	7
$40,000 to less than $50,000	3%	4
$50,000 to less than $75,000	14%	17
$75,000 to less than $100,000	11%	13
$100,000 to less than $150,000	11%	13
$150,000 to less than $200,000	8%	9
$200,000 or more	10%	12
Don't know	1%	1
Prefer not to state	29%	34
Household Size		
1	22%	26
2	47%	55
3	11%	13
4	10%	12
5	1%	1
6	3%	3
7	1%	1
8 or more	0%	0
Don't know	3%	3
Prefer not to state	3%	4

4.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY11 data were generally present in PY12.

The following bullets outline notes from reviewing the HPwES data:

- **Installation dates**: the Evaluators noted that installation dates were added in for PY12, but there were a few projects that were missing installation dates (5 projects unique by address);
- **Trade ally information**: In general, Trade Ally primary contact names, company names, contact phone numbers, and email addresses were provided in PY12 data, however, there were a handful of projects that were missing these fields:
  - **Trade ally primary contact name**: 4 projects unique by address (4 out of 2,611 projects)
  - **Trade ally main phone number**: 12 projects unique by address (12 out of 2,611)
  - **Trade ally email address**: 12 projects unique by address (12 out of 2,611)
- **Participant information**: In general, participant contact names, contact phone numbers, and email addresses were provided in PY12 data, however, there were many projects that were missing these fields:
  - **Participant primary contact name**: 5 projects unique by address (5 out of 2,611 projects)
  - **Participant main phone number**: 571 projects unique by address (571 out of 2,611)
  - **Participant email address**: 36 projects unique by address (36 out of 2,611)

In addition to the tracking data issues described above, the Evaluators noted that the measure naming convention for the LED lamps across the program may present slight confusion when distinguishing between the direct install lighting, the HESK lighting, and the LTN Kit lighting. Although the tracking data field 'Supplier Measure Description' had the word 'kit' for kit lighting projects, the Evaluators noted that further review was needed to distinguish between the HESK lighting and the LTN Kit lighting.

For example, the following are project measure descriptions for select direct install, HESK, and LTN Kit 9W A-Type lighting projects, respectively:

- LED 9W (A-Type)-60W Equivalent-ENO-ENO-HPwES
- Kit - LED 9W (A-Type)-60W Equivalent-Kit-ENO-HPwES
- LED 9W (A-Type)-60W Equivalent-Kit-ENO-HPwES-21

4.6 Findings and Conclusions

The following summarizes the key findings and conclusions for the evaluation.

- **Program changes included the addition of kits and community partnerships.** Lighting kits were implemented as a marketing strategy to generate leads for the program. A new partnership between Franklin and the Vietnamese Initiatives in Economic Training Organization was established in PY12. The partnership grew from a larger community outreach effort to engage populations who have historically had lower levels of participation due to language and other cultural barriers.
- **Program staff indicated market adoption for smart thermostats increased.** Staff observed that customers have shown an increased interest in smart thermostats, and they are fielding a variety of incentive-related questions. They also noted that opportunities for savings from lighting are likely to decrease as a result of EISA Phase II efficacy requirements. Staff indicated that plenty of opportunities for measure adoption remain.

- **Many trade allies indicated that current incentive rates are too low to encourage more customer adoption.** Among the trade allies interviewed (n=5), most (4 of the 5) indicated that they believe the rebates for smart thermostats, insulation, duct sealing, and AC tune-ups are too low to induce customer adoption. Regarding adding new measures to the residential programs, three trade allies suggested electric water heaters, mechanical ventilation work, and rewrapping metal duct work (or reinsulating metal duct work) added to the list of program-qualifying measures.
- **Most trade allies recommend high efficiency equipment regularly when working with customers.** All respondents indicated that customers experience barriers to purchasing and installing high efficiency equipment, primarily upfront project cost. Overall, residential programs and incentives are important for trade allies when recommending highly efficient equipment and encouraging customers to install recommended equipment.
- **Some trade allies indicated that the upcoming IEEC building code changes impacted their business.** Two trade allies noted the extra costs associated with the code change. In response to the code changes, one trade ally indicated they are educating their staff and stocking up on additional materials.
- **Program satisfaction varied among trade ally respondents.** Two of the five respondents were satisfied with the range of qualifying measures, incentive amounts, communication with staff, and the program overall, however the remaining three respondents were neutral, dissatisfied, or unsure. When asked about their dissatisfaction, one respondent mentioned frustration with the lack of consistency and transparency concerning incentive payment timelines, while another respondent noted that they would like to be able to do their own assessments to help with consistency and rapport with customers.
- **Some trade allies believe the paperwork process has improved.** Three of the five trade allies indicated that the paperwork process has improved since last year, by streamlining the application into one system, where trade allies can track invoices and payments.
- **Emails were common ways participants learned of the program, and they were motivated to participate to save on their energy bills**. Just over one-third (46 of 121) of survey participants learned about the program through an email (38%), followed by a bill insert or utility mailer. Respondents were most motivated to participate in the program in order to save money on their energy bills (28%), followed by conserving energy and/or protecting the environment (18%) and improving the comfort of their home (18%).
- **Just over half of the survey respondents had received an energy assessment through the program.** Most who received an assessment (n=72) were not planning to have one prior to learning about the program and found scheduling one easy. However, some respondents noted that it was difficult to some degree, mostly due to rescheduling or cancellations by program staff and contractors. Respondents who received a home energy assessment were generally satisfied with the process of scheduling those home energy assessments. Those who were dissatisfied with the assessments noted difficulty in scheduling the appointment and unpredictable cancellations as reasons for their dissatisfaction.
- **More than half of the respondents found the home energy assessment report to be helpful**. Those who indicated that their home energy report was not helpful (38 out of 60), noted that it did not yield new information, there was no follow-up from the contractor, or they have not seen any changes in their energy bills. Few respondents made all the recommendations from their home energy assessment report, while a majority made some but not all.

Of those who have not yet made some of the recommended energy efficient changes, insulation and sealing were among the most common outstanding improvements. Cost is the biggest prohibitor regarding why respondents have not gone forward with outstanding recommendations from their home energy assessment.

- **Most respondents were satisfied with the home improvements made through the program.** Among the unsatisfied respondents (19%), lack of follow up or incomplete work were their main complaints, followed by needing help installing measures and high energy bills. Eighty-eight percent of the respondents had Franklin as their installing contractor. Satisfaction rates by contractor were:
  - **Franklin (n=106):** 80% satisfied, 20% dissatisfied
  - **Contractors other than Franklin (n=15):** 87% satisfied, 13% dissatisfied
- The 23 respondents who were not satisfied listed the lack of follow up or incomplete work as the top reason for their dissatisfaction.
- **Respondents were generally satisfied with all aspects of the program.** Participants were most satisfied (76%, n=119) with the effort needed for the program application process and were least satisfied with the savings on their monthly utility bills. Respondents who indicated any level of dissatisfaction were most dissatisfied by the lack of follow-up and incomplete work and high energy bills.

4.7 Recommendations

The following summarizes key recommendations after completing the evaluation.

- **Consider changing the measure naming convention for LED lamps to help better distinguish kit projects.** HESK and LTN Kits are delivered differently and have different gross and net impacts. As such, the Evaluators recommend a modification in how the LED lamps in the kits are named in the 'Measure Description' and 'Supplier Measure Description' fields. This will help to quickly identify the LED measures at the start. It may be helpful to add in 'DI' for the direct install project descriptions, 'HESK' for the HESK project descriptions, and 'LTN' for the LTN project descriptions.
- **Consider screwing in the advanced power strips to a more permanent location in homes to improve in-service rates.** In similar programs, gross impacts improve when contractors have reported that they installed the APS more completely, by plugging in the peripherals for the customers, to promote the appropriate use of the device.
- **Consider conducting a focus group with nonparticipant and participant trade allies.** Program staff could host a focus group with nonparticipating and participating trade allies to better understand the barriers that customers face in installing various measures with low adoption rates. The focus group could help inform program staff of ways to improve the offering and reach customers who do not typically participate in HPwES.
- **Explore ways to follow up with customers to ensure their projects are completed to their satisfaction.** While most customers indicated satisfaction with their experience (81%), there were some respondents that indicated dissatisfaction with the program because of lack of follow-up from the contractors they worked with. It would be advantageous to develop a customer journey map to identify all points of contact with customers and ensure that there are quality control procedures in place at all points.

It may also be helpful to add a step to verify customer awareness of the home improvements completed through the program to ensure they understand what work was completed and what may require additional follow-up.

- **Offering ongoing training opportunities to participating trade allies can help them stay informed about the internal and external factors that will impact the program.** Participating trade allies will benefit from ongoing training opportunities to alert them of internal and external factors that will impact the offering (e.g., EISA backstop, SEER2 changes, Inflation Reduction Act, IECC building code changes, etc.). These training sessions can also provide an opportunity for program staff to learn from trade allies what trainings they would like to see offered in the future.
- **Utilize home energy assessment and/or installation visit to promote programs and behaviors that will help customers save more energy in their homes.** Approximately 26% of respondents who received an energy assessment were not asked if there were specific issues in their home they wanted to address or could not recall if they were asked. Additionally, 17% of surveyed respondents who received an assessment did not find the report to be helpful. Survey findings suggest the program has opportunities to provide customers with additional information.

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 PY12 IQW ENERGY SAVINGS (KWH)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
1.0 Bathroom Aerator	5,316	100%	5,312	100%	5,312
1.5 Kitchen Aerator	2,921	99%	2,893	100%	2,893
1.5 Showerhead	28,044	60%	16,689	100%	16,689
Air Infiltration	666,177	95%	634,339	100%	634,339
Ceiling Insulation	531,151	100%	532,441	100%	532,441
Duct Sealing	1,016,437	98%	996,850	100%	996,850
Indoor LED Lamp (Specialty)	155,796	109%	169,677	100%	169,677
Indoor LED Lamp (Standard)	205,752	107%	220,466	100%	220,466
Outdoor LED Lamp (Specialty)	160,395	89%	142,981	100%	142,981
Outdoor LED Lamp (Standard)	6,514	89%	5,807	100%	5,807
Pipe Insulation	9,991	87%	8,678	100%	8,678
Smart Thermostat	101,528	100%	101,566	100%	101,566
Advanced Power Strip (Tier 2)	245,796	94%	231,048	100%	231,048
Total	**3,135,817**	**98%**	**3,068,747**	**100%**	**3,068,747**

Sums may differ due to rounding.

TABLE 5-2 PY12 IQW DEMAND REDUCTIONS (KW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
1.0 Bathroom Aerator	0.55	101%	0.55	100%	0.55
1.5 Kitchen Aerator	0.31	99%	0.30	100%	0.30
1.5 Showerhead	2.92	60%	1.74	100%	1.74
Air Infiltration	337.99	95%	321.83	100%	321.83
Ceiling Insulation	1,546.27	87%	1,352.09	100%	1,352.09
Duct Sealing	374.49	98%	367.40	100%	367.40
Indoor LED Lamp (Specialty)	26.50	107%	28.27	100%	28.27
Indoor LED Lamp (Standard)	34.94	105%	36.61	100%	36.61
Outdoor LED Lamp (Specialty)	0.00	100%	0.00	100%	0.00
Outdoor LED Lamp (Standard)	0.00	100%	0.00	100%	0.00
Pipe Insulation	1.14	87%	0.99	100%	0.99
Smart Thermostat	0.00	100%	0.00	100%	0.00
Advanced Power Strip (Tier 2)	25.36	94%	23.84	100%	23.84
Total	**2,350.47**	**91%**	**2,133.62**	**100%**	**2,133.62**

Sums may differ due to rounding.

TABLE 5-3 PY12 IQW LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
1.0 Bathroom Aerator	10	53,125	53,125
1.5 Kitchen Aerator	10	28,928	28,928
1.5 Showerhead	10	166,893	166,893
Air Infiltration	11	6,977,728	6,977,728
Ceiling Insulation	20	10,648,821	10,648,821
Duct Sealing	18	17,943,297	17,943,297
Indoor LED Lamp (Specialty)	13	2,120,957	2,120,957
Indoor LED Lamp (Standard)	13	2,755,830	2,755,830
Outdoor LED Lamp (Specialty)	13	1,787,260	1,787,260
Outdoor LED Lamp (Standard)	13	72,585	72,585
Pipe Insulation	13	112,817	112,817
Smart Thermostat	11	1,117,231	1,117,231
Advanced Power Strip (Tier 2)	10	2,310,479	2,310,479
Total	**15**	**46,095,950**	**46,095,950**

Sums may differ due to rounding.

TABLE 5-4 PY12 IQW PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend ($)
1.0 Bathroom Aerator	87	$762
1.5 Kitchen Aerator	112	$791
1.5 Showerhead	99	$1,955
Air Infiltration	543	$407,952
Ceiling Insulation	986	$123,000
Duct Sealing	184	$229,854
Indoor LED Lamp (Specialty)	489	$380,470
Indoor LED Lamp (Standard)	647	$36,457
Outdoor LED Lamp (Specialty)	915	$47,390
Outdoor LED Lamp (Standard)	169	$8,957
Pipe Insulation	5	$351
Smart Thermostat	117	$728
Advanced Power Strip (Tier 2)	280	$51,800
1.0 Bathroom Aerator	714	$40,450
Total	**5,347**	**$1,330,917**

Sums may differ due to rounding.

5.2 Program Description

The Income Qualified Weatherization (IQW) program, implemented by Frankin, 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 200% the federal poverty 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 online scheduling tool or the Energy Smart call center when scheduling home energy assessment.

5.2.1 PROGRAM DELIVERY CHANNELS AND EXPECTED SAVINGS

The evaluation approach for PY12 included the following activities: database review, desk reviews, site visits, participant surveys, and trade ally interviews.

A total of 1,230 (986 assessments, 4,361 measures installed) households participated in IQW. Below, Figure 5-1 shows individual measure contribution as part of the overall offering expected savings.

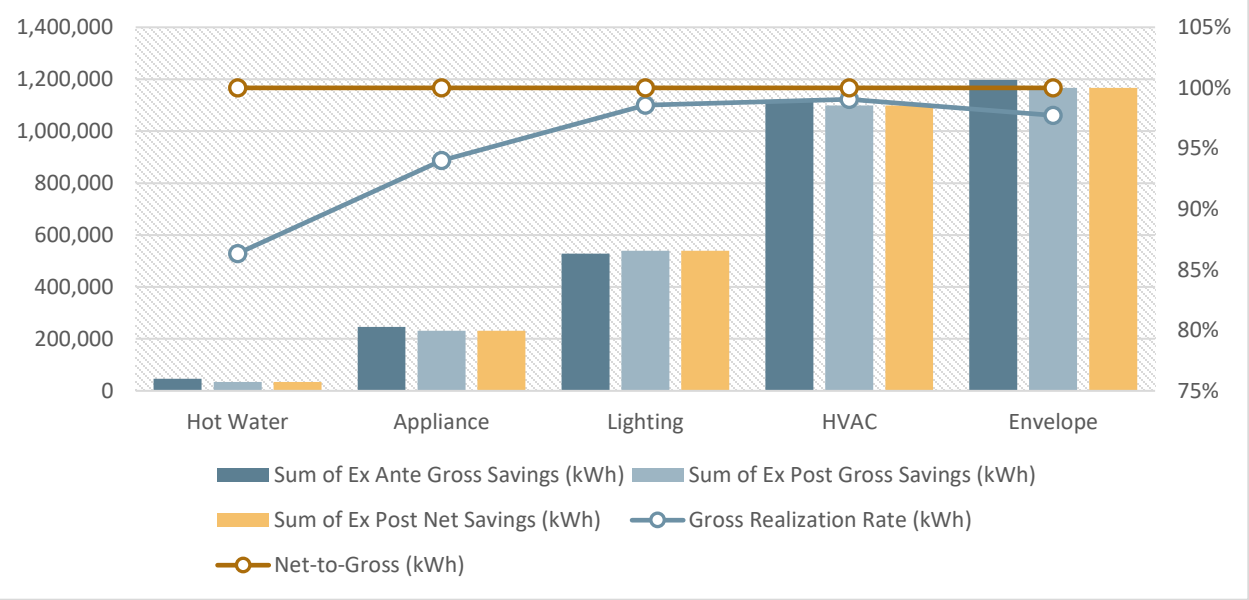


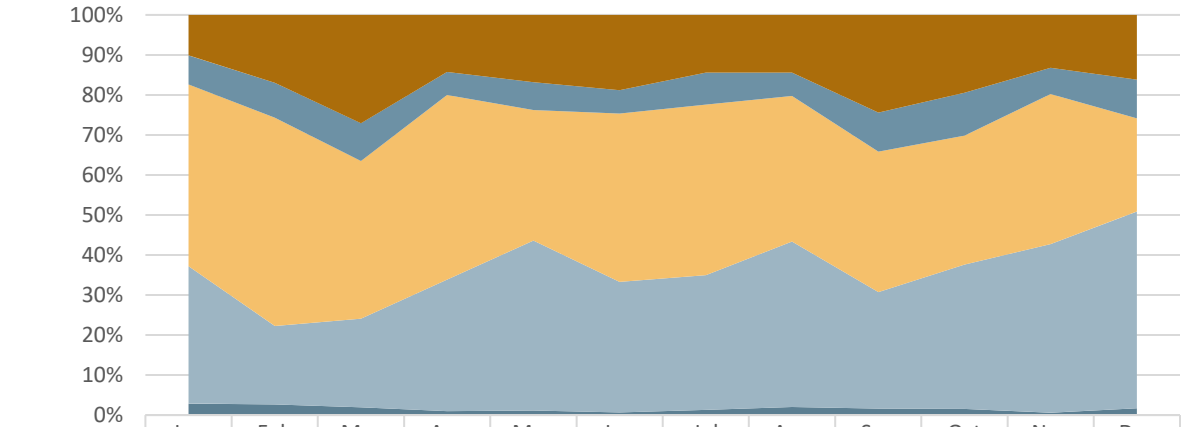
FIGURE 5-1 IQW SAVINGS CONTRIBUTION BY END USE

Envelope measures (air infiltration, attic insulation) contributes 38.2%, HVAC measures (Smart thermostat and duct sealing) contribute 35.7%, lighting measures (LED lamp) contribute 16.9%, appliance measures (advanced power strip) contribute 7.8%, and hot water measures (pipe wrap, aerator, showerhead) contribute 1.5% of expected savings. The bulk of PY12 energy savings (kWh) come from duct sealing and LED lamps.

Finally, in PY12 there were a total of 1,230 distinct homes accounting for 3,135,817 kWh of expected savings. Compared to the adjusted PY11 findings, the overall PY12 savings account for a significant increase of expected savings.

5.2.2 TIMING OF PROJECTS

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



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lighting	19,822	40,824	45,590	29,132	39,574	51,670	36,026	33,962	60,226	63,666	64,540	43,426
Appliances	14,136	20,899	15,875	11,681	16,292	16,086	19,981	13,833	23,977	35,044	32,171	25,822
Envelope	88,911	124,925	66,384	94,194	76,771	115,595	106,429	85,984	86,584	105,313	183,748	62,491
HVAC	67,209	47,142	37,245	67,097	100,090	89,571	84,188	97,591	71,648	118,139	206,352	131,693
Water	5,594	6,313	3,285	2,068	2,592	1,916	3,244	4,758	4,044	4,935	2,958	4,566

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

5.2.3 TRADE ALLIES

The IQW program had 14 participating trade allies in PY12. Thirteen of the reported trade allies perform weatherization work, including the following measures: duct sealing, attic 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 32% of the claimed savings. The top performing TA, not Franklin, installs air infiltration, attic 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	1,114,124	36%
Franklin	926,040	30%
TA 3	428,634	14%
TA 4	208,491	7%
TA 5	134,679	4%
TA 6	96,509	3%
TA 7	74,434	2%
TA 8	72,173	2%
TA 9	27,440	1%
TA 10	26,229	1%
TA 11	11,438	0%
TA 12	5,948	0%
TA 13	5,451	0%
TA 14	4,227	0%

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 PY12 IQW PERFORMANCE TOWARDS GOALS AND TARGETS

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post Gross* Savings (kW)
1,850,708	166%	3,068,747	623.00	342%	2,133.62

Sums may differ due to rounding.

5.3 EM&V Methodology

Impact savings were calculated using methods and inputs in the NO TRM V5.0 and incorporated results from historic on-site testing where appropriate.

5.3.1 SITE VISITS

The Evaluators performed 25 site visits on projects in the IQW program. The table below outlines the measures captured in site visits. Not noted below, several of these site visits also captured findings from the A/C Solutions program, where one home had two units each.

TABLE 5-7 SITE VISIT SUMMARY

Measure	PY12 Participant Count	Found in PY12 Site Visit
Advanced Power Strip (Tier 2)	593	9
Air Infiltration	144	20
Attic Insulation	10	12
Duct Sealing	222	14
Faucet Aerator	1,314	1
LED Lamp	6,006	21
Low flow Showerhead	663	1
Smart Thermostat	158	4
Water Heater Pipe Insulation	68	1

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

- Air Infiltration: During the site visits conducted in PY12, the Evaluators' field staff conducted blower door testing in 20 homes to validate post-retrofit home leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 95.20% of expected leakage reductions. That is, of 20 homes the Evaluators found that duct sealing CFM50_post results were 4.80% lower than those reported in tracking data.
- Duct Sealing: During the site visits conducted in PY12, the Evaluators' field staff conducted duct system pressurization testing in 20 homes to validate post-retrofit duct leakage estimates indicated in program tracking data. The resulting average post-retrofit leakage estimate was calculated as 102.40% of expected leakage reductions. That is, of 20 homes the Evaluators found that duct sealing CFM25_post results were 2.40% higher than those reported in tracking data.

Additional measure-specific impacts were derived from the PY12 participant survey.

ISR results are presented in the table below. LED lamps and duct sealing impacts are from site visits alone; the remaining result are from the PY12 participant survey or a blended approach. All results were benchmarked against similar programs in the region to ensure they are within industry standards.

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

TABLE 5-8 MEASURE-SPECIFIC GROSS IMPACTS FOR HPWES

Measure	In-Service Rate
1.0 Bathroom Aerator	94.0%
1.5 Kitchen Aerator	100.0%
1.5 Showerhead	100.0%
Air Infiltration	95.2%
Attic Insulation	100.0%
Duct Sealing	98.2%
Indoor LED Lamp (Specialty)	96.0%
Indoor LED Lamp (Standard)	96.0%
Outdoor LED Lamp (Specialty)	96.0%
Outdoor LED Lamp (Standard)	96.0%
Water Heater Pipe Insulation	96.0%
Smart Thermostat	100.0%
Advanced Power Strips (Tier 2)	94.0%

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 PY12 IQW aerators are summarized below. There were 127 1.0 GPM aerators installed in 87 residences. There were 113 1.5 GPM aerators installed in 112 residences.

TABLE 5-9 PY12 IQW EXPECTED AND VERIFIED AERATORS SAVINGS

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
8,237	8,205	100%	0.86	0.85	99%

5.4.1.2 Advanced Power Strip (Tier 2)

Expected and verified savings for advanced power strips are summarized below. There were 809 advanced power strips installed at 714 residences.

TABLE 5-10 PY12 IQW EXPECTED AND VERIFIED ADVANCED POWER STRIPS SAVINGS

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
245,796	231,048	94%	25.36	23.84	94%

5.4.1.3 Air Infiltration

Expected and verified savings for the air infiltration projects are summarized below. There were 543 air infiltration projects at the same number of residences.

TABLE 5-11 PY12 IQW EXPECTED AND VERIFIED AIR INFILTRATION SAVINGS

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
666,177	634,339	95%	337.99	321.83	95%

5.4.1.4 Attic Insulation

Expected and verified savings for the attic insulation projects are summarized below. Attic insulation was installed at 184 residences.

TABLE 5-12 PY12 IQW EXPECTED AND VERIFIED ATTIC INSULATION SAVINGS

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
531,151	532,441	100%	1,546.27	1,352.09	87%

5.4.1.5 Duct Sealing

Expected and verified savings for duct sealing projects are summarized below. Duct sealing was installed at 489 residences.

TABLE 5-13 PY12 IQW EXPECTED AND VERIFIED DUCT SEALING SAVINGS

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
1,016,437	996,850	98%	374.49	367.40	98%

5.4.1.6 LED Lamp (Direct Install)

Expected and verified savings for LED lamps are summarized below. There were 13,330 LED lamps installed 1,732 residences.

TABLE 5-14 PY12 IQW EXPECTED AND VERIFIED LEDS SAVINGS

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
528,456	538,930	102%	61.44	64.88	106%

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 117 residences.

TABLE 5-15 PY12 IQW EXPECTED AND VERIFIED PIPE WRAP SAVINGS

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
9,991	8,678	87%	1.14	0.99	87%

5.4.1.8 Low flow Showerhead

Expected and verified savings for low flow showerheads are summarized below. There were 129 low flow showerheads installed in 99 residences.

TABLE 5-16 PY12 IQW EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

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
28,044	16,689	60%	2.92	1.74	59%

5.4.1.9 Smart Thermostat

Expected and verified savings for smart thermostats are summarized below. There were 296 smart thermostats installed at 280 residences.

TABLE 5-17 PY12 IQW EXPECTED AND VERIFIED SMART THERMOSTATS SAVINGS

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
101,528	101,566	100%	0.00	0.00	N/A

5.4.1.10 Avoided Replacement Cost

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarize the ARC by measure in IQW.

Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 5-18 SUMMARY OF ARC

Measure	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	*NPV of* ARCs ($)
Indoor LED Lamp (Specialty)	$17,851	$17,851	$17,851
Indoor LED Lamp (Standard)	$24,308	$24,308	$24,308
Outdoor LED Lamp (Specialty)	$2,469	$2,469	$2,469
Outdoor LED Lamp (Standard)	$86	$86	$86
Total	**$44,714**	**$44,714**	**$44,714**

Sums may differ due to rounding.

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 5-19 summarizes the program net impacts of the IQW Program.

TABLE 5-19 IQW PROGRAM NET SAVINGS

Verified Gross kWh Savings	Verified Net kWh Savings	kWh NTG	Verified Gross kW Reductions	Verified Net kW Reductions	kW NTG
3,068,747	3,068,747	100%	2,133.62	2,133.62	100%

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 full process evaluation. Table 5-20 summarizes the process evaluation activities for the IQW program.

TABLE 5-20 IQW DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Impact	Process
Staff & TPI Interviews	2		X
Database Reviews	Census	X	X
Trade Ally Interviews	6		X
Participant Surveys	69	X	X
Site Visits	25	X	
Desk Reviews	Census	X	

The general approach to evaluating savings for the IQW mirrors that of the HPwES program in using a combining a deem-and-count approach stratified by space heating fuel.

5.4.3.1 Staff and Implementer Interviews

The following section summarizes the key findings from in-depth interviews with two ENO program staff members and two implementation staff (one from Franklin and one from APTIM). These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams

platform. The evaluators recorded all interviews with participant permission. Much of the findings for the program design and operations for residential programs, including IQW, are presented in Section 4.4.3.1. The following narrative summarizes findings specific to IQW.

5.4.3.1.1 *Program Operations*

The program is currently on pace to meet their goals, according to Franklin staff at the time of the interview. Staff noted that this year they have seen an uptick in customer engagement and interest in the program. To help accommodate with increased engagement, Franklin pushed their typical 60-day scheduling window out further and opened the schedule for the next program year. They indicated this will help to avoid having to put customers on the wait list.

The new partnership with the Vietnamese Initiatives in Economic Training organization also benefited the IQW program. This partnership provides an opportunity to increase program participation among low-income customers within the Vietnamese community.

5.4.3.2 Trade Ally Interviews

There is quite a bit of overlap in participating trade allies between HPwES and IQW. The trade ally interview findings in Section 4.4.3.4 are applicable.

5.4.3.3 Participant Survey Findings

5.4.3.3.1 *Methodology*

The Evaluators conducted a survey with customers who participated in the IQW program, to gain insight into customer satisfaction and feedback. Customers were contacted through email to complete the survey, 635 were contacted and 69 completed it. The survey was launched in October 2022 and is open for two weeks. The following sections summarize those responses**.** The precision of the survey is +/- 9.8% at the 10% level of confidence.

TABLE 5-21 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of Customers contacted by email	635
Undeliverable emails	71
Completed	69
Incentives paid	$1,750
Response rate	12%

5.4.3.3.2 *Program Awareness and Motivation*

Thirty-one percent of IQW survey respondents learned about the program through the website, followed by 23% who heard of the program through word-of-mouth referrals (family, friends, or colleagues), and 12% from an email (Figure 5-3).

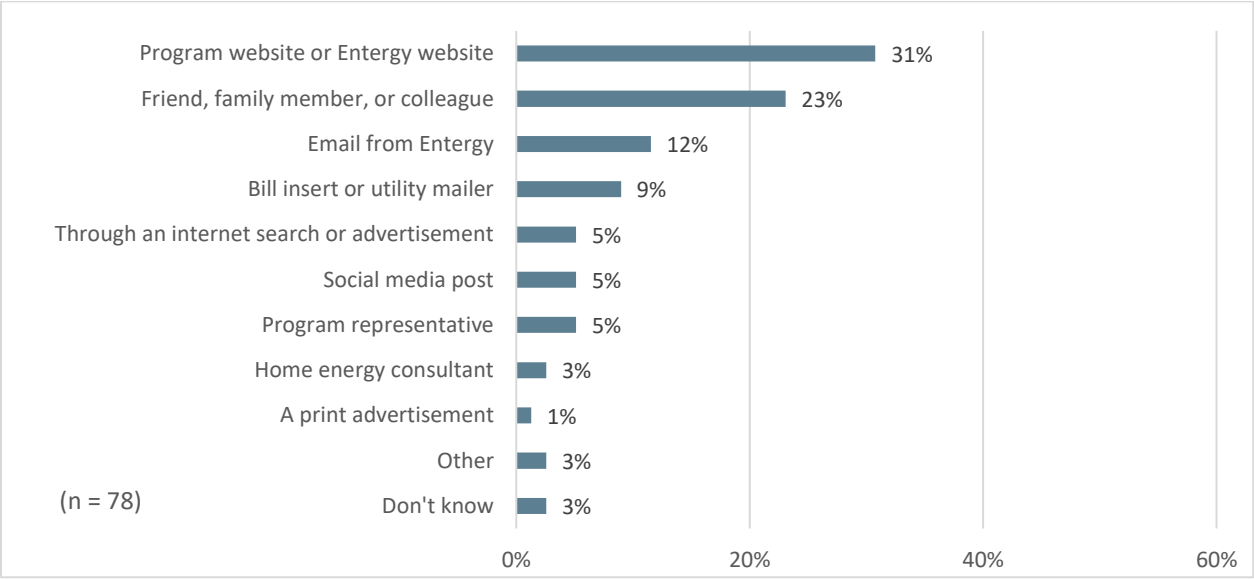


FIGURE 5-3 PROGRAM AWARENESS

IQW participants indicated that saving on their monthly utility bills was the number one motivator to participate, followed by improving the comfort of their home and conserving energy (Table 5-22).

TABLE 5-22 MOTIVATION FOR PARTICIPATION

Response	Percent of Survey Respondents (n = 69)
Save money on energy bills	87%
Improve the comfort of your home	6%
Conserve energy/ Protect the environment	3%
Protect the environment	1%
All the above	1%
Don't know	1%

5.4.3.3.3 *Program Experience*

Among participants who completed the survey, twenty had air infiltration performed, followed by 16 who had duct sealing, 14 who had a smart thermostat installed and nine who had attic insulation completed (Table 5-23).

TABLE 5-23 IMPROVEMENTS MADE THROUGH THE PROGRAM

Response	Count of Respondents
Air infiltration	20
Duct sealing	16
Smart thermostat	14
Attic insulation	9

Among the survey respondents who had LED lamps installed as part of the program, five indicated that the some of the bulbs had been removed since they were initially installed. Two indicated that they had stopped working, one noted they flickered, and two others gave additional responses including “use too much wattage” and “was told new bulbs save energy”, as reasons for removing the lights bulbs (Table 5-24).

TABLE 5-24 REASONS FOR REMOVING LED LIGHT BULBS

Response	Percentage of Respondents (n =5)
Bulbs stopped working	40%
Bulbs flickered	20%
Bulbs used too much wattage	20%
Did not save enough energy	20%

Among the five survey respondents who had showerheads installed in their home, one respondent indicated that they have since removed the showerhead because not enough water came out. Among the 45 participants who had an advanced power strip installed, six indicated that they have removed it. However, upon further analysis three people indicated they never received the power strips. Two indicated that the power strip did not work properly, and another participant indicated that the power turned off while the equipment was plugged into the power strip (Table 5-25).

TABLE 5-25 REASONS FOR REMOVING ADVANCED POWER STRIP

Response	Percentage of Respondents (n = 6)
Did not receive or never installed	50%
Damaged/didn't work right	33%
The power turned off while using equipment that was plugged in	17%

Fifty-three survey respondents had an energy assessment done through the program provided feedback on the process to schedule those assessments. Most (77%) indicated that the process was easy, to some degree, with four respondents indicating that it was difficult to some degree. Two respondents noted that someone else scheduled the assessment for them (see Figure 5-4).

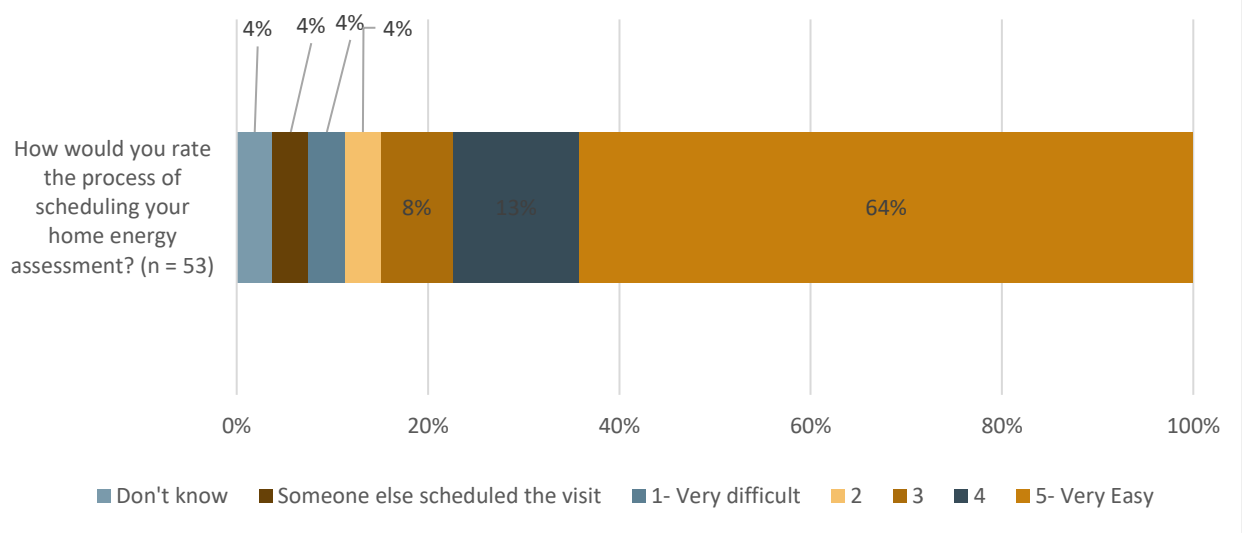


FIGURE 5-4 EASE OF SCHEDULING HOME ENERGY ASSESSMENT

The four respondents who indicated that the process to schedule the assessment, was difficult, noted poor communication and customer service, long wait times, and unavailable or flakey personnel, as reasons for their dissatisfaction.

Among the 53 surveyed IQW participants, many indicated that the assessor went over specific issues that the participant wanted to address, provided an energy assessment report with recommendations, discussed potential energy savings by implementing those recommendations, and installed energy efficiency measures on the same day. However, it should be noted that about 20% of respondents indicated that the assessor did not install the energy efficient measures on the day of the assessment (Figure 5-5).

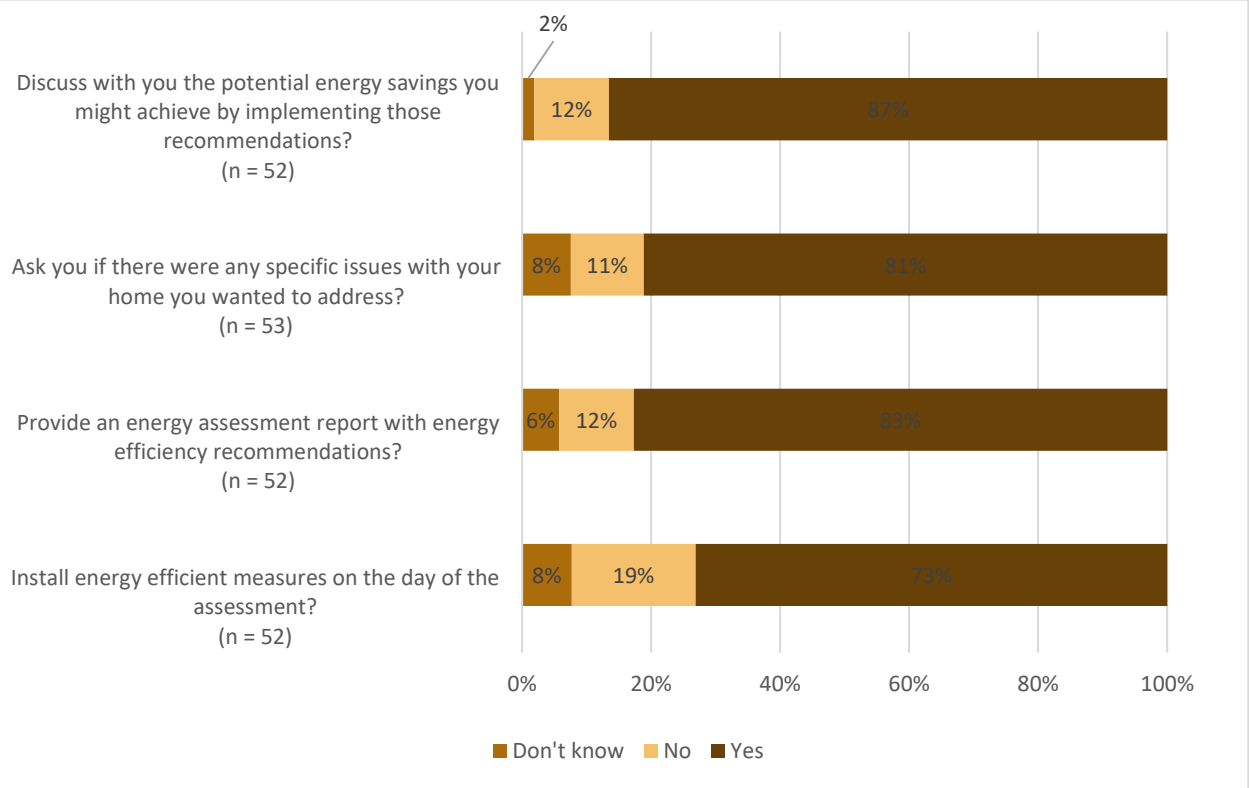


FIGURE 5-5 INFORMATION COVERED IN HOME ENERGY ASSESSMENT

Among those 43 respondents who received a home energy assessment report, 82% found the report was helpful to some degree (Figure 5-6). Nine percent of respondents indicated that the report was not at all helpful. Among those who provided feedback as to why they found the report unhelpful, one indicated that the report did not yield any new information and the other stated that their energy bills were still high.

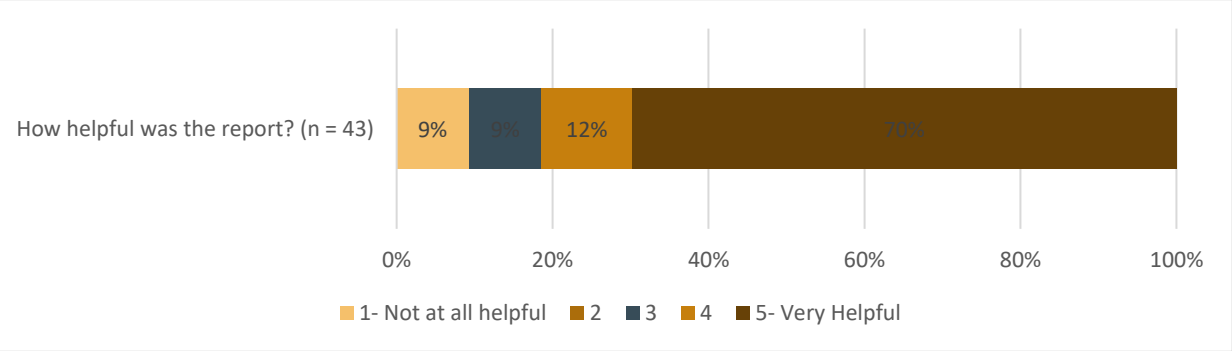


FIGURE 5-6 HELPFULNESS OF HOME ENERGY ASSESSMENT

5.4.3.3.4 *Program Satisfaction*

Three-fourths of survey respondents (75%) were satisfied with the home improvements done through the IQW, while 25% were not satisfied (Table 5-26). Among the survey respondents who had Franklin as their contractor, 28% were not satisfied with the home improvements (Table 5-26).

TABLE 5-26 SATISFACTION WITH HOME IMPROVEMENT PROJECT

Response	% of All Respondents (n = 69)	% of Respondents with Franklin as TA (n = 55)
Satisfied	75%	72%
Not satisfied	25%	28%

Among customers who were not satisfied with their home improvement project, they noted incomplete work, messy contractors, missing measures, and high energy bills, as reasons for their dissatisfaction (Figure 5-7). Of the 17 respondents who indicated dissatisfaction, 88% said Franklin was their contractor who completed the home improvement project.

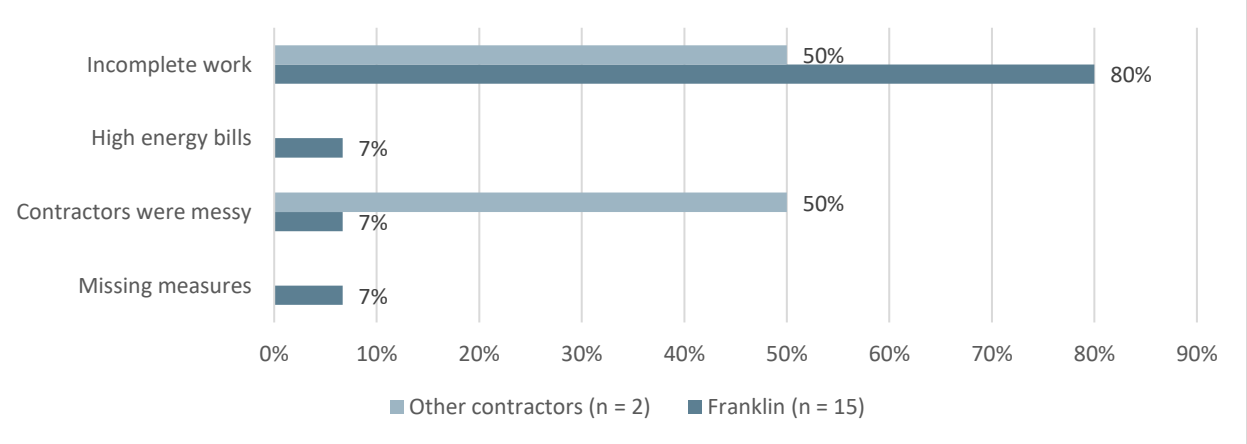


FIGURE 5-7 REASONS FOR DISSATISFACTION

Fifty-five percent of the 69 survey respondents were very satisfied with the program overall and 14% were somewhat satisfied (Figure 5-8).

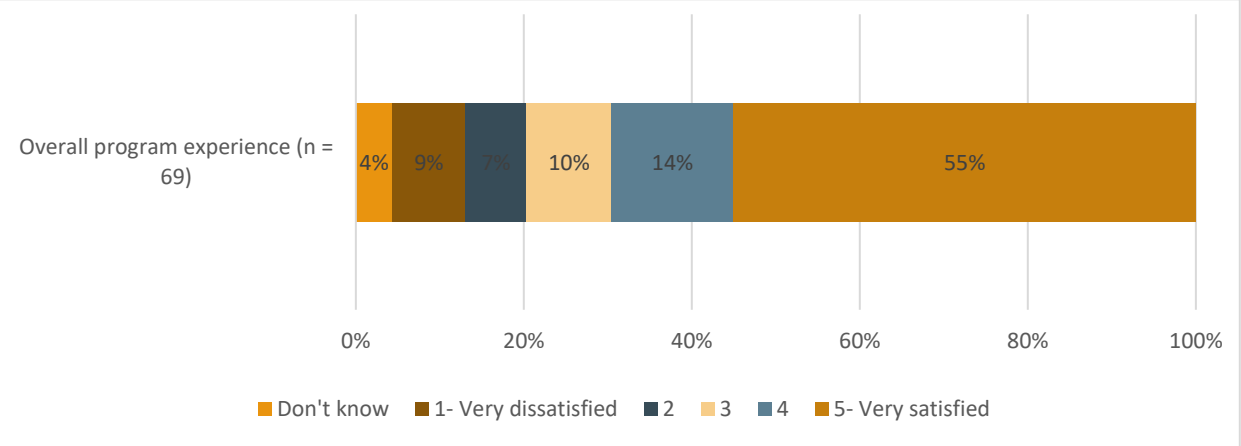


FIGURE 5-8 OVERALL SATISFACTION WITH IQW

Eighty-one percent of respondents were satisfied with the effort required for the application process, followed by 80% who were satisfied with the interactions with program staff. It should be noted that survey participants were least satisfied the savings on their monthly utility bills, with 32% indicating they were either somewhat or very satisfied (Figure 5-9).

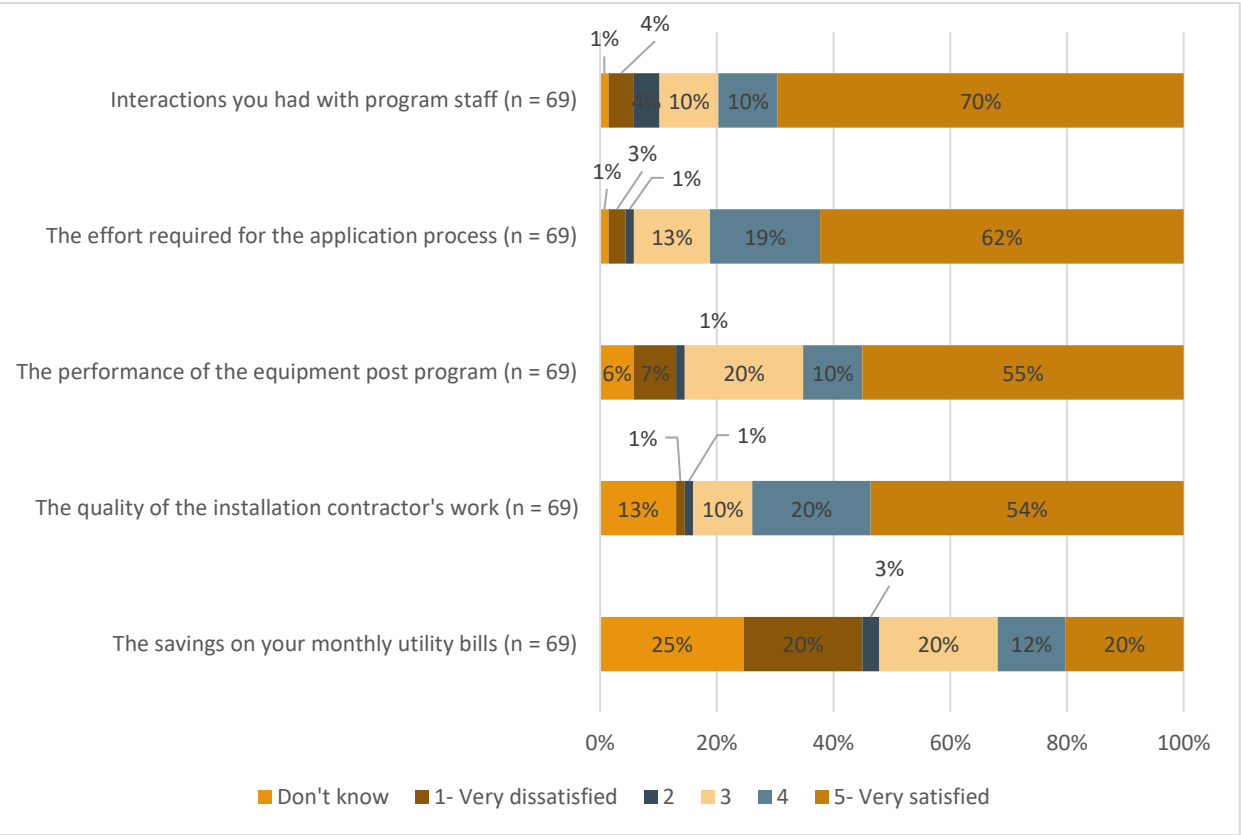


FIGURE 5-9 SATISFACTION WITH COMPONENTS OF IQW

Seventeen respondents provided feedback about why they were dissatisfied with various elements of the program or their experience. Forty-one percent were expecting lower energy bills upon completion of their home improvement project, 18% were dissatisfied because of incomplete work, 12% reported non-functioning measure(s), and 6% were not happy with the time it took to complete the work (Table 5-27).

TABLE 5-27 REASONS FOR PROGRAM DISSATISFACTION

Response	Percentage of Respondents (n = 17)
High energy bills	41%
Incomplete work	18%
Measures did not work	12%
Time it took to complete work	6%
Other reasons	24%

Among IQW surveyed participants, 54 spoke to the measure installations in the assessment. Survey participants were generally satisfied with the overall program experience. Regarding scheduling the home assessment with Franklin and the subsequent installation of direct install measures, respondents were generally satisfied. Additionally, of those same respondents, over half were satisfied to some degree, with the quality of work. Figure 5-10 provides additional information about participants' experiences.

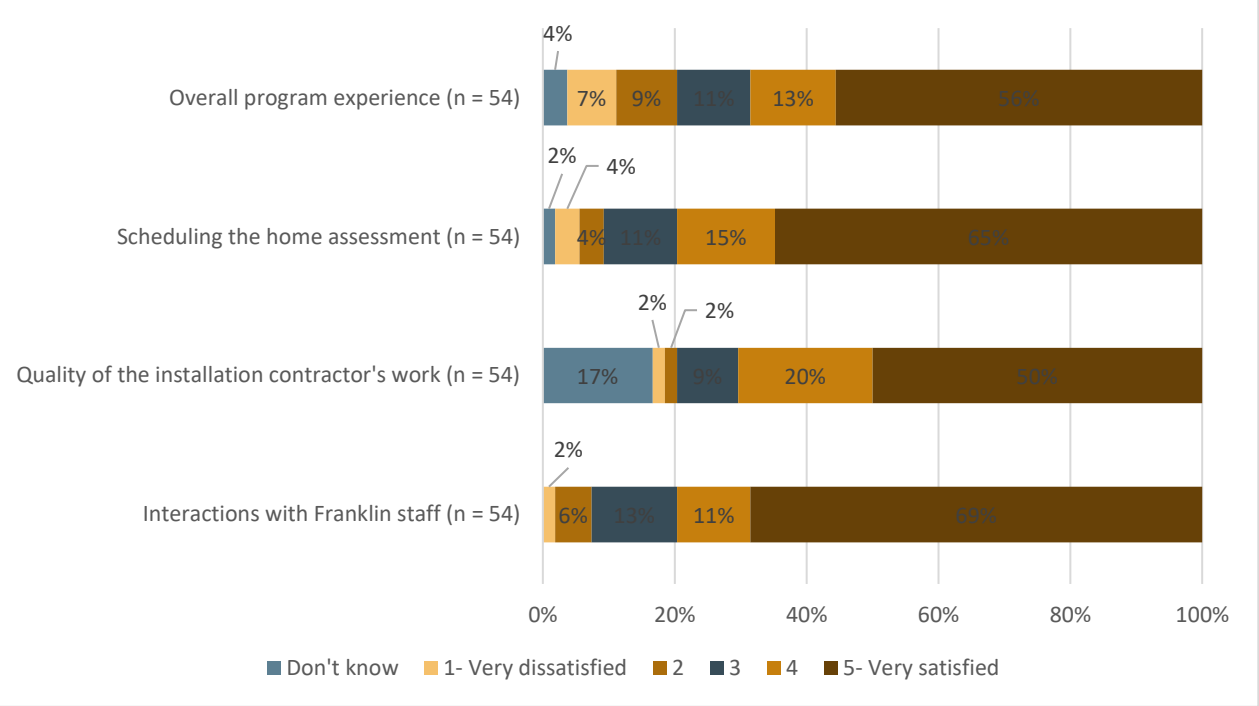


FIGURE 5-10 INTERACTIONS WITH FRANKLIN STAFF

16% were dissatisfied with their overall program experience with Franklin assessment staff, 8% were dissatisfied with their interactions with Franklin, 8% were dissatisfied with scheduling their home assessment, and 4% were dissatisfied with the quality of the work performed. Those who indicated dissatisfaction with Franklin noted incomplete work, measures that were not functioning correctly, and high energy bills (Table 5-28).

TABLE 5-28 REASONS FOR DISSATISFACTION (FRANKLIN)

Response	Percentage of Respondents (n = 13)
Incomplete work	23%
Measures don't work	15%
High energy bills	38%
Other	23%

Less than half of the survey respondents (42%) are satisfied with ENO as their electricity service provider. Thirty percent of respondents indicated dissatisfaction (see Figure 5-11).

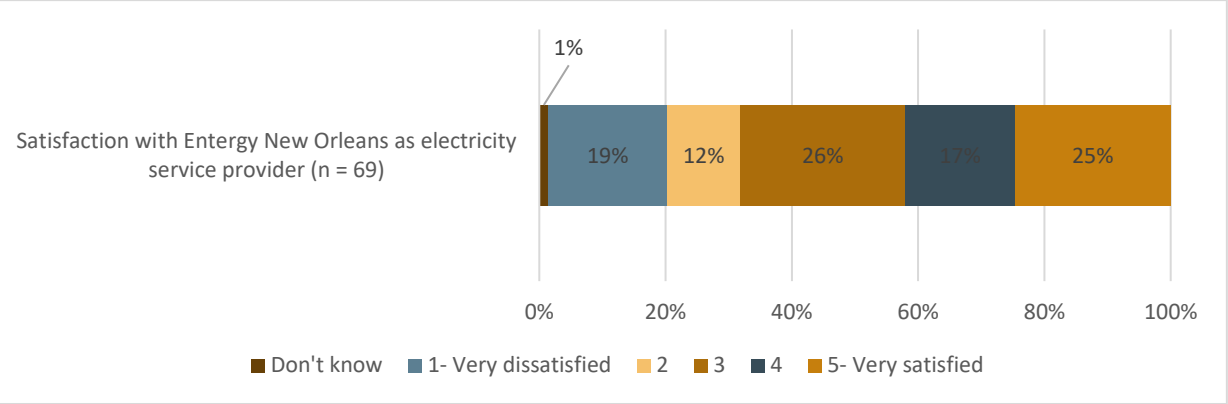


FIGURE 5-11 SATISFACTION WITH ENO AS ELECTRICITY PROVIDER

5.4.3.3.5 *Respondent and Residence Characteristics*

Most survey respondents reported living in a detached, single-family home and that they own their home. More than half of survey respondents rely on electricity to heat their home, while 37% use natural gas. Ninety-one percent of respondents have a central air conditioning system, and of that, 15% indicated that system is a heat pump. Table 5-29 provides a more detailed summary of home characteristics.

TABLE 5-29 RESIDENCE CHARACTERISTICS

Response	Percentage of Survey Respondents	Count
Year Home was Built		
Before 1970s	34%	23
1970 -1979	21%	14
1980 -1989	13%	9
1990 -1999	3%	2
2000-2009	9%	6
2010 - 2019	6%	4
2020 or newer	13%	9
Prefer not to state	1%	1
Residence Type		
Single family detached home	75%	50
Townhome	4%	3
Duplex or Triplex	18%	12
Apartment building	3%	2
Home Size (Square Feet)		
Less than 1,000	6%	4
1,001-1,500	16%	11
1,501-2,000	26%	18
2,001-2,500	25%	17
Greater than 2,500	7%	5
Don't know	19%	13
Fuel Type for Home Heating		
Natural gas	37%	25
Electricity	57%	38
Don't heat the home	1%	1
Don't know	4%	3
Fuel Type for Water Heating		
Natural gas water heater	55%	37
Electric water heater	31%	21
Other	3%	2
Don't know	7%	5
Prefer not to state	3%	2

Most survey respondents reported living in a household of one to three persons. Ninety-one percent of survey respondents were below 200% of the federal poverty line based on their household size, while 9% indicated they were above (survey respondents who refused to answer were removed from this analysis). Many respondents indicated they have an associate degree/vocational/technical school, or some college; 15% of respondents indicated they have a four-year college degree. Table 5-30 summarizes respondents' demographics.

TABLE 5-30 RESPONDENT DEMOGRAPHICS

Response	Percentage of Respondents	Count
Respondent Education Level		
Less than high school	3%	2
High school graduate	26%	17
Associates degree, vocational/technical school, or some college	33%	22
Four-year college degree	15%	10
Graduate or professional degree	6%	4
Prefer not to state	17%	11
Household Size		
1	24%	16
2	33%	22
3	15%	10
4	9%	6
5	8%	5
Prefer not to state	11%	7
Annual Gross Income Based on Household Size		
Less than 200% of Federal Poverty Level	69%	41
More than 200% of Federal Poverty Level	7%	4
Prefer not to state	24%	14

5.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY11 data were generally present in PY12. 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 PY12 data, however, there were a handful of projects that were missing these fields:
  - **Trade ally primary contact name**: 4 projects unique by address (4 out of 1,221 projects)
  - **Trade ally main phone number**: 33 projects unique by address (33 out of 1,221)
  - **Trade ally email address**: 33 projects unique by address (33 out of 1,221)
- **Participant information**: In general, participant contact names, contact phone numbers, and email addresses were provided in PY12 data, however, there were many projects that were missing these fields:
  - **Participant main phone number**: 201 projects unique by address (201 out of 1,221)
  - **Participant email address**: 8 projects unique by address (8 out of 1,221)
- **Measure-level parameters**: the following is an outline of missing or problematic parameters needed for savings calculations by measure:
  - **Duct sealing**: there were 9 projects unique by address that had problematic SEER values that were < 9 or > 100.
  - **LED lamp**: there were 2 projects unique by address that had missing home heating / cooling types.

5.6 Findings and Conclusions

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **The Vietnamese Initiatives in Economic Training Organization partnership was key, with more community-based organizations coordination planned.** This year, Franklin partnered with the Vietnamese Initiatives in Economic Training organization, as part of a larger community outreach effort, especially with groups who oftentimes have a language barrier, and/or low program participation rates.
- **Program staff have seen an uptick in participation this year.** To accommodate for the increased interest, staff opened the typical 60-day scheduling period, into 2023, to avoid having to put customers on a waitlist.
- **The program website was the most common way participants learned of the program.** Thirty-one percent learned about the program through the website, followed by word of mouth (23%). IQW participants indicated that saving on their monthly utility bills was the number one motivator to participate, followed by improving the comfort of their home and conserving energy.
- **Survey respondents reported higher dissatisfaction.** Program staff hypothesized that this dissatisfaction stems from minimal changes in participants' energy bills (irrespective of equipment upgrades) as bill impacts could be defrayed by rate increases that had occurred and customers do not see their own billing-counterfactual (i.e., what their bill would have been without the retrofit).
- **Most participants found scheduling the home energy assessment easy and were satisfied with the home improvements made through the program**. Participants were most dissatisfied with the savings on their energy bills after completing upgrades through the program. Respondents were also dissatisfied with the amount of incomplete work, non-functional measures, and the time it took to complete the improvements. Less than half of surveyed program participants were satisfied with their electricity service provider.

5.7 Recommendations

The following summarizes key recommendations after completing the evaluation.

- **Consider screwing in the advanced power strips to a more permanent location in homes to improve installation rates.** Installation rates improve when contractors have reported that they installed the APS more completely, by plugging in the peripherals for the customers, to promote the appropriate use of the device.
- **Implement recommendations made for the HPwES program.** Since both programs share similar designs and encountered common issues, it would be prudent to explore opportunities to implement the HPwES recommendations. For instance, developing a customer journey map, ensuring prompt customer follow-up, and making better use of home energy assessments could improve the effectiveness and efficiency of the program.

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.

TABLE 6-1 PY12 RLA ENERGY SAVINGS (KWH)

Measure	Ex Ante Gross Savings (kWh)	Realization Rate (kWh)	Ex Post Gross Savings (kWh)	NTG	Ex Post Net Savings (kWh)
1.0 Bathroom Aerator	5,359	73%	3,911	92%	3,598
1.5 Kitchen Aerator	1,983	73%	1,447	92%	1,331
1.5 Showerhead	17,556	79%	13,869	94%	13,037
Dehumidifier	1,073	96%	1,031	100%	1,031
LED Lamp Giveaway (9W A19)	65,600	125%	81,768	65%	53,149
Heat Pump Water Heater	11,369	99%	11,263	74%	8,362
Indoor LED Lamp (Specialty)	5,785,480	123%	7,112,767	61%	4,348,812
Indoor LED Lamp (Standard)	8,865,322	124%	11,018,274	61%	6,731,053
Nest Power Connector	0	100%	0	NA	0
Outdoor LED Lamp (Specialty)	40,974	115%	47,038	74%	34,808
Pipe Insulation	2,456	42%	1,032	88%	908
Pool Pump	28,865	102%	29,349	100%	29,349
Refrigerator Replacement	5,338	93%	4,953	29%	1,436
Smart Thermostat Sensor	0	100%	0	NA	0
Smart Thermostat Trim Kit	0	100%	0	NA	0
Smart Thermostat Wall Plate	0	100%	0	NA	0
Smart Thermostat Wire Adapter	0	100%	0	NA	0
Smart Thermostat	1,563,737	94%	1,470,470	89%	1,308,718
Advanced Power Strip (Tier 1)	8,900	65%	5,785	72%	4,165
Water Cooler	482	98%	472	53%	250
Window Air Conditioner	3,685	96%	3,520	73%	2,570
Total	**16,408,179**	**121%**	**19,806,949**	**63%**	**12,542,577**

Sums may differ due to rounding.

TABLE 6-2 PY12 RLA DEMAND REDUCTIONS (KW)

Measure	Ex Ante Gross Reductions (kW)	Realization Rate (kW)	Ex Post Gross Reductions (kW)	NTG	Ex Post Net Reductions (kW)
1.0 Bathroom Aerator	0.55	74%	0.41	92%	0.48
1.5 Kitchen Aerator	0.21	73%	0.15	92%	0.37
1.5 Showerhead	1.82	79%	1.44	94%	0.14
Dehumidifier	0.24	96%	0.23	100%	9.03
LED Lamp Giveaway (9W A19)	11.20	124%	13.89	65%	801.93
Heat Pump Water Heater	1.00	99%	0.99	74%	1,241.61
Indoor LED Lamp (Specialty)	979.50	134%	1,311.61	61%	0.00
Indoor LED Lamp (Standard)	1,505.39	135%	2,032.44	61%	0.10
Nest Power Connector	0.00	100%	0.00	NA	1.36
Outdoor LED Lamp (Specialty)	0.00	100%	0.00	74%	0.00
Pipe Insulation	0.28	42%	0.12	88%	0.00
Pool Pump	5.75	103%	5.94	100%	0.00
Refrigerator Replacement	0.77	93%	0.72	29%	0.73
Smart Thermostat Sensor	0.00	100%	0.00	NA	5.94
Smart Thermostat Trim Kit	0.00	100%	0.00	NA	0.23
Smart Thermostat Wall Plate	0.00	100%	0.00	NA	0.21
Smart Thermostat Wire Adapter	0.00	100%	0.00	NA	0.03
Smart Thermostat	0.00	100%	0.00	89%	1.53
Advanced Power Strip (Tier 1)	1.02	65%	0.66	72%	0.48
Water Cooler	0.05	98%	0.05	53%	0.37
Window Air Conditioner	2.12	99%	2.09	73%	0.14
Total	**2,509.90**	**134%**	**3,370.75**	**61%**	**2,063.69**

Sums may differ due to rounding.

TABLE 6-3 PY12 RLA LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
1.0 Bathroom Aerator	10	39,107	35,978
1.5 Kitchen Aerator	10	14,470	13,312
1.5 Showerhead	10	138,690	130,368
Dehumidifier	11	11,341	124,751
LED Lamp Giveaway (9W A19)	13	1,022,104	664,368
Heat Pump Water Heater	10	112,626	83,625
Indoor LED Lamp (Specialty)	13	88,909,590	54,360,145
Indoor LED Lamp (Standard)	12	137,728,429	84,138,157
Nest Power Connector	NA	0	0
Outdoor LED Lamp (Specialty)	13	587,971	435,099
Pipe Insulation	13	13,410	11,801
Pool Pump	10	293,490	293,490
Refrigerator Replacement	17	84,204	24,419
Smart Thermostat Sensor	NA	0	0
Smart Thermostat Trim Kit	NA	0	0
Smart Thermostat Wall Plate	NA	0	0
Smart Thermostat Wire Adapter	NA	0	0
Smart Thermostat	11	16,175,169	14,395,900
Advanced Power Strip (Tier 1)	10	57,849	41,651
Water Cooler	10	4,722	2,502
Window Air Conditioner	11	36,962	26,982
Total	**12**	**245,230,133**	**154,782,549**

Sums may differ due to rounding.

TABLE 6-4 PY12 RLA COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend ($)
1.0 Bathroom Aerator	60	$120
1.5 Kitchen Aerator	50	$148
1.5 Showerhead	54	$505
Dehumidifier	9	$225
LED Lamp Giveaway (9W A19)	21	$6,414
Heat Pump Water Heater	12	$4,800
Indoor LED Lamp (Specialty)	3,814	$315,239
Indoor LED Lamp (Standard)	3,144	$519,508
Nest Power Connector	9	$0
Outdoor LED Lamp (Specialty)	35	$660
Pipe Insulation	38	$388
Pool Pump	11	$3,300
Refrigerator Replacement	96	$4,800
Smart Thermostat Sensor	4	$0
Smart Thermostat Trim Kit	193	$0
Smart Thermostat Wall Plate	128	$0
Smart Thermostat Wire Adapter	5	$0
Smart Thermostat	3,252	$454,603
Advanced Power Strip (Tier 1)	122	$2,366
Water Cooler	1	$50
Window Air Conditioner	43	$2,250
Total	**11,101**	**$1,315,375**

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 is managed by Franklin. The RLA offering provides Point-of-Purchase (PoP) discounts for LED lamp), as well as mail-in rebates (downstream rebates) for refrigerator, window AC, pool pump, smart thermostat, 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:

- Giveaway LED Lamp (9W A19)
- Indoor LED Lamp (Specialty)
- Indoor LED Lamp (Standard)
- Outdoor LED Lamp (Specialty)
- ENERGY STAR Smart Thermostat
- ENERGY STAR Pool Pump
- ENERGY STAR Dehumidifier
- ENERGY STAR Water Cooler
- ENERGY STAR Window AC
- ENERGY STAR Heat Pump Water Heater
- Refrigerator Replacement
- Online Marketplace (OLM) measures:
    - Advanced Power Strip (Tier 1)
    - Aerator (1.0 GPM)
    - Aerator (1.5 GPM)
    - Pipe Insulation
    - Showerhead (1.5 GPM)
    - Smart Thermostat Accessories
    - Nest Power Connector

6.2.1 PROGRAM DELIVERY CHANNELS AND EXPECTED SAVINGS

The evaluation approach for PY12 included the following activities: database review, desk reviews, participant surveys, and staff interviews.

A total of 3,174 households (11,101 measures) participated in RLA. Below, Figure 5-1 shows end use contribution as part of the overall expected savings.

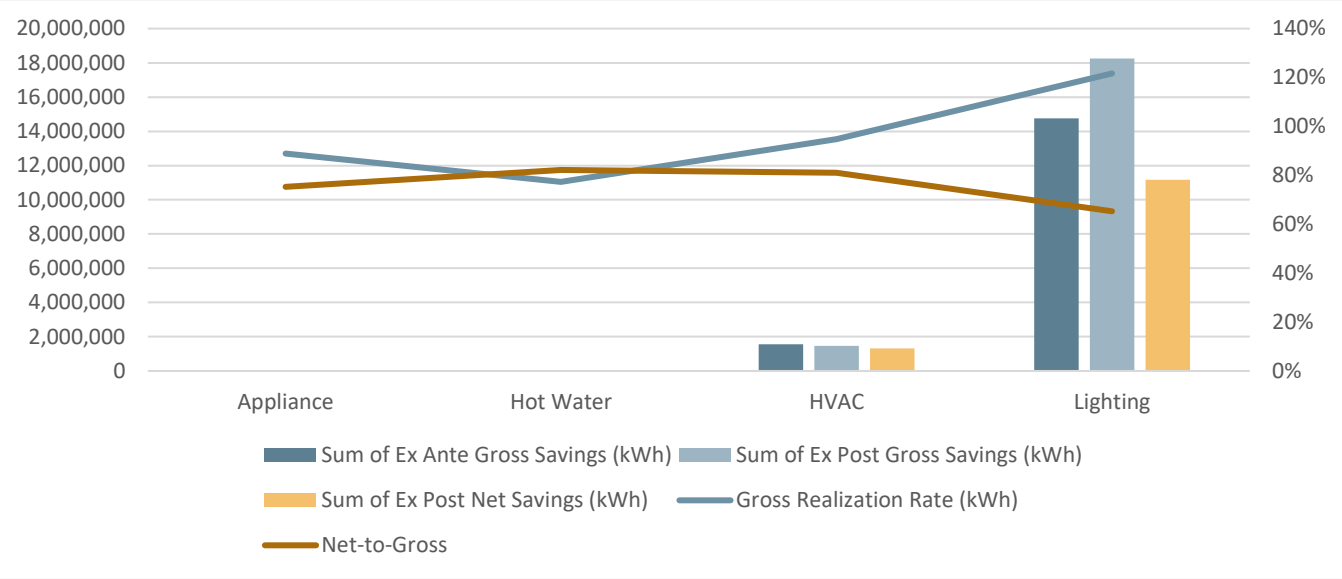
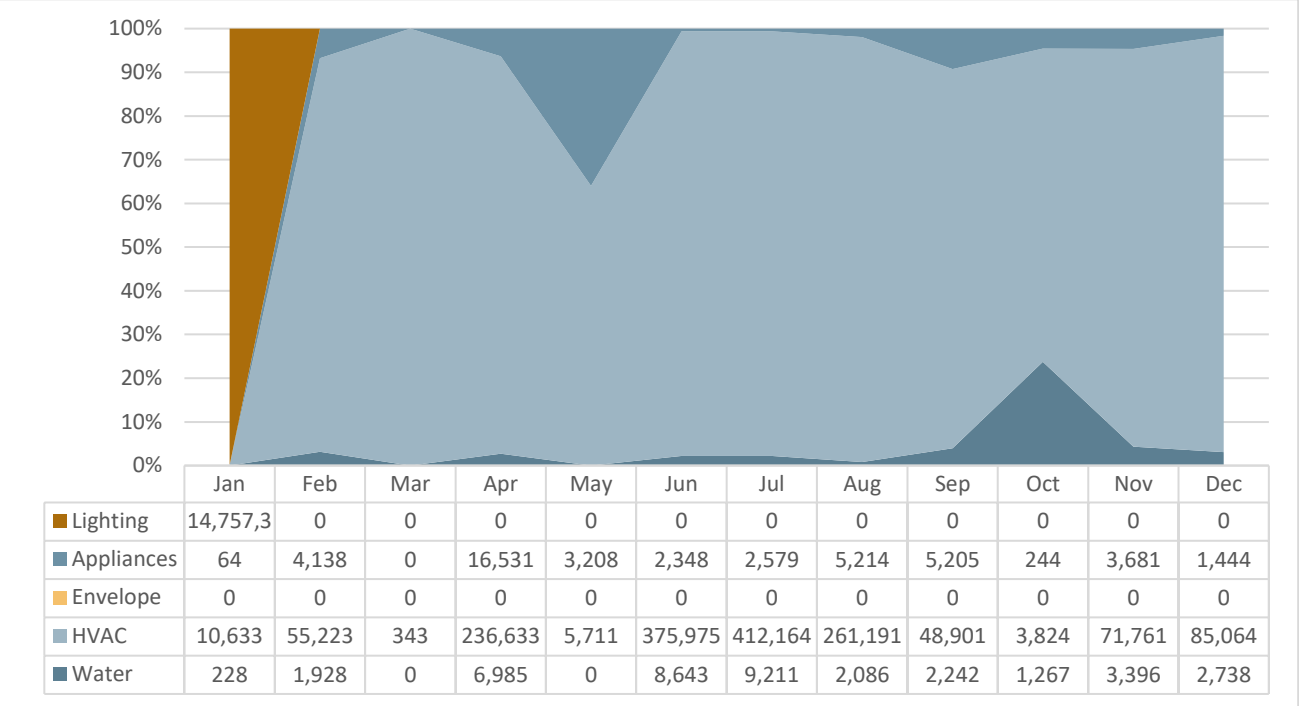


FIGURE 6-1 RLA SAVINGS CONTRIBUTION BY END USE

Lighting measures (LED lamp) contribute 89.9%, HVAC measures (smart thermostat and window AC) contribute 9.6%, appliance measures (advanced power strip, water cooler, dehumidifier, pool pumps) contribute 0.3%, and hot water measures (pipe wrap, aerator, showerhead) contribute 0.2% of *ex ante* gross energy savings (kWh). Most savings were from LED lamp and smart thermostat measures (99.5%).

6.2.2 TIMING OF PROJECTS

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



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lighting	14,757,3	0	0	0	0	0	0	0	0	0	0	0
Appliances	64	4,138	0	16,531	3,208	2,348	2,579	5,214	5,205	244	3,681	1,444
Envelope	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	10,633	55,223	343	236,633	5,711	375,975	412,164	261,191	48,901	3,824	71,761	85,064
Water	228	1,928	0	6,985	0	8,643	9,211	2,086	2,242	1,267	3,396	2,738

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

LED lighting is not all distributed in January. Project data indicates that all LED lighting occurs in January. Historically upstream lighting did not provide dates for the lighting data, however, the TPI is correcting this.

6.2.3 TRADE ALLIES

There are no trade allies in the RLA 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 6-5 PY12 RLA SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
8,131,626	244%	19,806,949	1,102.00	306%	3,370.75

6.3 EM&V Methodology

RLA has received impact and process evaluations in PY12. 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 PY12 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 6-6 RLA DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Impact	Process
Staff & TPI Interviews	2		X
Database Review	Census	X	X
Desk Reviews	Census	X	
Literature Reviews	4	X	
Appliance Rebate Survey	35	X	X

6.3.1 SITE VISITS

The nature of upstream programs limits the potential for site visits. To estimate installation rates for each measure, the Evaluators performed participant surveys, literature reviews, and the NO TRM V5.0. Dehumidifiers, LED lamps, pool pumps, smart thermostats, water coolers, and window AC impacts were derived from the participant survey; the remaining results were a blended approach.

The table below outlines the in-service rate by measure.

TABLE 6-7 GROSS IMPACTS FOR RLA

Measure	Gross Realization Rate / In-Service Rate
1.0 Bathroom Aerator	73.0%
1.5 Kitchen Aerator	73.0%
1.5 Showerhead	79.0%
Dehumidifier	100.0%
LED Lamp Giveaway (9W A19)	71.0%
Heat Pump Water Heater	98.0%
Indoor LED Lamp (Specialty)	85% (OLM) / 98% (rebates)
Indoor LED Lamp (Standard)	85% (OLM) / 98% (rebates)
Nest Power Connector	N/A
Outdoor LED Lamp (Specialty)	85% (OLM) / 98% (rebates)
Water Heater Pipe Insulation	42.0%
Pool Pump	100.0%
Refrigerator Replacement	100.0%
Smart Thermostat	94.0%
Advanced Power Strip (Tier 1)	65.0%
Water Cooler	98.0%
Window Air Conditioner	98.0%

6.3.2 DEEMED SAVINGS CALCULATION

6.3.2.1 Giveaway LED Lamp 9W A19

Methods for calculating the deemed savings values for Giveaway LED lamps came from NO TRM V5.0. The methodology for ENERGY STAR Omni-Directional LED lamps is found in Section C.5.4. The methodology for the giveaway LED lamps is the same as for the LED lamps in the HPwES Program.

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

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

6.3.2.2 Heat Pump Water Heater (HPWH)

HPWH savings were calculated using the savings methodology from the NO TRM V5.0, section C.2.1.5. The following equations outline the methodology that the Evaluators adhered to.

$$kWh_{Savings} = \frac{\rho \times C_p \times V \times \left(T_{SetPoint} - T_{Supply}\right) \times \left(\frac{1}{EF_{pre}} - \left(\frac{1}{(EF_{post} \times (1 + PA\%)} \times Adj\right)\right)}{3{,}412\ Btu/kWh}$$

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

Where:

ρ = Water density = 8.33 lb/gal
C_p = Specific heat of water = 1 BTU/ lb · °F
V = Estimated annual hot water use (gal)
$T_{SetPoint}$ = Water heater set point = 123.61 °F
T_{Supply} = Average New Orleans area supply water temperature = 74.8 °F
EF_{pre} = Baseline uniform energy factor value
EF_{post} = Actual uniform energy factor value of efficient HPWH
$PA\%$ = Performance Adjustment to adjust the HPWH EF relative to ambient air temperature[10]
Adj = HPWH-specific adjustment factor to account for cooling bonus and heating penalty
$3{,}412$ = conversion factor to convert BTU to kWh

6.3.2.3 Window AC Replacement

Savings for window air conditioners were calculated using the savings methodology from the NO TRM V5.0, Section C.3.2.4.

[10] Per DOE guidance, $PA\% = 0.00008 \times T_{amb}^3 + 0.0011 \times T_{amb}^2 - 0.4833 \times T_{amb} + 0.0857$

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

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

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

6.3.2.4 Deemed Savings for Other RLA Measures

For remaining RLA program measures, the Evaluators used the following NO TRM V5.0 sections and tables to verify savings. The sections are outline in Table 6-8 below.

TABLE 6-8 NO TRM V5.0 SECTIONS FOR OTHER MEASURES

Measure	TRM Section	Calculated / Deemed	TRM Table(s)	Table Page(s)
Dehumidifiers	C.1.8	Deemed	Table C-17	C-25
Pool Pumps	C.1.9	Deemed	Table C-20	C-29
Refrigerators	C.1.10	Deemed	Table C-24	C-35
Water Coolers	C.1.4	Deemed	Table C-9	C-13

6.4 Evaluation Findings

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

6.4.1 GROSS IMPACT FINDINGS

6.4.1.1 Aerator (Bathroom and Kitchen)

Expected and verified savings for aerators are summarized below. 194 aerators (60 1.00 GPM and 50 1.50 GPM) were installed at 110 residences (120 1.00 GPM and 74 1.50 GPM).

TABLE 6-9 PY12 RLA EXPECTED AND VERIFIED AERATORS SAVINGS

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
7,342	5,358	73%	0.76	0.56	73%

6.4.1.2 Advanced Power Strip (Tier 1)

Expected and verified savings for PY12 RLA advanced power strips are summarized below. 182 APS were installed at 122 residences.

TABLE 6-10 PY12 RLA EXPECTED AND VERIFIED ADVANCED POWER STRIPS SAVINGS

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
8,900	5,785	65%	1.02	0.66	65%

6.4.1.3 Dehumidifier

Expected and verified savings for dehumidifiers are summarized below. There were nine (9) dehumidifiers incentivized.

TABLE 6-11 PY12 RLA EXPECTED AND VERIFIED DEHUMIDIFIER SAVINGS

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
1,073	1,031	96%	0.24	0.23	98%

6.4.1.4 LED Lamp (Giveaway)

Expected and verified savings for giveaway LED lamps are summarized below.

TABLE 6-12 PY12 RLA EXPECTED AND VERIFIED GIVEAWAY LED SAVINGS

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
65,600	81,768	125%	11.20	13.89	124%

6.4.1.5 Heat Pump Water Heater

Expected and verified savings for heat pump water heaters are summarized below. There were 12 heat pump water heaters incentivized.

TABLE 6-13 PY12 RLA EXPECTED AND VERIFIED HPWH SAVINGS

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
11,369	11,263	99%	1.00	0.99	99%

6.4.1.6 LED Lamp (OLM and Upstream)

Expected and verified savings for LED lamps are summarized below. These exclude the giveaway LED lamps presented above in Table 6-12.

TABLE 6-14 PY12 RLA EXPECTED AND VERIFIED LED SAVINGS

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
14,691,776	18,178,079	124%	2,484.89	3,344.05	135%

6.4.1.7 Water Heater Pipe Wrap

Expected and verified savings for pipe wrap projects are summarized below. Pipe wrap was installed at 38 residences.

TABLE 6-15 PY12 RLA EXPECTED AND VERIFIED PIPE WRAP SAVINGS

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
2,456	1,032	42%	0.28	0.12	42%

6.4.1.8 Pool Pump

Expected and verified savings for pool pumps are summarized below. There were 11 pool pumps incentivized.

TABLE 6-16 PY12 RLA EXPECTED AND VERIFIED POOL PUMPS SAVINGS

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
28,865	29,349	102%	5.75	5.94	103%

6.4.1.9 Refrigerator (Replacement)

ENERGY STAR Refrigerator savings were calculated using the deemed savings from the NO TRM V5.0 Section C.1.4.1. 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 96 replacements.

TABLE 6-17 PY12 RLA EXPECTED AND VERIFIED REFRIGERATORS SAVINGS

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
5,338	4,953	93%	0.77	0.72	94%

6.4.1.10 Low flow Showerhead

Expected and verified savings for low flow showerheads are summarized below. There were 77 showerheads installed in 54 residences.

TABLE 6-18 PY12 RLA EXPECTED AND VERIFIED SHOWERHEAD SAVINGS

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
17,556	13,869	79%	1.82	1.44	79%

6.4.1.11 Smart Thermostat

Savings for smart thermostats were calculated using the savings methodology from the NO TRM V5.0, Section C.3.9. Expected and verified savings for smart thermostats are summarized below. There were 4,396 smart thermostats incentivized through the OLM, 174 incentivized through a mail-in-rebate.

TABLE 6-19 PY12 RLA EXPECTED AND VERIFIED SMART THERMOSTATS SAVINGS

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
1,563,737	1,470,470	94%	0.00	0.00	N/A

6.4.1.12 Water Cooler

Savings for water coolers were calculated using the savings methodology from the NO TRM V5.0, Section C.1.4.4. Expected and verified savings for water coolers are summarized below. There was one water cooler installed at a residence.

TABLE 6-20 PY12 RLA EXPECTED AND VERIFIED WATER COOLERS SAVINGS

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
482	472	98%	0.05	0.05	98%

6.4.1.13 Window Air Conditioner

Savings for window air conditioners were calculated using the savings methodology from the NO TRM V5.0, Section C.3.2.4. Expected and verified savings for window air conditioners are summarized below. 45 units were installed in 43 residences.

TABLE 6-21 PY12 RLA EXPECTED AND VERIFIED WINDOW AC SAVINGS

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
3,685	3,520	96%	2.12	2.09	99%

6.4.1.14 Avoided Replacement Cost

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarizes the ARC by measure in RLA. Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 6-22 PY12 RLA SUMMARY OF AVOIDED REPLACEMENT COST

Measure	Ex Post Gross ARC ($)	Ex Post Net ARC ($)	NPV ARC ($)
1.0 Bathroom Aerator	$0	$0	$0
1.5 Kitchen Aerator	$0	$0	$0
1.5 Showerhead	$0	$0	$0
Dehumidifier	$0	$0	$0
LED Lamp Giveaway (9W A19)	$10,071	$6,546	$6,546
Heat Pump Water Heater	$0	$0	$0
Indoor LED Lamp (Specialty)	$556,938	$340,517	$340,517
Indoor LED Lamp (Standard)	$1,017,672	$621,695	$621,695
Nest Power Connector	$0	$0	$0
Outdoor LED Lamp (Specialty)	$698	$517	$517
Pipe Insulation	$0	$0	$0
Pool Pump	$0	$0	$0
Refrigerator Replacement	$0	$0	$0
Smart Thermostat Sensor	$0	$0	$0
Smart Thermostat Trim Kit	$0	$0	$0
Smart Thermostat Wall Plate	$0	$0	$0
Smart Thermostat Wire Adapter	$0	$0	$0
Smart Thermostat	$0	$0	$0
Advanced Power Strip (Tier 1)	$0	$0	$0
Water Cooler	$0	$0	$0
Window Air Conditioner	$0	$0	$0
Total	**$1,585,379**	**$969,274**	**$969,274**

Sums may differ due to rounding.

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. No spillover was identified in the participant survey, but the literature review-based net-to-gross values include spillover savings if it occurred in the referenced studies.

TABLE 6-23 RLA NET IMPACTS

Measure	NTG	Source of Net-to-Gross
1.0 Bathroom Aerator	92.0%	Low sample, Literature review
1.5 Kitchen Aerator	92.0%	Low sample, Literature review
1.5 Showerhead	94.0%	Low sample, Literature review
ENERGY STAR Dehumidifier	100.0%	Participant Survey
LED Lamp (Rebate)	65.0%	Low sample, Literature review
Heat Pump Water Heater	74.3%	Low sample, Literature review
LED Lamp (Upstream)	61.1%	No intercepts, Literature review
Pipe Insulation	88.0%	Low sample, Literature review
ENERGY STAR Pool Pump	100.0%	Participant Survey
Refrigerator Replacement	29.0%	Participant Survey
Smart Thermostat	89.0%	Participant Survey
Advanced Power Strip (Tier 1)	72.0%	Low sample, Literature review
Water Cooler	53.0%	Low sample, Literature review
Window Air Conditioner	73.0%	Participant Survey

6.4.3 PROCESS FINDINGS

6.4.3.1 Staff and Implementer Interviews

The following section summarizes the key findings from in-depth interviews with two ENO program staff members and two implementation staff (one from Franklin and one from APTIM). These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission.

6.4.3.1.1 *Program Changes*

The implementation of energy saving kits to generate customer leads was also added to the RLA program. Additionally, the addition of smart thermostats to the online marketplace drove lot of the online sales, especially the Amazon smart thermostat. Thinking ahead to next program year, and the EISA backstop that will go into effect in July of 2023, Franklin is preparing to frontload lighting into the beginning of PY13 (2023) and take advantage of the lighting while they still have it. Franklin is still brainstorming how it plans to incorporate this new code change long term.

6.4.3.2 Participant Survey Findings

6.4.3.2.1 *Methodology*

The Evaluators conducted a survey with customers who participated in the program, to gain insight into customer satisfaction and feedback. Two hundred seventy-one customers were contacted through email to complete the survey, and 35 completed it (Table 6-24). The precision of the survey is +/- 13.9% at the 10% level of confidence. The following sections summarize those responses.

TABLE 6-24 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of Customers contacted by email	271
Undeliverable emails	9
Completed	35
Incentives paid	$875
Response rate	13%

6.4.3.2.2 *Program Awareness and Installation*

Customers commonly learned of the program through ENO website, followed by an email from ENO and/or a retailer website. Figure 6-3 summarizes the results of all survey responses.

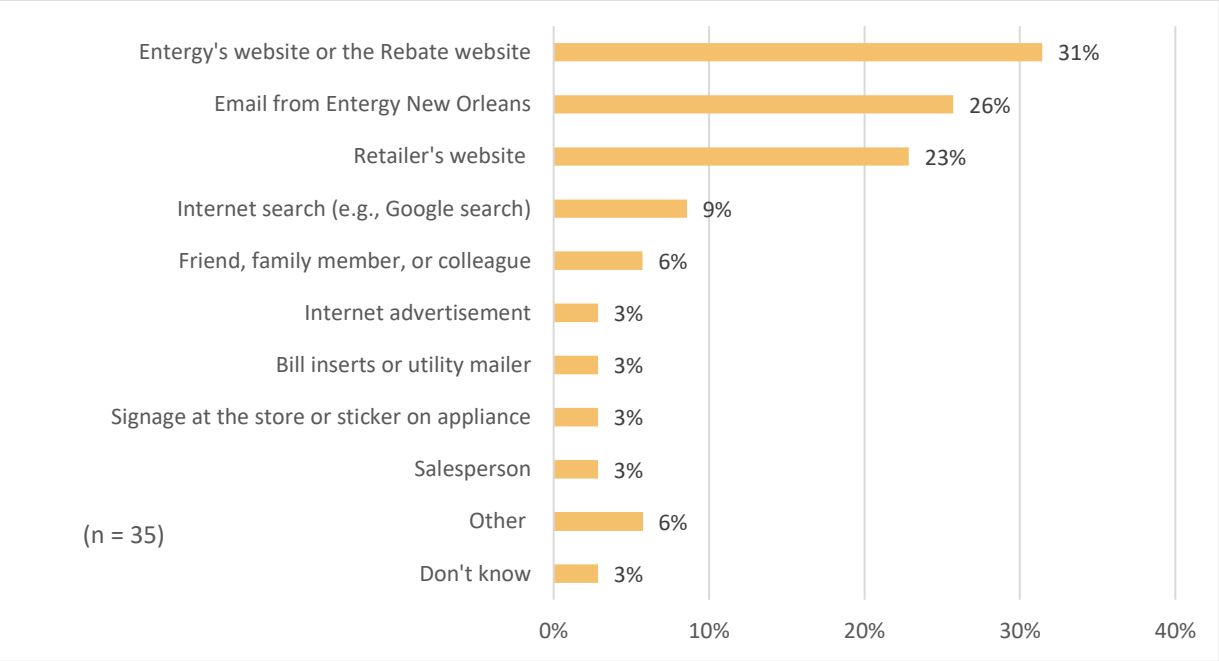


FIGURE 6-3 PROGRAM AWARENESS

The two respondents who indicated 'other' – one indicated they learned about the program through previous program participation and sought out the rebate. The other respondent indicated they learned about the program through the New Orleans subreddit on Reddit[11]. More than half of the survey respondents (68%) learned there was a rebate available before they purchased the eligible equipment; 9% of respondents learned about the rebate after the purchase (see Table 6-25).

[11] https://www.reddit.com/r/NewOrleans/

TABLE 6-25 FIRST LEARNED ABOUT THE REBATE

Response	Percent of Survey Respondents (n = 35)
Before purchase was made	69%
At the time of purchase	23%
After the purchase was made	9%

Most of the 32 respondents (91%) had installed the rebated equipment at the time of the survey. Three respondents have not installed the equipment yet. Of those three respondents, two indicated they plan to install it within the next six months, and one was unsure. Additionally, of those same three respondents, one respondent elaborated that they plan to install the measure but just have not had time, and another noted that the measure is acting as a backup for the time being.

6.4.3.2.3 *Energy Efficient Upgrades and Improvements*

Many survey participants (69%) indicated that they had adopted new energy saving behaviors at home, this year, while 32% did not or could not recall (see Figure 6-4).

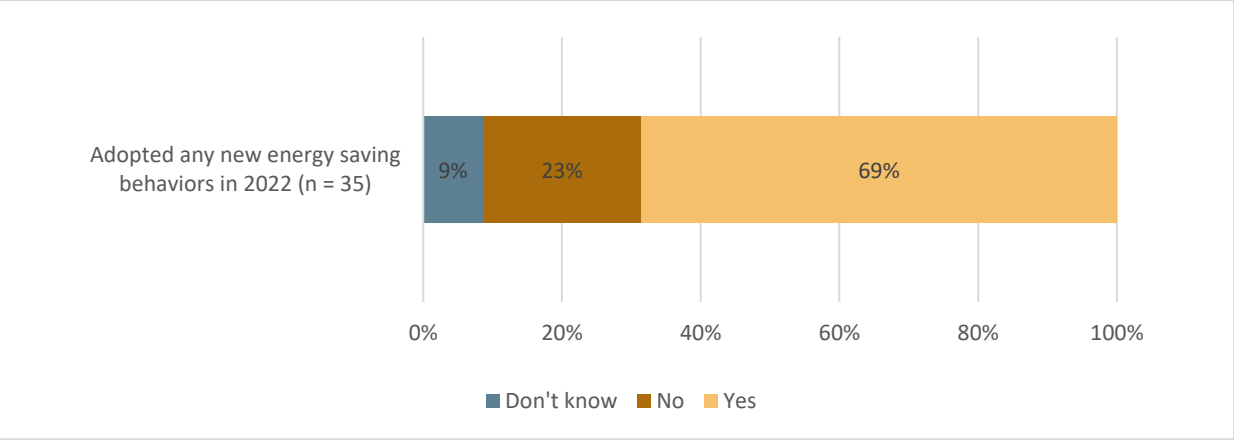


FIGURE 6-4 ENERGY SAVING BEHAVIORS

A significant proportion of the survey respondents (60%) made purchases of energy efficient equipment or made energy efficient improvements on their home in 2022. LED light bulbs were the most common purchases or upgrades made by those respondents, followed by ENERGY STAR smart thermostats, and ENERGY STAR refrigerators (Figure 6-5).

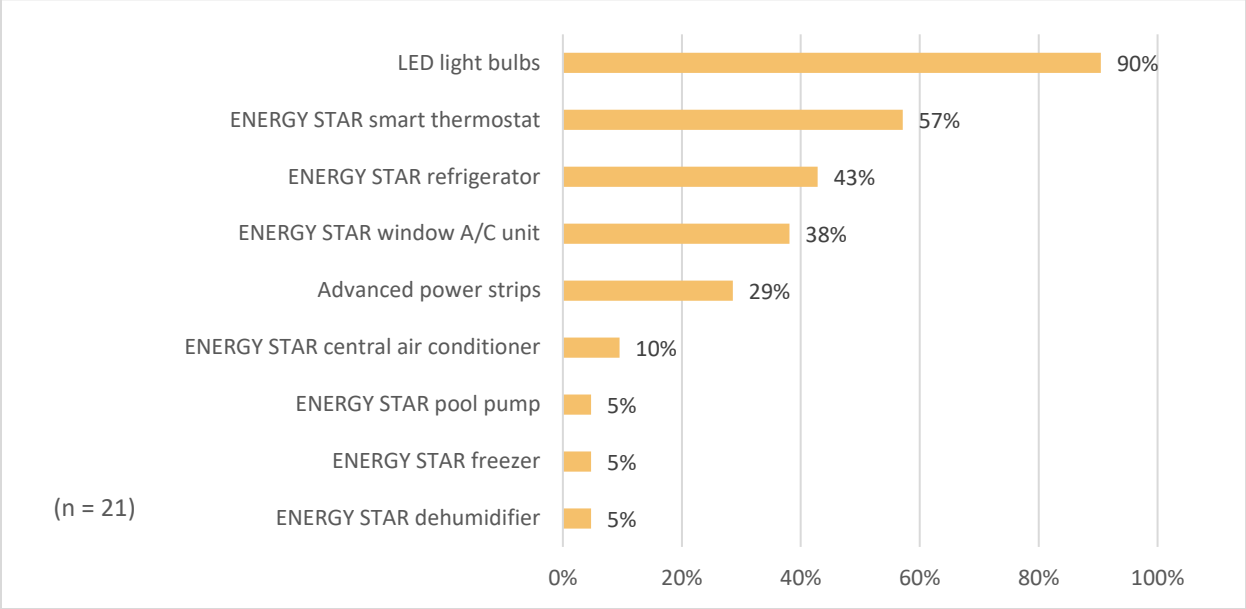


FIGURE 6-5 ENERGY EFFICIENT PURCHASES

Additionally in 2022, 63% of survey respondents indicated they had their air conditioning or HVAC unit tuned-up, while 14% of respondents added insulation and water-saving showerheads (see the figure below).

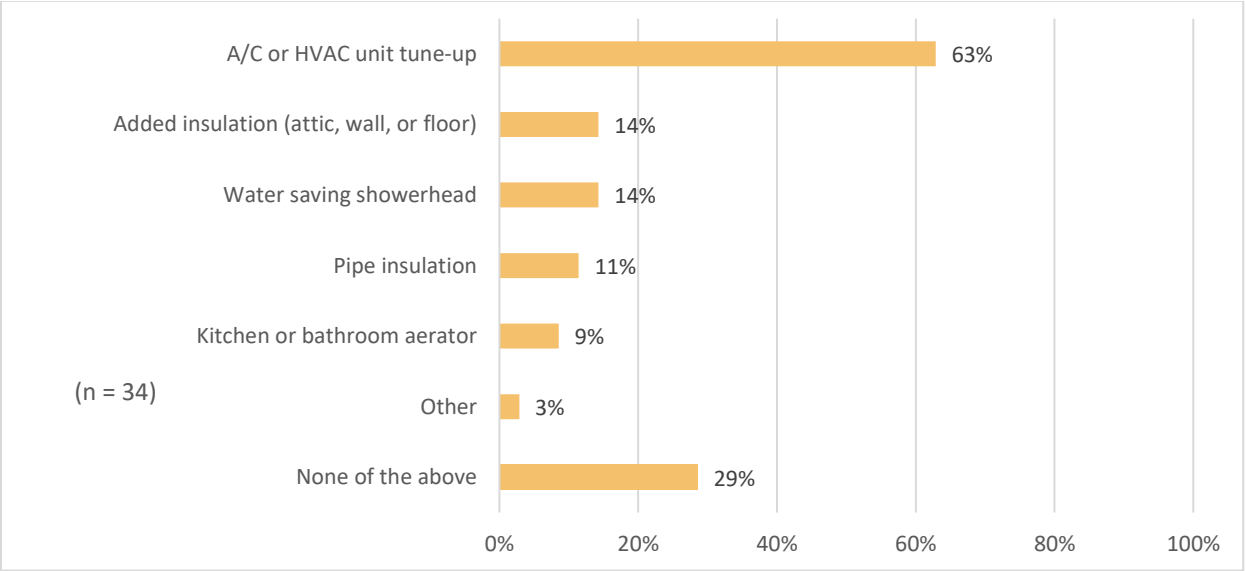


FIGURE 6-6 ADDITIONAL PURCHASES OR UPGRADES

6.4.3.2.4 *RLA Retail Purchase Locations*

6.4.3.2.4.1 LED Lamp

Respondents who purchased LED lamps and received rebates through the program, purchased theirs from a variety of retailers, including Home Depot, Lowe's, and the Green Project NOLA. Table 6-26 provides additional information about where customers purchased their LED lamps.

TABLE 6-26 RETAILERS WHERE RESPONDENTS PURCHASED LED BULBS

Response	Percent of Survey Respondents (n = 19)
The Home Depot	21%
Lowe's	21%
The Green Project NOLA	16%
Costco	16%
Amazon	16%
ENO's online marketplace	5%
More than one location (Home Depot, Green Project, Amazon)	5%

6.4.3.2.4.2 Advanced Power Strip

Six respondents purchased new advanced power strips, one respondent bought theirs from Costco, while two got theirs from Amazon, two got theirs from another Energy Smart program, and one from online, but did not specify where.

6.4.3.2.4.3 Pool Pump

One survey respondent purchased a new freezer from Home Depot and one respondent purchased a new pool pump from Walmart.

6.4.3.2.4.4 HVAC and Dehumidifier

Respondents who purchased energy efficient central air conditioning units (n=2) purchased theirs from two different retailers – Calloway and Sons, and Keefe's. Eight respondents purchased new ENERGY STAR window A/C units, four purchased theirs from Home Depot, three from Lowe's, and one from Best Buy (Table 6-27).

TABLE 6-27 RETAILERS WHERE RESPONDENTS PURCHASED ENERGY STAR WINDOW A/C UNITS

Response	Percent of Survey Respondents (n = 8)
The Home Depot	50%
Lowe's	38%
Best Buy	13%

The one respondent who purchased an ENERGY STAR dehumidifier purchased it at Ace Hardware.

6.4.3.2.4.5 Refrigerators

Several survey participants purchased new ENERGY STAR refrigerators from Home Depot, followed by Lowe's and Costco (see Table 6-28). The two respondents who purchased theirs from Best Buy and Bon Marche.

TABLE 6-28 RETAILERS WHERE RESPONDENTS PURCHASED ENERGY STAR REFRIGERATORS

Response	Percent of Survey Respondents (n = 9)
The Home Depot	33%
Lowe's	22%
Costco	22%
Best Buy	11%
Bon Marche	11%

6.4.3.2.4.6 Smart Thermostat

Twelve respondents purchased new smart thermostats, with most buying them from an online marketplace like Amazon (n=2), eBay (n=1) or from ENO (n=1) (see Table 6-29).

TABLE 6-29 OLM AND RETAILERS WHERE RESPONDENTS PURCHASED SMART THERMOSTATS

Response	Percent of Survey Respondents (n = 12)
Online Marketplace	42%
Lowe's Home Improvement	17%
The Green Project NOLA	17%
The Home Depot	8%
None of the listed options	17%

6.4.3.2.5 *Program Experience and Satisfaction*

Most respondents (86%) are very or moderately interested in receiving more information on energy-saving tips and rebate programs (Figure 6-7).

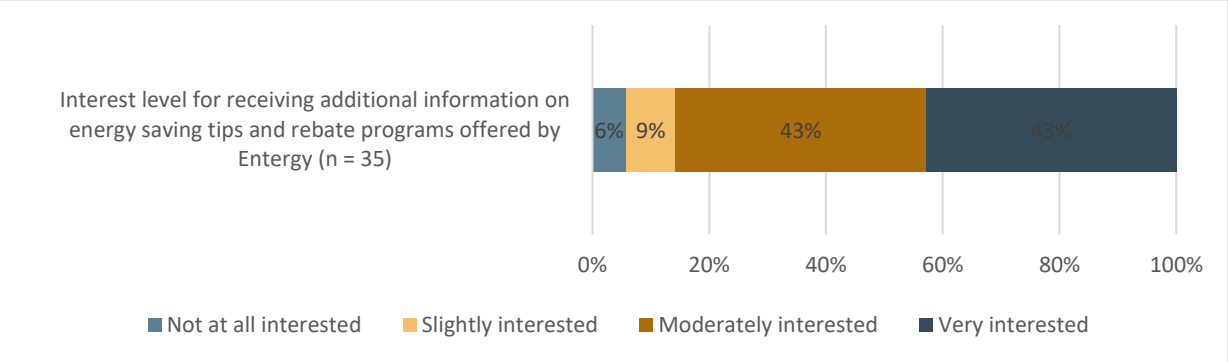


FIGURE 6-7 RESPONDENTS' INTEREST IN RECEIVING MORE INFORMATION

More than half of survey participants (68%) indicated that email is the best way for ENO to provide information on rebates, energy efficiency equipment, and upgrades or improvements, followed by ENO's Energy Smart website or home energy reports (Table 6-30).

TABLE 6-30 PREFERRED METHOD OF COMMUNICATION

Response	Percent of Survey Respondents (n = 35)
Email	69%
Energy Smart website	11%
Home Energy Report	9%
Bill inserts	3%
Text messages	3%
Newsletter	3%
Would prefer not to receive information	3%

Six respondents indicated they contacted ENO with questions regarding their rebate application. Of those respondents, two were inquiring about the status of their rebate application, while others needed to resolve technical issues, ensure the application was received, and other reasons (Figure 6-8).

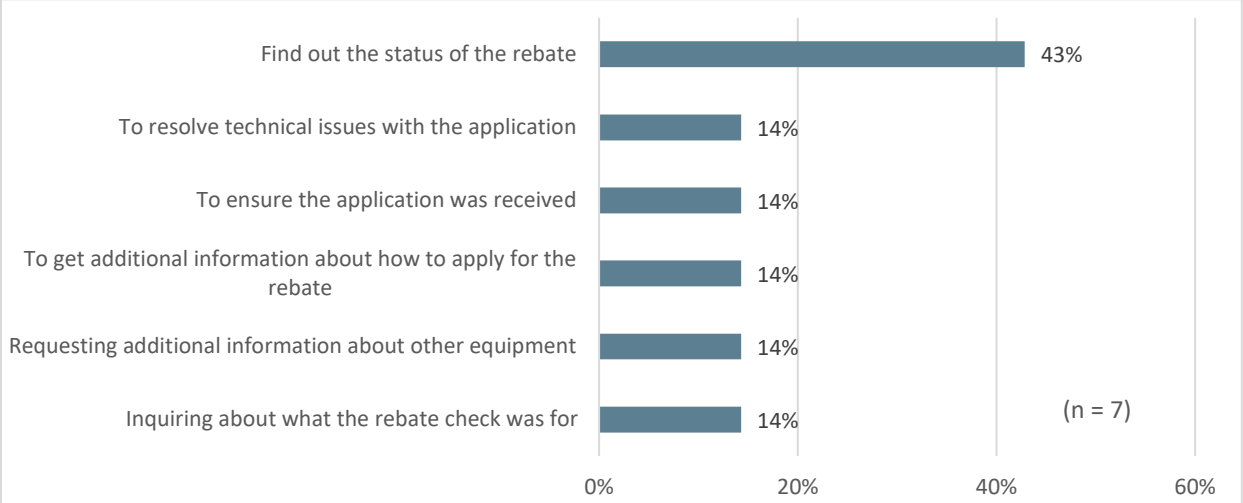


FIGURE 6-8 REASONS FOR CONTACTING ENO REGARDING REBATE APPLICATION

Respondents were generally satisfied with the thoroughness and the time it took for ENO program staff to answer their questions or concerns (Figure 6-9). One survey participant indicated some dissatisfaction regarding program staffs' ability to answer questions about the availability of a mini split A/C units.

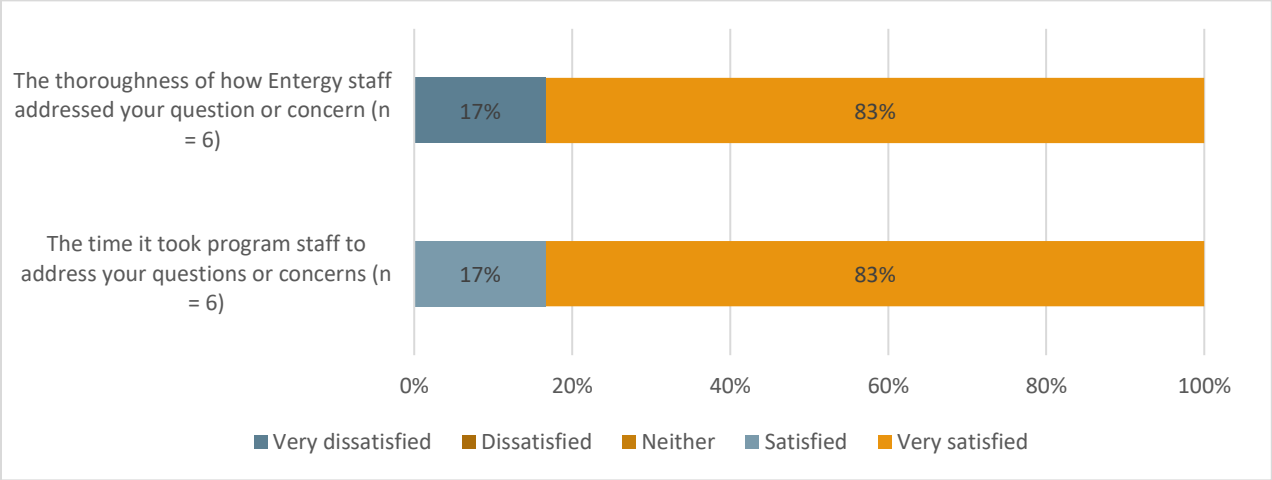


FIGURE 6-9 SATISFACTION WITH PROGRAM STAFF

Once the rebate application was submitted, most respondents (51%) received their rebate within three to four weeks. About one-fourth of respondents (29%) indicated they received their rebate in two weeks or less (Table 6-31).

TABLE 6-31 TIME IT TOOK TO RECEIVE REBATE

Response	Percent of Survey Respondents (n = 35)
2 weeks or less	29%
3 – 4 weeks	51%
5 – 6 weeks	9%
7 – 8 weeks	0%
9 – 10 weeks	3%
Has not yet received the rebate	3%
Don't know	6%

Surveyed RLA participants were largely satisfied with the program overall. Respondents were most satisfied with the ENERGY STAR appliances that they purchased and installed (95% were somewhat or very satisfied) This was followed by the rebate amount (91% were somewhat or very satisfied) and the rebate application process (80% were somewhat or very satisfied). Respondents were least satisfied with the variety of rebates offered through the program for new energy efficiency appliances and equipment (52% were somewhat or very satisfied) and the wait time to receive the rebate (74% were somewhat or very satisfied) (Figure 6-10).

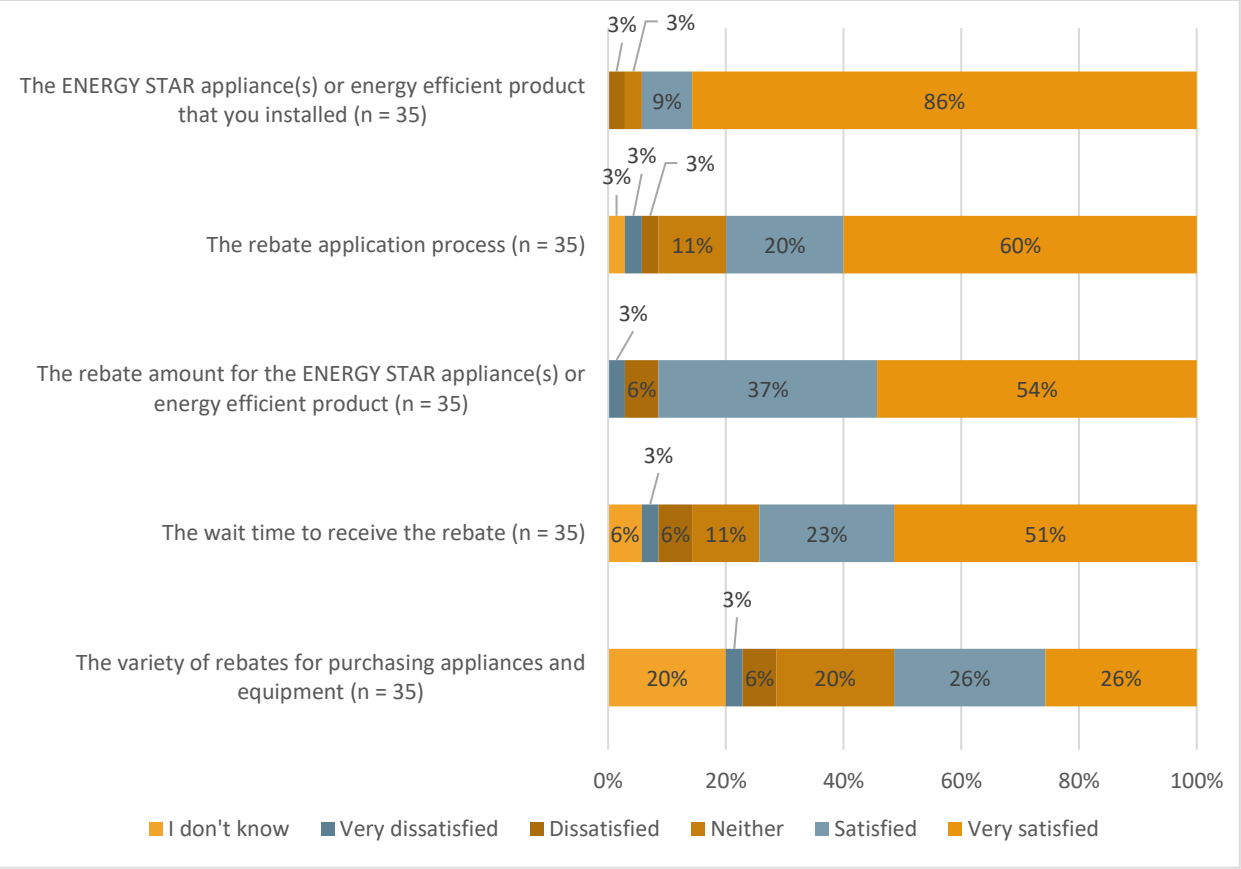


FIGURE 6-10 PROGRAM SATISFACTION

The five respondents who indicated dissatisfaction with the program, elaborated further and would like to see an expansion and increase of rebates, expansion of solar options, and indicated their energy bills were still high despite new equipment and improvements (Figure 6-11).

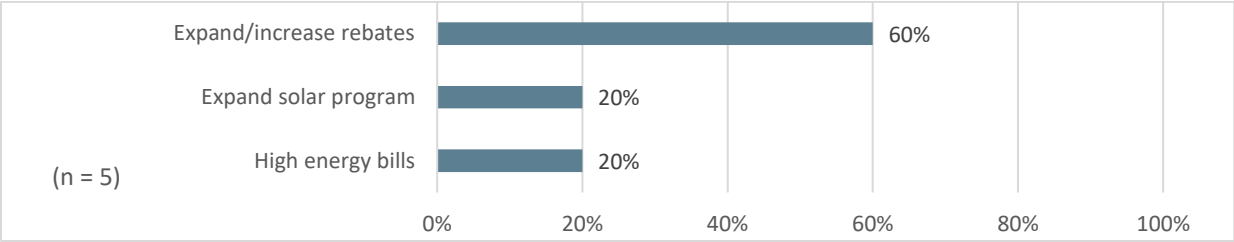


FIGURE 6-11 REASONS FOR DISSATISFACTION

Satisfaction with ENO as an electricity service provider varied among survey respondents. Thirteen respondents were dissatisfied, to some degree, with ENO as their electricity provider, while sixteen respondents were satisfied (Figure 6-12).

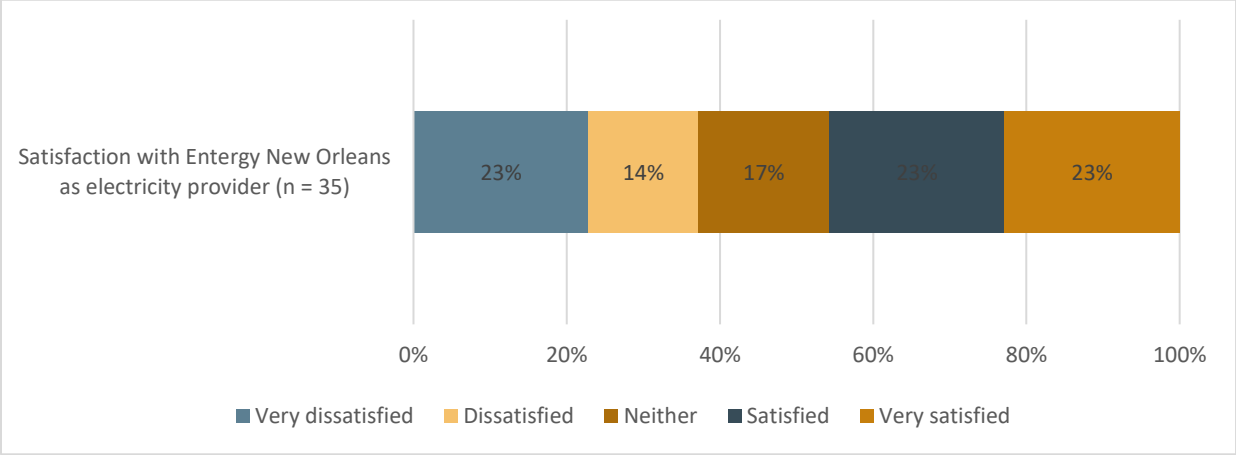


FIGURE 6-12 SATISFACTION WITH ENO

6.4.3.2.6 *Respondent and Residence Characteristics*

Most survey respondents indicated they live in a detached, single-family home and own their home. Half of the respondents (51%) rely on electricity to fuel their home, while 42% rely on natural gas. More than half of the survey participants (65%) utilize natural gas for their water heaters, while 29% rely on electricity.

TABLE 6-32 RESIDENCE CHARACTERISTICS

Response	Percentage of Survey Respondents	Count
Year Home was Built		
Before 1950	68%	19
1950 -1979	8%	2
1980 – 1999	4%	1
2000 to 2019	18%	5
Don't know	4%	1
Home Ownership		
Own	74%	26
Rent	17%	6
Own and rent to someone else	6%	2
Prefer not to answer	3%	1
Residence Type		
Single-family house detached from any other house	54%	19
Single family house attached to one or more other houses (e.g., duplex)	29%	10
Apartment in a building with 2 to 3 units	14%	5
Apartment in a building with 4 or more units	3%	1
Fuel Type for Home Heating		
Electricity	51%	18
Natural Gas	43%	15
Don't know	6%	2
Fuel Type for Water Heating		
Natural gas water heater	65%	10
Electric water heater	29%	22
Prefer not to state	6%	2

Many respondents have four or fewer persons residing in a household year-round. Household income varied between participants, with most (44%) indicated they make between $75,000 to $150,000 per year. More than half of survey participants (57%) have a graduate or professional degree and 47% have a four-year degree.

TABLE 6-33 RESPONDENT DEMOGRAPHICS

Response	Percentage of Respondents	Count
Respondent Education Level		
Associates degree, vocational/technical school, or some college	3%	1
Four-year college degree	40%	14
Graduate or professional degree	57%	20
Household Income		
$10,000 to less than $20,000	3%	1
$20,000 to less than $30,000	3%	1
$50,000 to less than $75,000	3%	1
$75,000 to less than $100,000	29%	10
$100,000 to less than $150,000	15%	5
$150,000 to less than $200,000	6%	2
$200,000 or more	3%	1
Prefer not to state	38%	13
Household Size		
1	23%	8
2	26%	9
3	20%	7
4	20%	7
5 or more	9%	3
Prefer not to state	3%	1

6.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY11 data were generally present in PY12. The following bullets outline notes from reviewing the RLA data:

- **Purchase / Rebate date**: ship / purchase / rebate dates were missing in the PY12 tracking data – the Evaluators were not able to determine when the appliances were purchased / rebated or when the LED lamps were sold by the retailers.
- **Appliance participant information**: In general, participant contact names, contact phone numbers, and email addresses were provided in PY12 data, however, there were many projects that were missing these fields:
  - **Participant main phone number**: 478 projects unique by address (478 out of 3,070)
  - **Participant email address**: 2,733 projects unique by address (2,733 out of 3,070)
- **Measure-level parameters**: the following is an outline of missing or problematic parameters needed for savings calculations by measure:
  - **Pool Pumps**: there was 1 project with 0 kWh, 0 kW claimed, and 1 project with missing model number; and
  - **Refrigerator Replacements**: there were 7 projects that were missing model numbers.

In addition to the tracking data issues described above, the Evaluators note that the program tracking data is provided as two Excel files (a dataset with the rebated appliances and a dataset with the upstream LED lamps), with varying number of column headers. Although it's a simple additional step for the Evaluators to aggregate the data files, there have been issues in the past in which there have been LED projects that were included in the

appliances portion of the data. The LED projects that appear in the appliances data oftentimes are missing the appropriate required parameters for savings calculations. For PY12, there were 6 LED projects that were included in the appliance data for which the Evaluators had to manually backfill missing data based on similar Efficient Equipment Part Numbers.

6.6 Findings and Conclusions

The following summarizes the key findings and conclusions from the evaluation.

- **There were a few tracking data inconsistencies that affected the expected savings.** There were three pool pumps that did not have any claimed savings. The Evaluators assigned deemed savings to this measure, improving program-level realization but with measure-level realization not being calculable due to the claim of zero. Additionally, dehumidifier projects had inconsistent savings across line items, even with the same make and model.
- **The addition of smart thermostats has been a success.** This year smart thermostats were added to the online marketplace and constituted a high volume of OLM sales. The lower-cost Amazon smart thermostat was a primary driver of sales for this measure. Additionally, the program added no-cost lighting kits to generate customer leads.
- **More than half of the survey respondents learned about the rebate before they purchased the eligible measure.** Common avenues of program awareness included the program website, marketing emails, and the retailer website.
- **Respondents are interested in receiving more information on other rebate programs and energy-saving tips**. Eighty-eight percent of respondents want to learn more about other rebate programs and tips on how to save energy. Most indicated that email is the best way to communicate this information.
- **Survey respondents are satisfied with the program overall**. Respondents were most satisfied with the appliances they purchased and the rebate application process. Several respondents were dissatisfied because they would like to see an increase in the rebate amount and an expansion of the program to include solar measures.

6.7 Recommendations

The following summarizes key recommendations after completing the PY12 evaluation.

- **Consider aggregating all program data together into one dataset.** RLA program data is provided as two separate Excel files where it is intended that appliance and lighting data will be provided separately. However, it is common for LED projects to be included in the appliance data. Due to format differences, those projects are missing measure parameters required for savings verification. Aggregating RLA data may reduce discrepancies.
- **Consider providing more measure-specific information on the program website.** Explore ways for customers to understand the characteristics and quality of the measures offered. Additionally, providing more information to customers could benefit the program offering (e.g., noticeable hyperlinks, videos of the actual measured offered, information about the benefits of replacing older inefficient equipment, etc.). Customers also indicated they were interested in learning more about opportunities in surveys.

- **Continue to refine information and messaging surrounding energy savings.** Although satisfaction rates were high, people continued to express some frustration with their expectations on savings after installing measures.

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.

TABLE 7-1 PY12 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)
1.0 Bathroom Aerator	58,972	100%	58,928	100%	58,928
1.5 Kitchen Aerator	29,534	100%	29,518	50%	14,759
1.5 Showerhead	293,892	100%	293,886	100%	293,886
Air Infiltration	538,591	100%	538,591	95%	511,662
Duct Sealing	945,617	100%	944,808	95%	897,568
Indoor LED Lamp (Specialty)	103,916	102%	106,283	100%	106,283
Indoor LED Lamp (Standard)	200,611	102%	204,747	100%	204,747
Outdoor LED Lamp (Specialty)	465	93%	432	100%	432
Pipe Insulation	131,635	100%	131,613	100%	131,613
Smart Thermostat	20,237	100%	20,245	100%	20,245
Advanced Power Strip (Tier 1)	199,090	101%	201,814	100%	201,814
Total	**2,522,560**	**100%**	**2,530,865**	**96%**	**2,441,936**

Sums may differ due to rounding.

TABLE 7-2 PY12 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)
1.0 Bathroom Aerator	6.07	101%	6.13	100%	6.13
1.5 Kitchen Aerator	3.09	99%	3.07	50%	1.53
1.5 Showerhead	30.55	100%	30.56	100%	30.56
Air Infiltration	175.65	100%	175.65	95%	166.87
Duct Sealing	266.92	100%	266.76	95%	253.42
Indoor LED Lamp (Specialty)	17.68	102%	18.05	100%	18.05
Indoor LED Lamp (Standard)	34.05	102%	34.78	100%	34.78
Outdoor LED Lamp (Specialty)	0.00	100%	0.00	100%	0.00
Pipe Insulation	15.07	100%	15.07	100%	15.07
Smart Thermostat	0.00	100%	0.00	100%	0.00
Advanced Power Strip (Tier 1)	20.48	102%	20.94	100%	20.94
Total	**569.56**	**100%**	**571.02**	**96%**	**547.37**

Sums may differ due to rounding.

TABLE 7-3 PY12 MULTIFAMILY SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	Ex Post Gross Lifetime Energy Savings (kWh)	Ex Post Net Lifetime Energy Savings (kWh)
1.0 Bathroom Aerator	10	589,280	589,280
1.5 Kitchen Aerator	10	295,176	147,588
1.5 Showerhead	10	2,938,860	2,938,860
Air Infiltration	11	5,924,503	5,628,278
Duct Sealing	18	17,006,543	16,156,216
Indoor LED Lamp (Specialty)	13	1,328,543	1,328,543
Indoor LED Lamp (Standard)	13	2,559,334	2,559,334
Outdoor LED Lamp (Specialty)	13	5,404	5,404
Pipe Insulation	13	1,710,974	1,710,974
Smart Thermostat	11	222,691	222,691
Advanced Power Strip (Tier 1)	10	2,018,139	2,018,139
Total	**14**	**34,599,447**	**33,305,307**

Sums may differ due to rounding.

TABLE 7-4 PY12 MULTIFAMILY SOLUTIONS PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend ($)
1.0 Bathroom Aerator	997	$7,920
1.5 Kitchen Aerator	1,082	$7,714
1.5 Showerhead	1,111	$19,335
Air Infiltration	575	$158,720
Duct Sealing	574	$162,708
Indoor LED Lamp (Specialty)	882	$27,279
Indoor LED Lamp (Standard)	1,075	$45,612
Franklin Assessment Incentives	1,145	$28,725
Outdoor LED Lamp (Specialty)	1	$26
Pipe Insulation	995	$10,396
Smart Thermostat	43	$10,325
Advanced Power Strip (Tier 1)	614	$32,450
Total	**9,094**	**$511,210**

Sums may differ due to rounding.

7.2 Program Description

The offering is designed to promote energy efficiency in the multifamily (MF) sector by offering home energy walkthrough assessments and deeper energy assessments to multifamily customers. Franklin implements the Multifamily Solutions (MF 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 PY12 included the following activities: project data review, desk reviews, staff interviews, multifamily property manager interviews and site visits. Records indicated a total of 775 projects were completed in seven large apartment complexes.

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

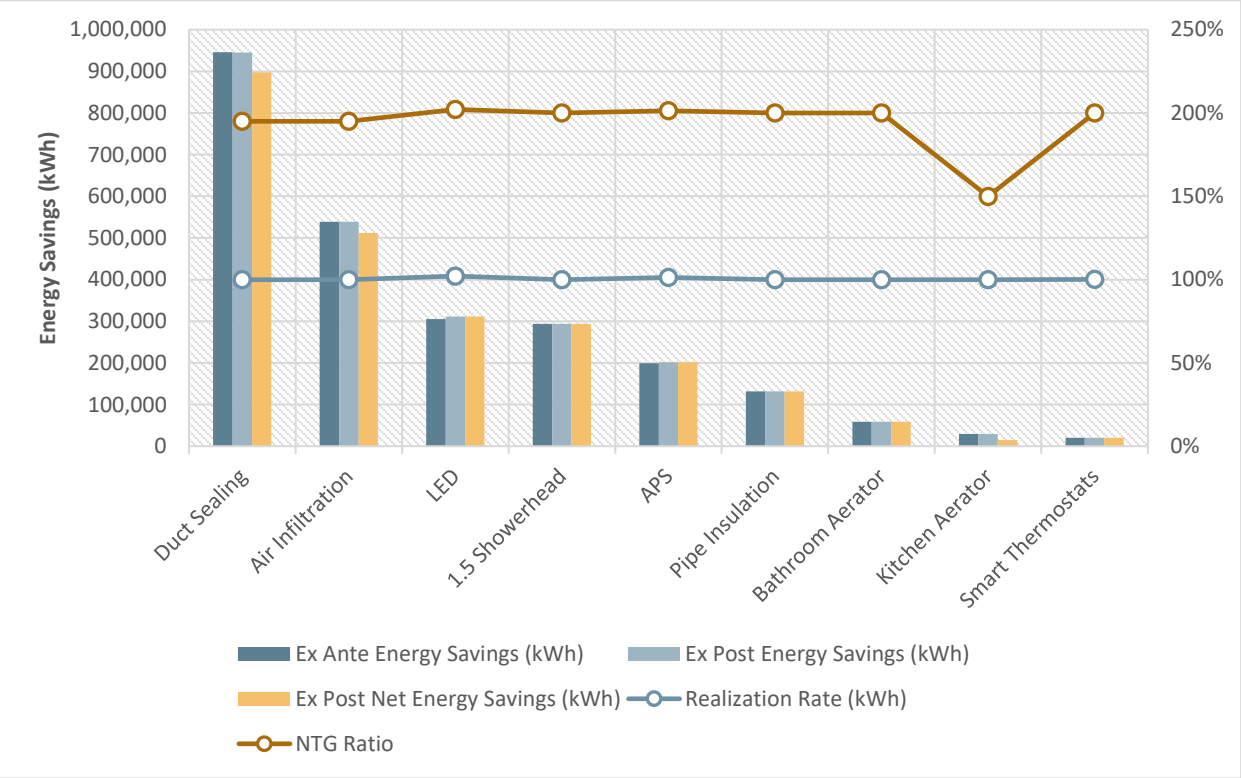
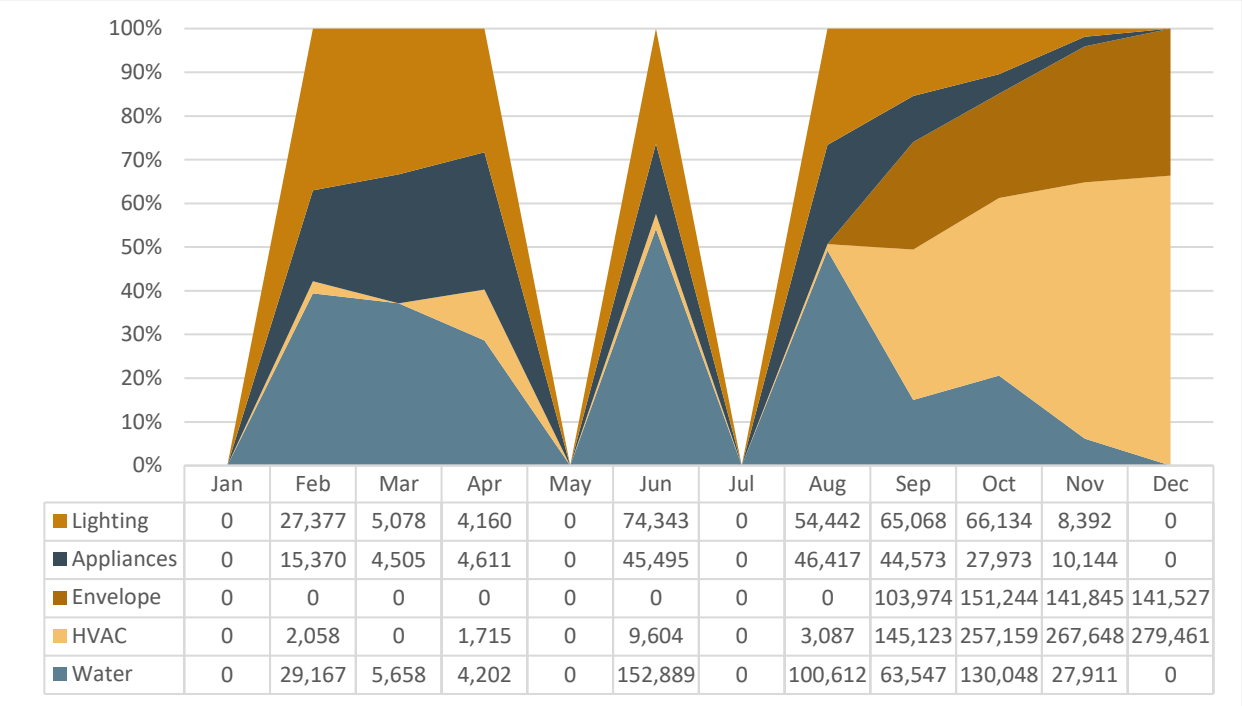


FIGURE 7-1 MULTIFAMILY SOLUTIONS ENERGY SAVINGS SUMMARY (KWH)

Duct sealing contributes 37.5% of expected savings, air infiltration contributes 21.4% of expected savings, LED lamps contributes 12.1% of expected savings, and finally showerheads account for 11.7% expected savings. All other measures contribute less than 10% to the program.

7.2.2 TIMING OF PROJECTS

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



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lighting	0	27,377	5,078	4,160	0	74,343	0	54,442	65,068	66,134	8,392	0
Appliances	0	15,370	4,505	4,611	0	45,495	0	46,417	44,573	27,973	10,144	0
Envelope	0	0	0	0	0	0	0	0	103,974	151,244	141,845	141,527
HVAC	0	2,058	0	1,715	0	9,604	0	3,087	145,123	257,159	267,648	279,461
Water	0	29,167	5,658	4,202	0	152,889	0	100,612	63,547	130,048	27,911	0

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

7.2.3 TRADE ALLIES

The program had four participating trade allies in PY12. Three of the reported trade allies perform weatherization work, including the following measures: duct sealing and air infiltration.

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 7-5 MULTIFAMILY SOLUTIONS TRADE ALLY ACTIVITY

Trade Ally	Gross Energy Savings (kWh)	% of Savings
Franklin	1,038,353	41%
TA 2	653,727	26%
TA 3	515,243	20%
TA 4	315,239	12%

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 7-6 PY12 MULTIFAMILY SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
1,616,270	157%	2,530,865	470.00	121%	571.02

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 7-7-ENERGY SMART FOR MULTIFAMILY DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Impact	Process
Staff & TPI Interviews	3		X
Database Reviews	Census	X	X
Desk Reviews	Census	X	
Property Manger Interviews	6	X	X
Site Visits	3 Complexes	X	

7.3.1 SITE VISITS

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

TABLE 7-8 SITE VISIT SUMMARY

Measure	PY12 Participant Count	Identified in Site Visit
1.0 Bathroom Aerator	997	0
1.5 Kitchen Aerator	1,082	3
1.5 Showerhead	1,111	3
Air Infiltration	575	0
Duct Sealing	574	0
LED Lamp	1,958	3
Pipe Insulation	995	3
Smart Thermostat	43	0
Advanced Power Strip	614	0

Gross realization rates are presented in the table below. All results are also benchmarked against similar programs in the region to ensure they are within industry standards. Additional measure-specific impacts were derived from the multifamily property manager interviews.

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.

TABLE 7-9 MEASURE-SPECIFIC GROSS IMPACTS FOR MF SOLUTIONS

Measure	In-Service Rate
Aerator	100%
Low flow Showerhead	100%
Air Infiltration	100%
Duct Sealing	100%
LED Lamp	100%
Pipe Insulation	100%
Smart Thermostat	100%
Advanced Power Strip (Tier 1)	100%

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 Faucet Aerator (Bathroom & Kitchen)

Expected and verified savings for aerators are summarized below. There were 2,422 aerators installed at 2,079 residences.

TABLE 7-10 PY12 MULTIFAMILY EXPECTED AND VERIFIED AERATORS SAVINGS

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
88,505	88,446	100%	9.16	9.20	100%

7.4.1.2 Air Infiltration

Expected and verified savings for the air infiltration projects are summarized below. There were 575 air infiltration projects.

TABLE 7-11 PY12 MULTIFAMILY EXPECTED AND VERIFIED AIR INFILTRATION SAVINGS

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
538,591	538,591	100%	175.65	175.65	100%

7.4.1.3 Duct Sealing

Expected and verified savings for the duct sealing projects are summarized below. There were 574 duct sealing projects.

TABLE 7-12 PY12 MULTIFAMILY EXPECTED AND VERIFIED DUCT SEALING SAVINGS

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
945,617	944,808	100%	266.92	266.76	100%

7.4.1.4 LED Lamp

Expected and verified savings for LED lamps are summarized below. There were 11,509 LED lamps installed at 1,958 residences.

TABLE 7-13 PY12 MULTIFAMILY EXPECTED AND VERIFIED LED SAVINGS

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
304,993	311,462	102%	51.73	52.83	102%

7.4.1.5 Water Heater Pipe Wrap

Expected and verified savings for the pipe wrap projects are summarized below. Pipe wrap was installed 995 residences.

TABLE 7-14 PY12 MULTIFAMILY EXPECTED AND VERIFIED PIPE WRAP SAVINGS

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
131,635	131,613	100%	15.07	15.07	100%

7.4.1.6 Low flow Showerhead

Expected and verified savings for showerheads are summarized below.

TABLE 7-15 PY12 MULTIFAMILY EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

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
293,892	293,886	100%	30.55	30.56	100%

7.4.1.7 Smart Thermostat

Expected and verified savings for smart thermostats are summarized below.

TABLE 7-16 PY12 MULTIFAMILY EXPECTED AND VERIFIED SHOWERHEADS SAVINGS

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
20,237	20,245	100%	0.00	0.00	N/A

7.4.1.8 Avoided Replacement Cost

The Evaluators have added the benefits of ARC. The table below summarize the ARC by measure in MF Solutions. Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 7-17 SUMMARY OF ARC FOR MF SOLUTIONS

Measure	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	NPV ARCs ($)
Air Infiltration	$0	$0	$0
Duct Sealing	$0	$0	$0
Indoor LED Lamp (Specialty)	$14,578	$14,578	$14,578
Indoor LED Lamp (Standard)	$25,218	$25,218	$25,218
Outdoor LED Lamp (Specialty)	$7	$7	$7
Water Heater Pipe Insulation	$0	$0	$0
Low flow Showerhead	$0	$0	$0
Smart Thermostat	$0	$0	$0
Aerator	$0	$0	$0
Advanced Power Strip	$0	$0	$0
Total	**$39,803**	**$39,803**	**$39,803**

Sums may differ due to rounding.

7.4.2 NET IMPACT FINDINGS

Multifamily property manager interview responses were used to estimate the net energy impacts of the program. Table 7-18 summarizes the net impacts of the program. No spillover was identified in the survey of program participants.

TABLE 7-18 MF SOLUTIONS NTG VALUES AND SOURCES

Measure	Net-to-Gross Ratio	Source of NTG
1.0 Bathroom Aerator	100.0%	Property Manager Interviews
1.5 Kitchen Aerator	50.0%	Property Manager Interviews
1.5 Showerhead	100.0%	Property Manager Interviews
Air Infiltration	95.0%	NO TRM V5.0
Duct Sealing	95.0%	NO TRM V5.0
Indoor LED Lamp (Specialty)	100.0%	Property Manager Interviews
Indoor LED Lamp (Standard)	100.0%	Property Manager Interviews
Outdoor LED Lamp (Specialty)	100.0%	Property Manager Interviews
Pipe Insulation	100.0%	Property Manager Interviews
Smart Thermostats	100.0%	Property Manager Interviews
Tier 2 APS	100.0%	Property Manager Interviews

TABLE 7-19 PY12 MULTIFAMILY SOLUTIONS PROGRAM NET SAVINGS

Verified Gross kWh Savings	Verified Net kWh Savings	kWh NTG	Verified Gross kW Reductions	Verified Net kW Reductions	kW NTG
2,530,865	2,441,936	96%	571.02	547.37	96%

Individual measure net savings are summarized in Section 7.1 Summary.

7.4.3 PROCESS FINDINGS

7.4.3.1 Staff and Implementer Interview

The following section summarizes the key findings from in-depth interviews with two ENO program staff members and two implementation staff (one from Franklin and one from APTIM). These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission. Much of the findings for the program design and operations for residential programs, including Multifamily Solutions, are presented in Section 4.4.3.1.

7.4.3.1.1 *Program Challenges*

Program staff noted an influx of projects at the end of the year, as several properties are lined up for projects that will provide a significant amount of savings for PY12. Program staff noted that more properties engaged in the program later in the calendar year. Staff indicated that since COVID mandates have been lifted, property managers have been more willing to engage in the program. As the year wrapped up, Franklin staff were cognizant of the need to balance property managers desire for changes to be made before the holiday season, along with program budget and savings goals.

7.4.3.2 Property Manager Survey Findings

7.4.3.2.1 *Methodology*

ADM evaluators conducted a survey with property managers who were key decision-makers in completing projects through ENO' Multifamily Solutions program, to gain insight into customer satisfaction and feedback. Property managers were contacted through email and phone to complete the survey, six were contacted and five completed it (Table 7-20). The precision of the survey is +/- 73.6% at the 10% level of confidence. The following sections summarize those responses.

TABLE 7-20 SURVEY/INTERVIEW CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of property managers contacted by email and phone	6
Undeliverable emails	1
Completed	5
Incentives paid	$125
Response rate	12%

7.4.3.2.2 *Program Awareness and Motivation*

Two of the surveyed property managers learned about the program by speaking with a program representative, while others were referred to the program by someone within their company or by a tenant (Figure 7-3). Property managers were mostly driven (80%, n=4) to participate to improve tenant comfort and satisfaction.

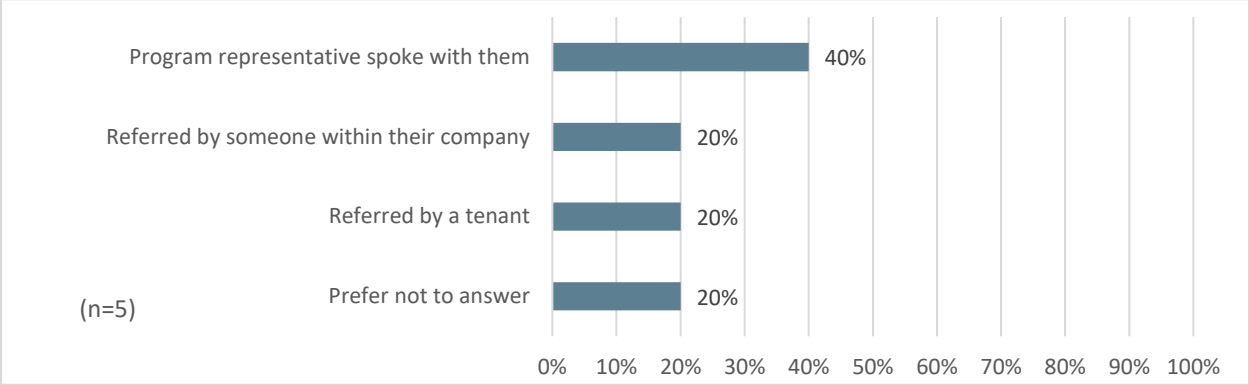


FIGURE 7-3 PROGRAM AWARENESS

The number of units that received improvements through the program varied from six to 204 (Table 7-21).

TABLE 7-21 NUMBER OF UNITS THAT RECEIVED IMPROVEMENTS THROUGH THE PROGRAM

Number of Units	Count
6	1
10	1
40	1
80	1
204	1

7.4.3.2.3 *Program Satisfaction*

All five respondents indicated that the improvements made through the program, were done to their satisfaction. Additionally, satisfaction with various elements of the program, was high (Figure 7-4). Respondents were least satisfied with the wait-time to receive the services.

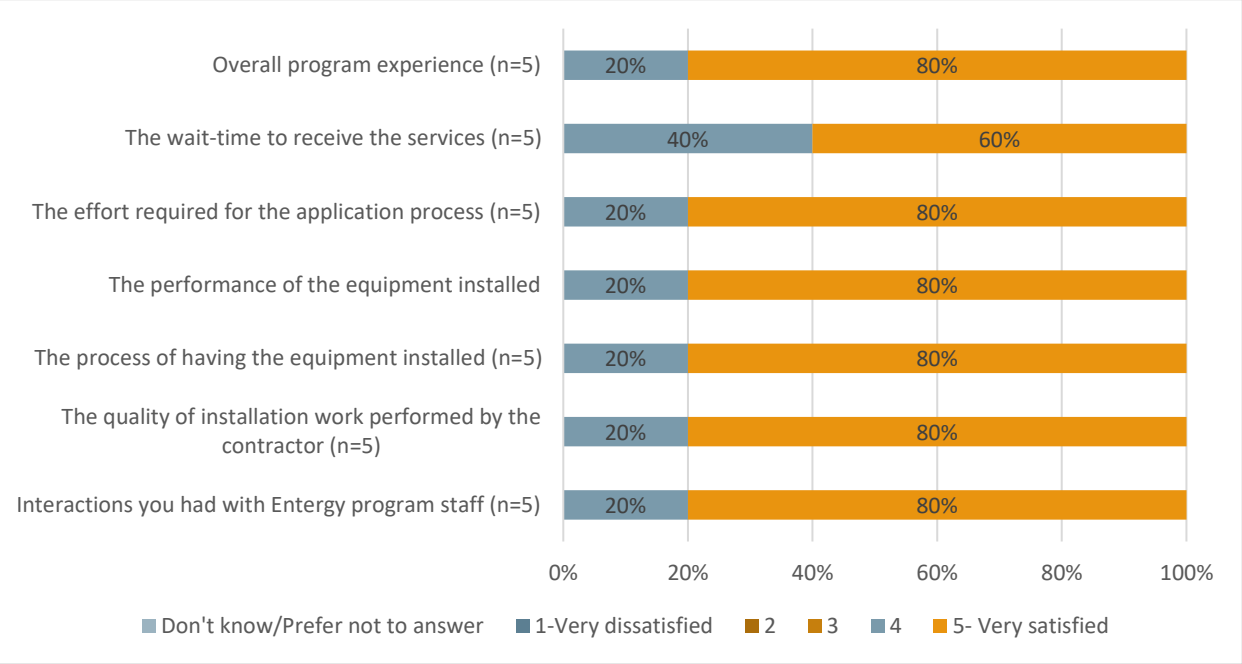


FIGURE 7-4 PROGRAM SATISFACTION

7.4.3.2.4 *Program Influence*

Since participating in the program, one respondent indicated they made additional upgrades or improvements, which include lighting upgrades. However, they did not receive an incentive for the lighting upgrades because they were not aware of any incentive or rebate at the time. This property manager indicated that their participation in the program was very influential (cited as a 10 on a 11-point scale) in their decision to make additional purchases or upgrades.

7.4.3.2.5 *Property Managers' Roles and Responsibilities, Property Characteristics and Tenant Responsibilities*

Among the surveyed property managers, one indicated that the property is independently owned and managed, and the other four stated the property is owned/managed by a company that owns other properties. Two property managers indicated they were only responsible for and work onsite at the property where the project was completed, while one indicated they split their time between multiple properties (Table 7-22). Three property managers indicated they have full authority to make decisions about upgrades or improvements to the property, while one indicated they authority is limited in some way, and another said their authority is limited to any project less than $1,000.

All respondents reported that tenants rent rather than own their respective properties. Most (80%, n=4) of the surveyed property managers indicated that tenants are responsible for paying their electricity bills. One respondent indicated that their property has another type of arrangement and elaborated that "some are paid, some are not."

Four of the five respondents indicated that some of the units at their respective properties, receive some type of federal, state, or other housing assistance. Of those properties, two respondents indicated that about 25 to 50

percent of their units receive assistance; while the other two respondents reported that about 75 to 99 percent of units receive assistance.

All the properties that participated in the MF program are apartment complexes with five or more units and were built before 1990. All properties heat their homes and water via electricity. See Table 7-22 for a more detailed breakdown.

TABLE 7-22 PROPERTY CHARACTERISTICS

Response	Count	Percentage of Survey Respondents
Year Residence was Built		
Before 1970s	1	20%
1970 -1979	2	40%
1980 -1989	1	20%
Don't know	1	20%
Residence Type		
Apartment building with 5-10 units	2	40%
Apartment building with more than 10 units	3	60%
Home Heating Fuel		
Electricity	5	100%
Natural gas	0	0%
Prefer not to answer	5	100%
Water Heating Fuel		
Electricity	5	100%
Natural gas	0	0%
Property Management Status		
Independent	1	20%
Owned/managed by a company with other properties	4	80%

7.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY11 data were generally present in PY12. The following bullets outline notes from reviewing the data:

- **Installation dates**: the Evaluators noted that installation dates were added in for PY12, but there were a few projects that were missing installation dates (3 projects unique by Project ID);
- **Trade ally information**: In general, Trade Ally primary contact names, company names, contact phone numbers, and email addresses were provided in PY12 data, however, there were a handful of projects that were missing these fields:
  - **Trade ally primary contact name**: 3 projects unique by Project ID (3 out of 1,739 projects)
  - **Trade ally main phone number**: 229 projects unique by Project ID (229 out of 1,739)
  - **Trade ally email address**: 229 projects unique by Project ID (229 out of 1,739)
- **Tenant information**: Limited effective tenant contact names, contact phone numbers, and email addresses.
- **Measure-level parameters**: the following is an outline of missing or problematic parameters needed for savings calculations by measure:
  - **LED Lamp**: heating / cooling types for apartment units were missing.

In addition to the tracking data issues described above, the Evaluators noted that apartment unit numbers were not included in the address and tenant contact information was not present. This presents an issue when trying to determine which projects to verify out in the field and makes it difficult to conduct participant surveys that are intended for customers. Although property managers are technically the program participants, they often do not know whether direct install measures are still installed and in use.

7.6 Findings and Conclusions

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **The program achieved 156.6% of program *ex ante* gross energy savings (kWh) in PY12.** Despite falling just short of fully realizing all projects, the program has been consistent in its measure offerings while continuing to increase overall portfolio contribution. Compared to PY11, there was an overall increase in participation of 7%, accounting for an increase of 122% expected savings.
- **Program staff noted that more properties engaged in the program later in the calendar year.** Staff indicated that since COVID mandates lifted, property managers seem less apprehensive and more willing to engage in the program. Franklin staff are aware of the need to balance property managers desire for changes to be made before the holiday season, along with program budget and savings goals.
- **Most respondents (4 out of 5) were driven to participate to improve tenants' comfort and satisfaction.**
- **Satisfaction with improvements made through the program is high among surveyed property managers.** All surveyed property managers (n=5) were satisfied with all elements of the participation process.

7.7 Recommendations

The following summarizes key recommendations after completing the evaluation.

- **Consider adding tenant contact information and apartment units in tracking data.** Property manager's contact information is important for primary data collection. However, in cases where site visits are limited, the Evaluators must conduct tenant surveys to gather additional information. Apartment unit numbers in the addresses is also important to better be able to identify projects within the same address.
- **Seek to engage with multifamily property managers and owners earlier in the program year to potentially expand completed projects.** Recruiting and working with additional multifamily property managers and owners may better ensure program stability and increase the number of projects.
- **Ensure there is sufficient communication with participating decision makers regarding improvements made through the program.** Property manager interview findings indicate there may be an opportunity to increase decisionmakers' awareness of the improvements completed and the impact of the program. Offering decisionmakers a summary report, coupled with a brief service provider discussion to review its details, could act to ensure awareness of the improvements made through the program.

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.

TABLE 8-1 PY12 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	1,955	100%	1,955	72%	1,413
Central AC Tune-up	816,365	97%	792,167	95%	748,828
Duct Sealing	601,558	100%	601,002	85%	513,746
Ductless Heat Pump	3,725	100%	3,725	102%	3,805
Smart Thermostat	3,773	100%	3,774	102%	3,856
Total	**1,427,376**	**98%**	**1,402,624**	**91%**	**1,271,648**

Sums may differ due to rounding.

TABLE 8-2 PY12 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	0.89	100%	0.89	72%	0.64
Central AC Tune-up	383.88	97%	372.50	95%	352.12
Duct Sealing	224.83	100%	224.70	85%	192.07
Ductless Heat Pump	0.51	100%	0.51	102%	0.52
Smart Thermostat	0.00	100%	0.00	102%	0.00
Total	**610.11**	**98%**	**598.59**	**91%**	**545.36**

Sums may differ due to rounding.

TABLE 8-3 PY12 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	37,147	26,850
Central AC Tune-up	10	7,921,674	7,488,280
Duct Sealing	18	10,818,035	9,247,437
Ductless Heat Pump	18	67,050	68,490
Smart Thermostat	11	41,519	42,411
Total	**13**	**18,885,425**	**16,873,467**

Sums may differ due to rounding.

TABLE 8-4 PY12 AC SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend ($)
Central AC Replacement	34	$342
Central AC Tune-up	623	$872
Duct Sealing	34	$238
Ductless Heat Pump	623	$1,402
Smart Thermostat	40	$910
Total	**1,354**	**$3,764**

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.

Incentives for air conditioner replacements range from $50 to $150, depending on the size and SEER of the new unit. Incentives for ducted heat pumps range from $150 to $250, depending on size and SEER of the new unit. Ductless heat pumps may receive incentives ranging from $250 to $500 depending on the size of the unit.

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.

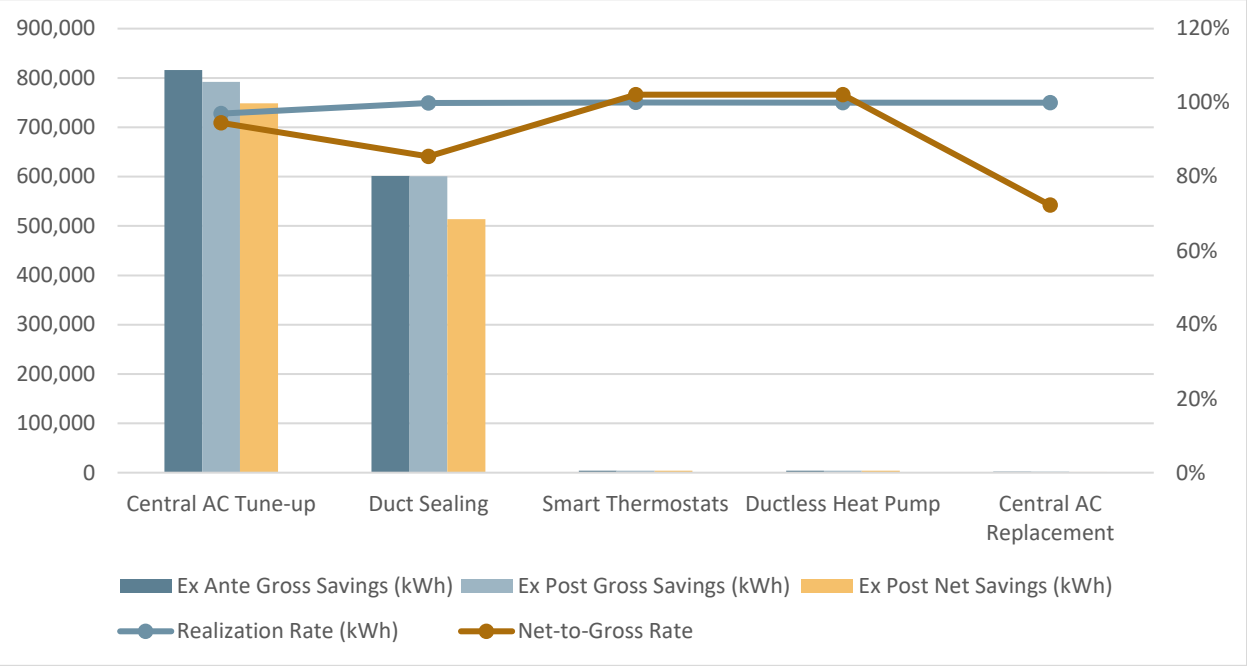
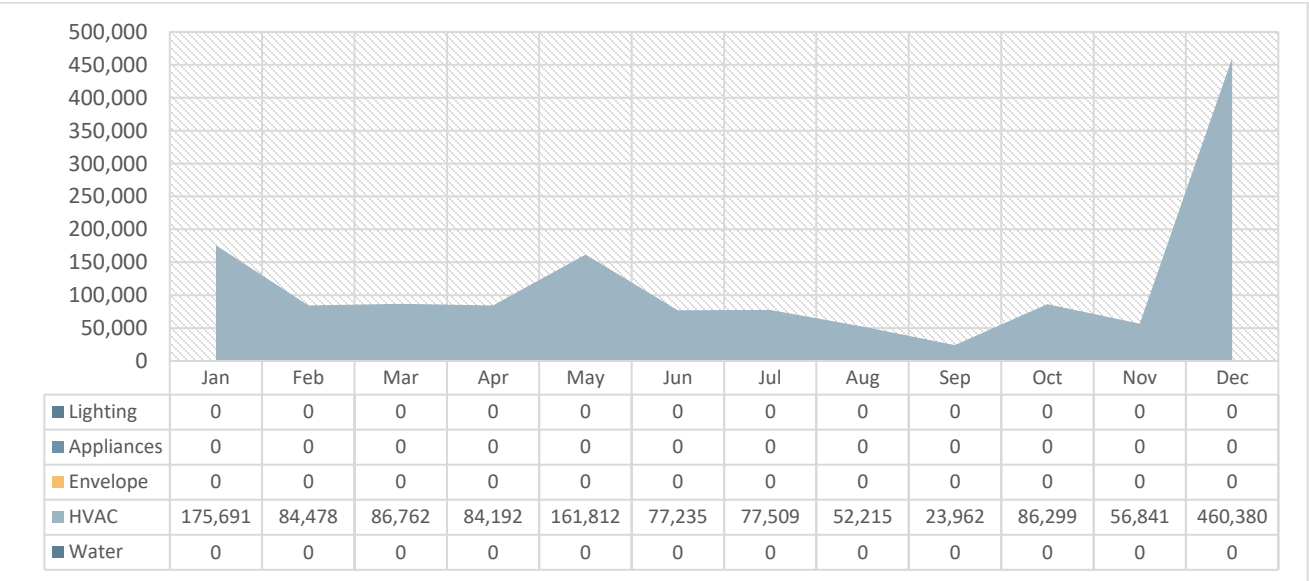


FIGURE 8-1 AC SOLUTIONS COMBINED SAVINGS CONTRIBUTION BY MEASURE

AC tune-ups (71%), duct sealing (19%) and smart thermostats (10%) were the high impact measures in the AC Solutions program. There were 788 total distinct homes accounting for 1,402,624 kWh of expected savings.

8.2.2 TIMING OF PROJECTS

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



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Appliances	0	0	0	0	0	0	0	0	0	0	0	0
Envelope	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	175,691	84,478	86,762	84,192	161,812	77,235	77,509	52,215	23,962	86,299	56,841	460,380
Water	0	0	0	0	0	0	0	0	0	0	0	0

FIGURE 8-2 *EX ANTE* BY END USE BY MONTH

8.2.3 TRADE ALLIES

The program had seven (7) participating trade allies identified in project data; there were also three unknown trade allies, all AC tune-up projects. Four of the reported trade allies installed some combination of smart thermostats, duct sealing and performed AC tune-ups, including the two top performing trade allies. Two additional trade allies only performed AC tune-ups. The remaining trade allies installed ductless heat pumps.

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

TABLE 8-5 AC SOLUTIONS TRADE ALLY ACTIVITY

Trade Ally	*Ex Ante* Gross Energy Savings (kWh)	% of Savings
TA 1	988,507	69%
TA 2	242,018	17%
TA 3	154,922	11%
TA 4	33,866	2%
TA 5	2,383	< 1%
TA 6	2,235	< 1%
TA Unknown	1,955	< 1%
TA 8	745	< 1%
TA 9	745	< 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 8-6 PY12 AC SOLUTIONS SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
2,388,674	58.7%	1,402,624	687.00	87.1%	598.59

8.3 EM&V Methodology

The evaluation approach for PY12 included the following activities: project data review, desk reviews; site visits and participant surveys. Impact methodologies for the Program are the same as described for HPwES in Section 4.3.1, measures not covered are described below.

In PY12, savings for these measures are fully deemed based on the NO TRM V5.0.

TABLE 8-7 AC SOLUTIONS DATA COLLECTION ACTIVITIES

Evaluation Activity	Sample Size	Year Conducted	Impact	Process
Staff & TPI Interviews	3	PY12		X
Database Review	Census	PY12	X	X
Trade Ally Interviews	5	PY12	X	X
Participant Survey	80	PY12	X	X
Desk Reviews	Census	PY12	X	
Data Collection Form Review	Census	PY12		X
Billing analysis: Average E_{base} (kWh/ton)	Near-Census	PY11	X	
Establish *RelSav* from field measurements	40	PY11	X	

8.3.1 SITE VISITS

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

TABLE 8-8 SITE VISIT SUMMARY

Measure	PY12 Participant Count	Found in PY12 Site Visit
Central AC Tune-up	1,014	21
Duct Sealing	297	14
Smart Thermostat	10	1
AC Replacement	3	0
Ductless Heat Pump	5	0

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 8-9 MEASURE-SPECIFIC GROSS IMPACTS FOR AC SOLUTIONS

Measure	In-Service Rate	Source of ISR
AC Replacement	100.0%	Low response rate, literature review.
AC Tune-up	97.0%	Participant survey
Duct Sealing	100.0%	Participant survey
Ductless Heat Pump	100.0%	Participant survey
Smart Thermostat	100.0%	Participant survey

8.3.2 DEEMED SAVINGS CALCLULATIONS

8.3.2.1 AC Replacement

AC replacement savings were calculated using the savings methodology from the NO TRM V5.0, Section C.3.1.2. The following equations outline the methodology that the Evaluators adhered to.

$$kWh_{Savings} = CAP_c \times \frac{1\text{ kW}}{1{,}000\text{ W}} \times \left(\frac{1}{SEER_{pre}} - \frac{1}{SEER_{post}}\right) \times EFLH_C$$

$$kW_{Reductions} = CAP_c \times \frac{1\text{ kW}}{1{,}000\text{ W}} \times \left(\frac{1}{EER_{pre}} - \frac{1}{EER_{post}}\right) \times \%\text{CF}$$

Where:

CAP_C = Cooling capacity (in BTU)
$SEER_{pre}$ = Measured efficiency of the heating equipment before tune-up
$SEER_{post}$ = Measured efficiency of the heating equipment after tune
EER_{pre} = Full-load efficiency of baseline equipment
EER_{post} = Full-load efficiency of efficient equipment
$EFLH_C$ = Equivalent Full Load Hours - cooling (1,637)
$\%CF$ = Peak coincidence factor

TABLE 8-10 CENTRAL AC REPLACEMENT SCENARIO BASELINES

Replacement Scenario	SEER	EER
New Construction / Replace-on-Burnout	14	11.8
Early Retirement	13	11.2

8.3.2.2 Ductless Heat Pump Replacement

Ductless HP replacement savings were calculated using the savings methodology from the NO TRM V5.0, Section C.3.4.5. The following equations outline the methodology that the Evaluators adhered to.

$$kWh_{Savings\ (Cooling)} = CAP_C \times \frac{1\ \text{kW}}{1{,}000\ \text{W}} \times \left(\frac{1}{SEER_{pre}} - \frac{1}{SEER_{post}}\right) \times EFLH_C$$

$$kWh_{Savings\ (Heating)} = CAP_H \times \frac{1\ \text{kW}}{1{,}000\ \text{W}} \times \left(\frac{1}{HSPF_{pre}} - \frac{1}{HSPF_{post}}\right) \times EFLH_H$$

$$kW_{Reductions} = CAP_C \times \frac{1\ \text{kW}}{1{,}000\ \text{W}} \times \left(\frac{1}{EER_{pre}} - \frac{1}{EER_{post}}\right) \times \%\text{CF}$$

Where:

CAP_H = Heating capacity of HP (in BTU)

$HSPF_{pre}$ = Heating Season Performance Factor of baseline equipment

$HSPF_{post}$ = Heating Season Performance Factor of efficient equipment

TABLE 8-11 CENTRAL AC REPLACEMENT SCENARIO BASELINES

Replacement Scenario	SEER	EER	HSPF
New Construction / Replace-on-Burnout	14	11.8	8.2 (Split)
New Construction / Replace-on-Burnout	14	11.8	8.2 (Packaged)
Early Retirement – Heat Pump Replacement	13	11.2	7.7
NC / ROB – ER to HP Replacement	14	1	3.41
ER – ER to Heat Pump Replacement	13	11.2	3.41

8.3.2.3 Other Measures

For remaining measures, the Evaluators used the following NO TRM V5.0. The sections are in Table 8-12.

TABLE 8-12 NO TRM V5.0 SECTIONS FOR OTHER MEASURES

Measure	TRM Section	Calculated	TRM Table(s)	Table Page(s)
Ductless Heat Pump	C.3.6	Calculated	N/A	C-109

8.4 Evaluation Findings

The findings of the evaluation are found in Section 8.1 Summary.

8.4.1 GROSS IMPACT FINDINGS

8.4.1.1 Central Air Conditioning Replacement

In PY12, the AC Solutions offering incentivized three central AC replacements. Expected and verified savings for central AC replacement projects are summarized below. All projects were early retirement.

TABLE 8-13 PY12 AC SOLUTIONS EXPECTED AND VERIFIED CENTRAL AC REPLACEMENT SAVINGS

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
1,955	1,955	100%	0.89	0.89	100%

8.4.1.2 Central Air Conditioning Tune-up

Incentivized 533 central AC tune-ups in PY12. Expected and verified savings are summarized below.

TABLE 8-14 PY12 AC SOLUTIONS EXPECTED AND VERIFIED CENTRAL AC TUNE-UPS SAVINGS

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
816,365	792,167	97%	383.88	372.50	97%

8.4.1.3 Ductless Heat Pump Replacement

The program rebated five ductless heat pumps. The Evaluators calculated savings for the replacement as new construction (NC) and replacement on burnout (ROB) with the current minimum code as baseline: 14 SEER, 11.8 EER and 8.2 (split) or 8.0 (packaged) HSPF. Methods for calculating the deemed savings values came from the NO TRM V5.0, section C.3.6. Ductless Heat Pump. Deemed per-unit kWh and kW reductions were applied. All projects were early retirement.

TABLE 8-15 DUCTLESS HEAT PUMP DEEMED SAVINGS PER TONNAGE

Replacement Scenario	kWh per Ton	kW per Ton	Average Tons	kWh per Unit	kW per Unit
New Construction	599	0.0606	3.01	1801	0.18
Replace-on-Burnout	599	0.0606	3.01	1801	0.18
Early Retirement	745	0.1026	3.01	2239	0.31

TABLE 8-16 PY12 AC SOLUTIONS EXPECTED AND VERIFIED DUCTLESS HP SAVINGS

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
3,725	3,725	100%	0.51	0.51	101%

8.4.1.4 Duct Sealing

There were 219 duct sealing projects. Expected and verified savings for duct sealing projects are summarized below.

TABLE 8-17 PY12 AC SOLUTIONS EXPECTED AND VERIFIED DUCT SEALING SAVINGS

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
601,558	601,002	100%	224.83	224.70	100%

8.4.1.5 Smart Thermostat

The offering incentivized 91 smart thermostats. Expected and verified savings for smart thermostats are summarized below.

TABLE 8-18 PY12 MULTIFAMILY EXPECTED AND VERIFIED SMART THERMOSTATS SAVINGS

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
3,773	3,774	100%	0.00	0.00	N/A

8.4.1.6 Avoided Replacement Cost

There is 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 V5.0 via metering and billing analysis studies.

The table below presents each NTG value and source. Free ridership was assessed using a participant survey for most measures. A literature review was performed to estimate spillover for central AC replacements due to a lack of survey responses for that measure. Spillover was assessed using the methodology described in section 3.5.2.4.5. The spillover ratio was 2.1%.

TABLE 8-19 AC SOLUTIONS NET IMPACTS

Measure	Net-to-Gross Ratio	Source of NTG
Central AC Replacement	72.3%	Literature Review; small sample
Central AC Tune-up	94.5%	Participant Survey
Duct Sealing	85.5%	Participant Survey
Ductless Heat Pump	102.1%	Participant Survey
Smart Thermostats	102.1%	Participant Survey

Results for overall verified net savings are shown below in Table 8-20.

TABLE 8-20 PY12 AC SOLUTIONS PROGRAM NET SAVINGS

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
1,402,624	1,271,648	91%	598.59	545.36	91%

8.4.3 PROCESS FINDINGS

8.4.3.1 Staff and Implementer Interviews

The following section summarizes the key findings from in-depth interviews with two ENO program staff members and two implementation staff (one from Franklin and one from APTIM). These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission.

8.4.3.1.1 *Program Challenges*

Staff indicated that the program struggled in PY12. Although staff had hoped to complete 400 tune ups, as of staff interviews in Q3, this goal was unlikely to be achieved. Since the program trade ally-driven, Franklin focused on encouraging trade allies to promote the program and complete as many tune ups as possible.

8.4.3.2 Participant Survey Findings

8.4.3.2.1 *Methodology*

The Evaluators conducted a survey with customers who participated in the program to gain insight into customer satisfaction. Program participants were contacted by email to complete an online survey, 408 were contacted and 47 completed it (Table 8-21). The precision of the survey is +/- 12% at the 10% level of confidence. The following sections summarize those responses.

TABLE 8-21 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of participants contacted via email	408
Undeliverable emails	127
Completed	47
Incentives paid	$1,175
Response rate	17%

8.4.3.2.2 *Program Awareness and Influence*

The top source of program awareness for the AC Solutions program was word-of-mouth (37%), followed by the ENO website (28%), and bill inserts or utility mailers (Figure 8-3).

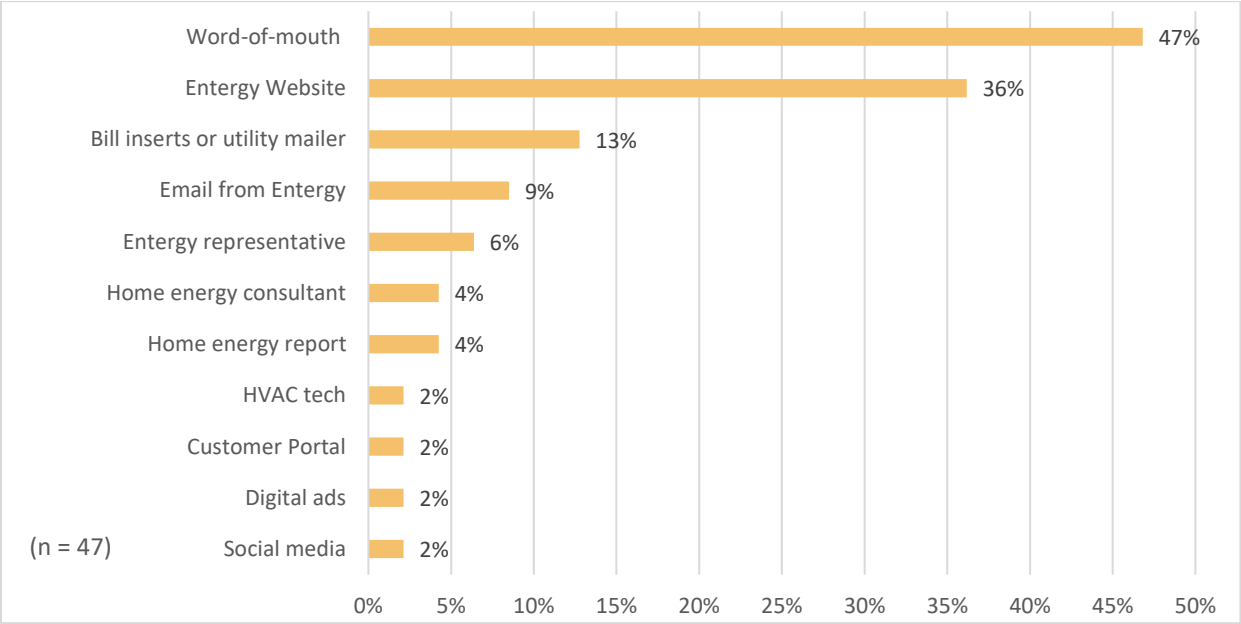


FIGURE 8-3 PROGRAM AWARENESS

Those who learned about the program through some level of interaction with ENO – including email, ENO representative, bill inserts or utility mailer – 68% of those participants (n = 13) indicated that those interactions were very influential in their decision to participate in the program. One respondent noted that those interactions were not at all influential in their decision (see Figure 8-4).

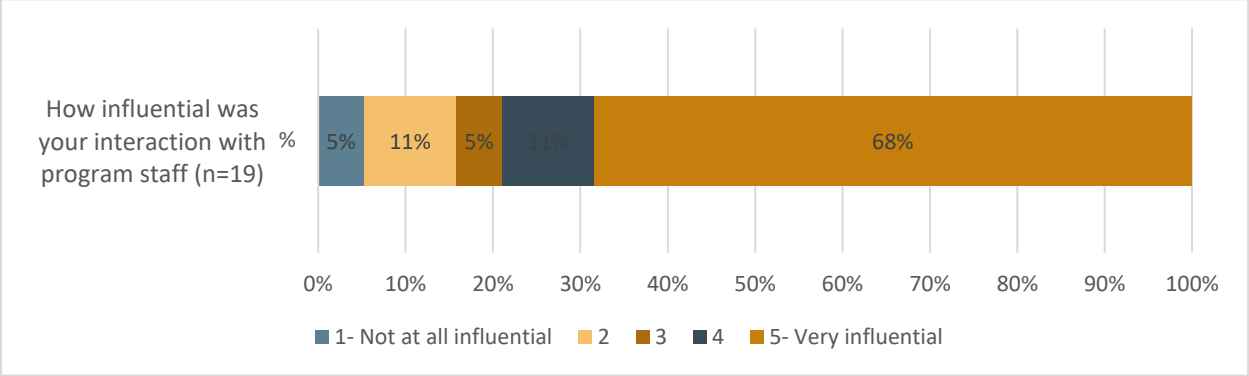


FIGURE 8-4 INTERACTIONS WITH ENO AND ITS INFLUENCE ON PROGRAM PARTICIPATION

Survey participants were motivated to participate in the program to save money on their monthly utility, followed by optimizing their A/C unit, conserving energy, and improving the comfort of their home (Figure 8-5).

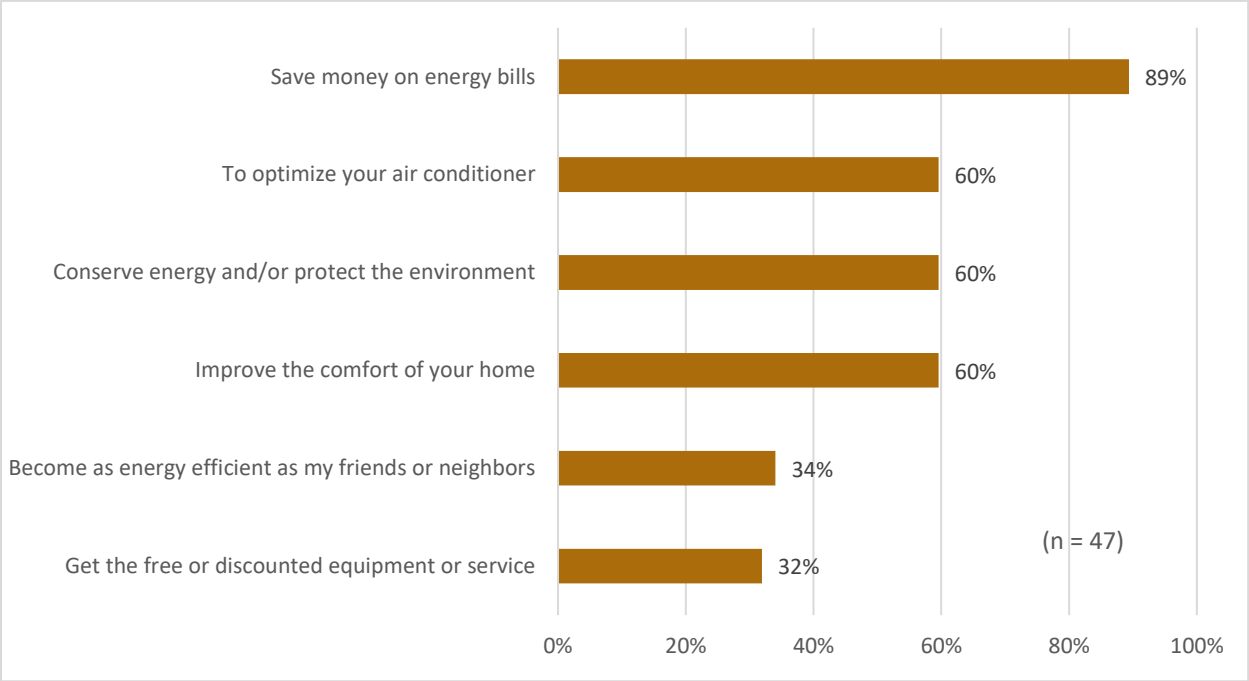


FIGURE 8-5 MOTIVATION FOR PARTICIPATION

Respondents provided feedback if they have ever had a tune-up before participating in the program; seven indicated that they have never had a tune-up prior to participating in this program, while 17 noted they received a tune-up anywhere from less than one year to two years ago (Figure 8-6).

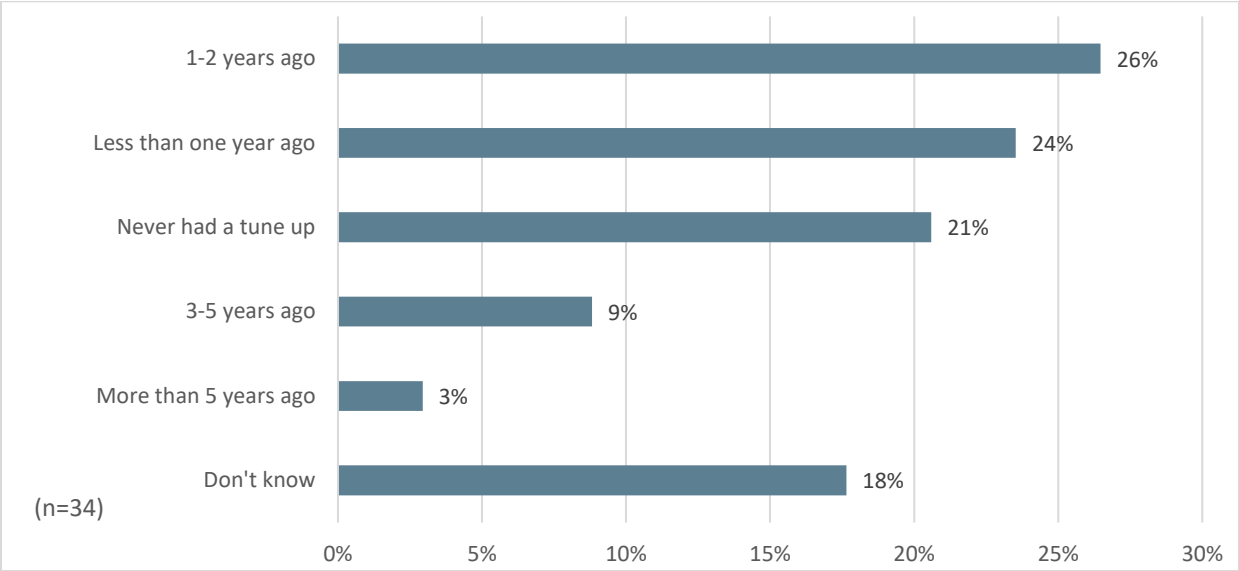


FIGURE 8-6 LAST TIME A TUNE-UP WAS DONE

8.4.3.2.3 *Previous Tune-Up Experience*

Prior to participating in the program, 30% of respondents indicated that they had regular tune-ups done on their heating and cooling systems (Figure 8-7). Of those who had regular tune-ups, one respondent indicated they were part of a regular maintenance contract.

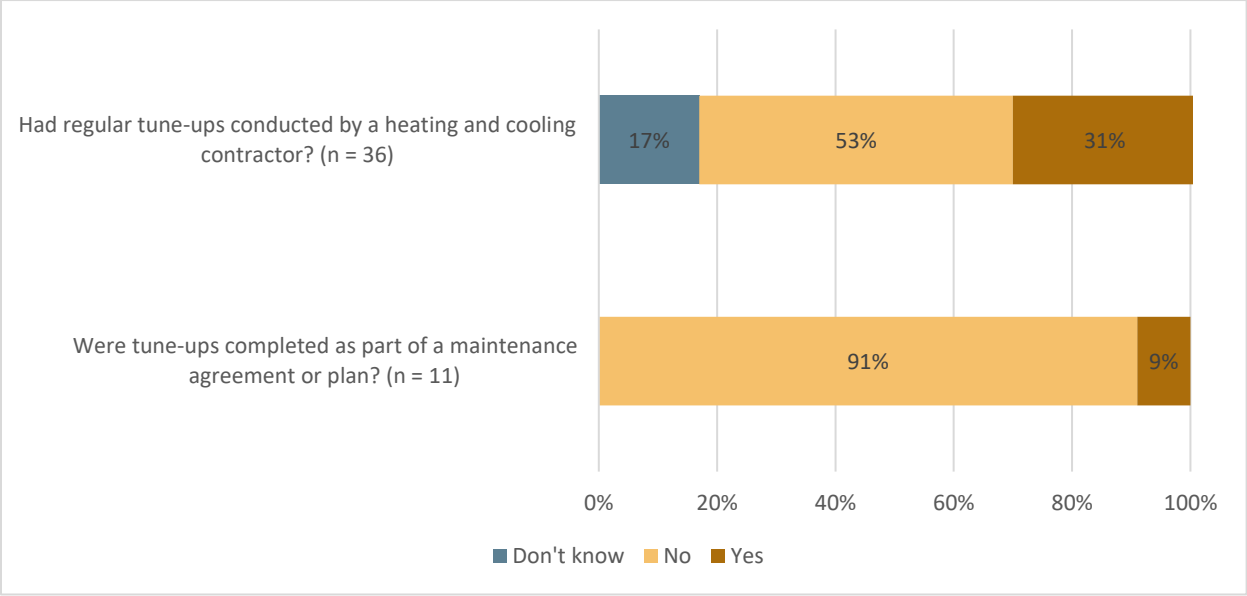


FIGURE 8-7 A/C TUNE-UPS PRIOR TO 2022

When asked further about those previous tune-ups, all eleven respondents indicated that their tune-ups were done were done by a different company other than the company who conducted the tune-up through the program. Additionally, those eleven respondents who indicated they received regular tune-ups, noted how

frequently those tune-ups were done: four indicated once every two years, three indicated once per year, one indicated only as needed for repairs, and one indicated every six months or more.

8.4.3.2.4 *Program Experience and Satisfaction*

Most of the 47 respondents (85%) were satisfied with the home improvements made through the program (Figure 8-8). Seven participants who were dissatisfied noted issues with never receiving measures, unfinished work, and inadequate quality work.

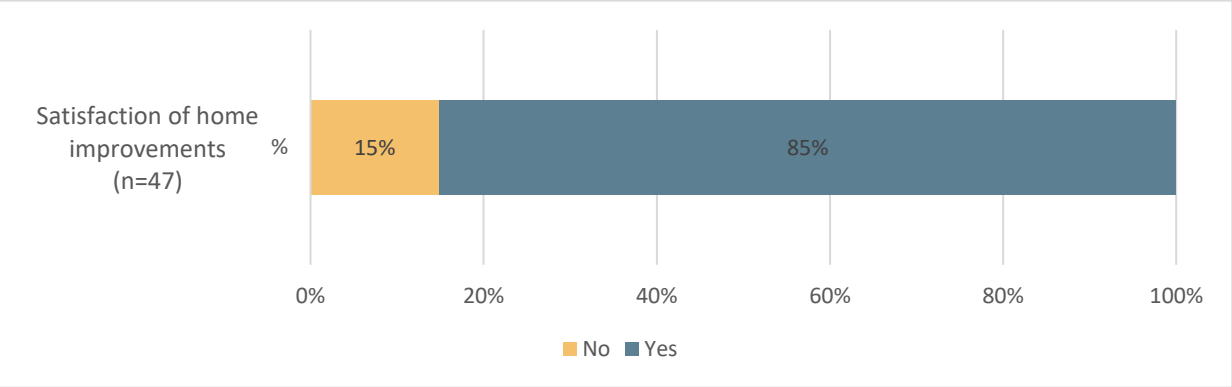


FIGURE 8-8 SATISFACTION WITH IMPROVEMENTS MADE

Participants were generally satisfied with their experience in the program and the various aspects of the program. Overall, 57% of respondents were very satisfied and 26% were somewhat satisfied with the program (Figure 8-9).

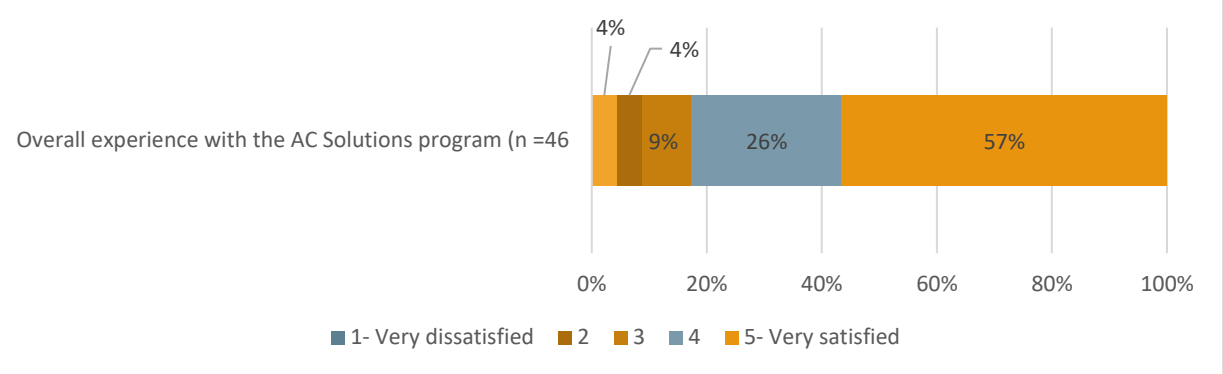


FIGURE 8-9 OVERALL PROGRAM SATISFACTION

Respondents were most satisfied with the interactions between them and the program staff. However, respondents were least satisfied with the savings on their energy bills (Figure 8-10). As previously stated, many customers were motivated to participate to reduce their energy bills but after participation, they were not satisfied with what they had expected in terms of energy bill reductions. This could be due to several factors including season or time of the year, changes in occupancy, and changes in behavior, which can affect energy usage and utility bills.

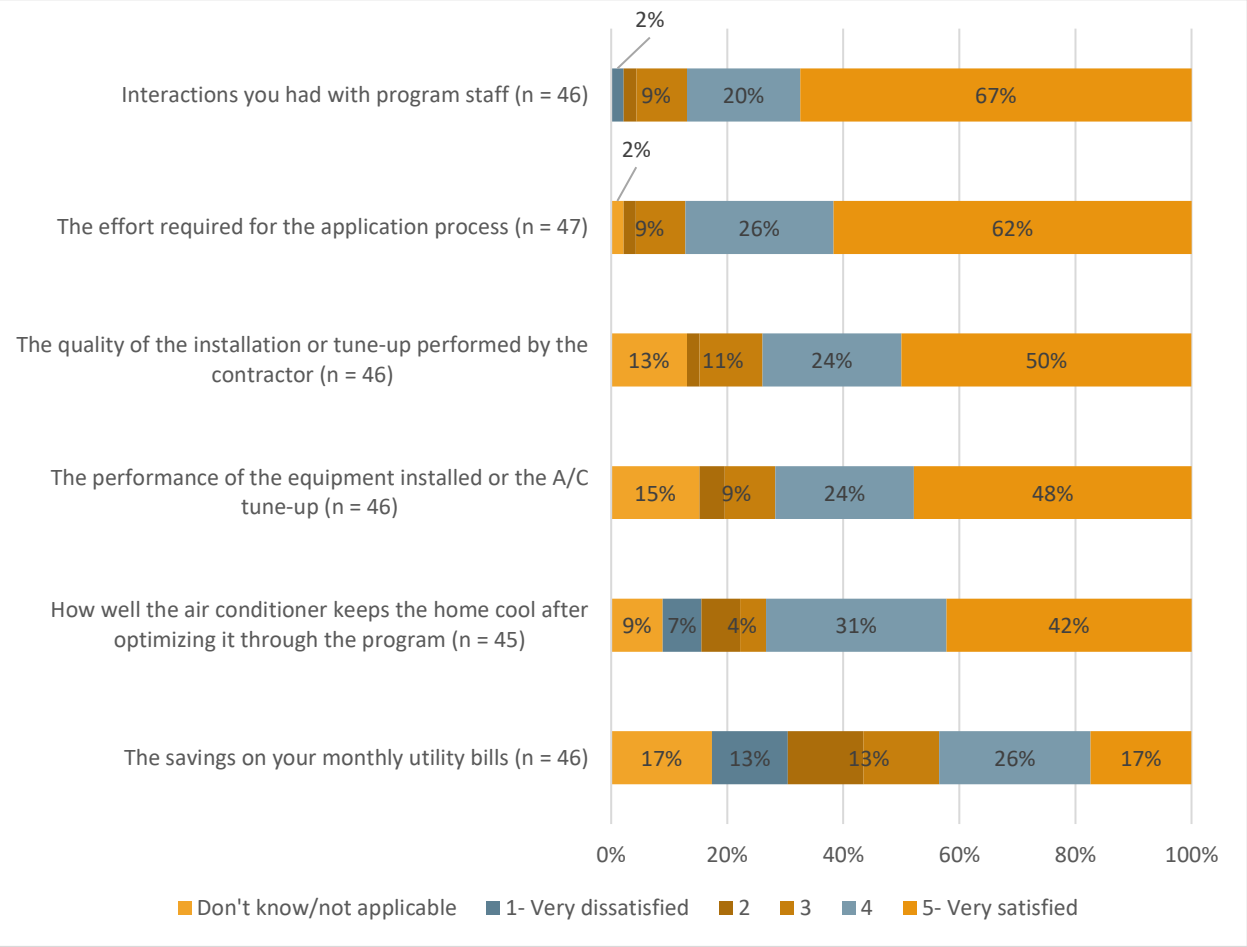


FIGURE 8-10 SATISFACTION WITH VARIOUS ASPECTS OF THE PROGRAM

Those who indicated dissatisfaction with any of the above aspects of the program elaborated with high energy bills, incomplete work, missing measures, unreliable contractors, and poor communication with program staff.

Overall, 27% of respondents are satisfied with ENO as their electricity provider. (see Figure 8-11).

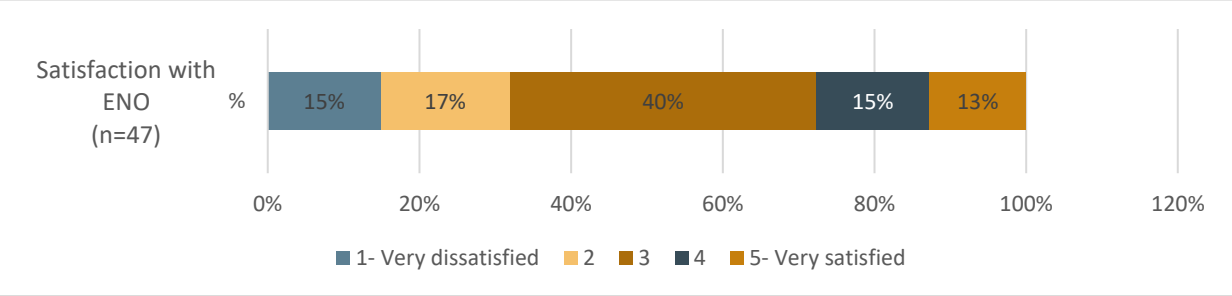


FIGURE 8-11 SATISFACTION WITH ENO AS THE ELECTRIC SERVICE PROVIDER

8.4.3.2.5 *Program Influence*

Participants provided feedback about any additional measures or work performed since participating in the program. Twenty-two respondents indicated that they installed additional, program-qualifying measures, but

did not receive a rebate for those measures. LED lamps (36%) and smart thermostats (22%) were among the most frequently installed measures (Figure 8-12).

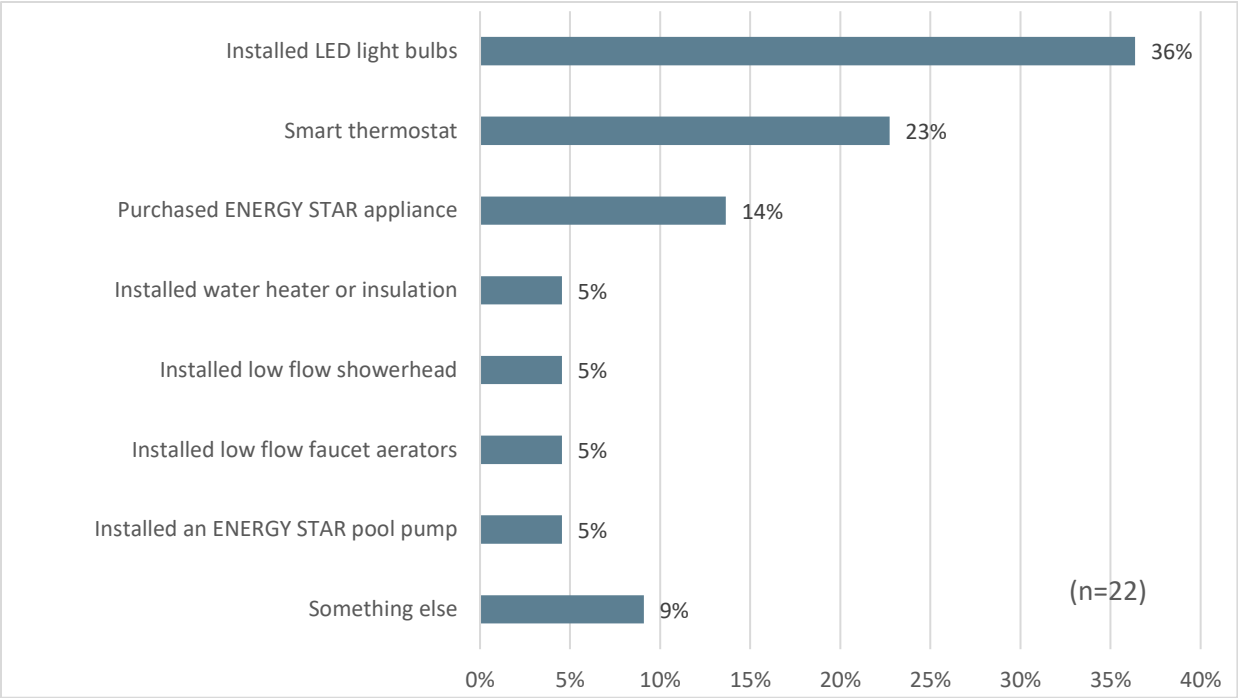


FIGURE 8-12 ADDITIONAL MEASURES INSTALLED AFTER PROGRAM PARTICIPATION

When asked as to why participants did not receive a rebate for the qualifying measures, eight respondents indicated they were not aware a rebate existed for that equipment, or it was not offered to them. One respondent noted that their income was over the limit therefore they did not qualify for a rebate on their unit. Another respondent indicated that the bulbs they installed were not available on the program website. Of those eight respondents who purchased ENERGY STAR appliances, three purchased dryers, followed two who purchased freezers and two who purchased washers (Figure 8-13).

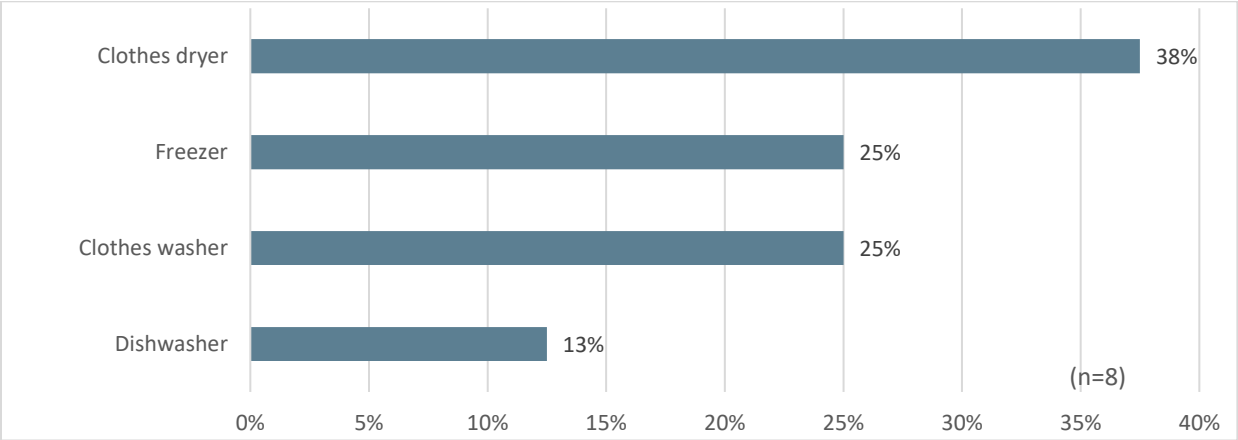


FIGURE 8-13 PURCHASED ENERGY STAR APPLIANCES

Among those customers who purchased a dryer after participating in the program (n=3), two purchased electric dryers and one purchased a gas dryer.

Seven participants indicated that their experience in the program was influential in their decision to purchase additional equipment (rated as an 8 or higher on an 11-point scale). While two respondents indicated the program had little to no influence in their decision (rated as a 5 or lower on an 11-point scale).

8.4.3.2.6 *Respondent Demographics*

Table 8-22 summarizes the survey respondents' housing characteristics. Most survey respondents (74%) reported living in a detached, single-family home. Additionally, a large majority of respondents (72%) indicated they own their home, and a small number of participants indicating they are renters (6%). More than half of respondents (59%) live in a home fueled by electricity and rely on a natural gas water heather (51%).

TABLE 8-22 RESIDENCE CHARACTERISTICS

Response	Count	Percentage of Survey Respondents
Year Home was Built		
Before 1970s	20	44%
1970 -1979	5	11%
1980 -1989	7	15%
1990 -1999	2	4%
2000-2009	4	9%
2010 - 2019	4	9%
2020 or newer	1	2%
Prefer not to state	3	7%
Residence Type		
Single family detached home	35	75%
Townhome	1	2%
Duplex or Triplex	9	19%
Prefer not to state	2	4%
Home Size (Square Feet)		
Less than 1,000	4	9%
1,001-1,500	12	26%
1,501-2,000	11	24%
2,001-2,500	5	11%
Greater than 2,500	10	22%
Don't know	3	7%
Prefer not to state	1	2%
Home Heating Fuel		
Natural gas	17	36%
Electricity	28	60%
Other	1	2%
Prefer not to state	1	2%
Water Heating Fuel		
Natural gas water heater	24	51%
Electric water heater	16	34%
Don't know	7	15%

Table 8-23 summarizes survey respondents' education level, income, and household size. Respondents' educational levels varied, with 36% indicating they have an associate degree or some technical school or college. Household income levels also varied evenly between respondents with most (21%) falling in between $40,000 to $50,000 per year. Most respondents (65%) indicated that they live in a household of one to two persons.

TABLE 8-23 RESPONDENTS' EDUCATION, INCOME AND HOUSEHOLD SIZE

Response	Count	Percentage of Respondents
Respondent Education Level		
High school graduate	2	4%
Associates degree, vocational/technical school, or some college	17	36%
Four-year college degree	12	26%
Graduate or professional degree	13	28%
Don't know	1	2%
Prefer not to state	2	4%
Household Income		
Less than $10,000	2	4%
$10,000 to less than $20,000	5	11%
$20,000 to less than $30,000	4	9%
$30,000 to less than $40,000	3	6%
$40,000 to less than $50,000	10	21%
$50,000 to less than $75,000	2	4%
$75,000 to less than $100,000	3	6%
$100,000 to less than $150,000	5	11%
$150,000 to less than $200,000	1	2%
$200,000 or more	1	2%
Don't know	1	2%
Prefer not to state	10	21%
Household Size		
1	15	32%
2	16	34%
3	3	6%
4	5	11%
5	1	2%
6	3	6%
7	1	2%
Don't know	1	2%
Prefer not to state	2	4%

8.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY11 data were generally present in PY12. The following bullets outline notes from reviewing the Air Conditioning Solutions data:

- **Installation dates**: the Evaluators noted that installation dates were added in for PY12
- **Trade ally information**: In general, Trade Ally primary contact names, company names, contact phone numbers, and email addresses were provided in PY12 data, however, there were a handful of projects that were missing these fields:
  - **Trade ally primary company name**: 2 projects unique by address (2 out of 579 projects)
  - **Trade ally primary contact name**: 49 projects unique by address (49 out of 579 projects)
  - **Trade ally main phone number**: 7 projects unique by address (7 out of 579)
  - **Trade ally email address**: 7 projects unique by address (7 out of 579)

- **Participant information**: In general, participant contact names, contact phone numbers, and email addresses were provided in PY12 data, however, there were many projects that were missing these fields:
  - **Participant main phone number**: Two projects unique by address (two out of 579)
  - **Participant email address**: 125 projects unique by address (125 out of 579)
- **Measure-level parameters**: the following is an outline of missing or problematic parameters needed for savings calculations by measure:
  - **Ductless HP**: there were discrepancies in the capacity tons in which the tracking data had different tonnages reported in the 'Current Units' and the 'Cooling Capacity Tons' fields that resulted in ex ante being calculated based on 'Current Units'. The 'Current Units' field was a quantity of one for all five projects. The 'Current Units' field for AC replacement projects seemed to match the tonnages reported in the 'Cooling Capacity Tons' field.

In addition to the tracking data issues described above, the Evaluators noted that make and model numbers for the AC replacement and ductless HP projects were not included. Having unit make and model numbers allows the Evaluators to verify efficiencies that may result in increased verified energy savings and demand reductions based on the methodologies in the NOLA TRM V5.0.

8.6 Findings and Conclusions

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **The program achieved 58.7% of program *ex ante* gross energy savings (kWh).** Compared to the nominal PY11 program findings, the program experienced an increase in expected savings, accounting for a 25% increase.
- **The program remained relatively consistent with prior years, yet program participation struggled.** Program staff pointed to hurricane recovery efforts as a barrier to participation. Heat pump replacements were added into the PY12 offerings.
- **Participants largely learned about the program through word-of-mouth.** The top source of program awareness (46%, n=47) was word-of-mouth, followed by the program website, and bill inserts or utility mailers. Program participants indicated that saving money on their monthly utility bills was the number one motivator to participate, followed by optimizing their AC unit, conserving energy, and improving the comfort of their home.
- **About one-third of respondents had regular tune-ups prior to participation.** Among these participants, one customer indicated those tune-ups were part of a regular maintenance contract, while the rest were not part of a contract. The cadence of the regular tune ups ranged from every six months to as needed.
- **Respondents reported high satisfaction with the home improvements made through the program (85%).** In general, respondents were satisfied with the program, particularly with the application process (88%) and communication with program staff (87% satisfied). Respondents were most dissatisfied with the savings on their energy bill (26%), indicating bills did not decrease as much as anticipated.

8.7 Recommendations

The following summarizes key recommendations after completing the evaluation.

- **Consider aggregating all program data together to address macro-level database inconsistencies.** The review of data involved looking at two separate workbooks with inconsistent sizes and inconsistent heading titles for the same data point. There are missing data points required for calculation inputs while the other had inconsistencies in savings and incentives. The Evaluators suggest aggregating all the program data into one workbook, with a focus on providing all of the required fields for all measure calculations.
- **Continue to improve the information and messaging about the availability of HVAC equipment for replacements.** It is recommended to increase customer awareness of the availability of HVAC equipment for customers interested in replacements. Consider offering additional marketing efforts and increase educational resources that could be made available to retailers and HVAC contractors.

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 PY12 SK&E ENERGY SAVINGS (KWH)

Measure	*Ex Ante* Gross Savings (kWh)	Realization Rate (kWh)	*Ex Post* Gross Savings (kWh)	NTG	*Ex Post* Net Savings (kWh)
School Kits	810,950	74%	596,196	100%	596,196
Total	**810,950**	**74%**	**596,196**	**100%**	**596,196**

Sums may differ due to rounding.

TABLE 9-2 PY12 SK&E DEMAND REDUCTIONS (KW)

Measure	*Ex Ante* Gross Demand (kW)	Realization Rate (kW)	*Ex Post* Gross Demand (kW)	NTG	*Ex Post* Net Demand (kW)
School Kits	116.55	72%	84.18	100%	84.18
Total	**116.55**	**72%**	**84.18**	**100%**	**84.18**

Sums may differ due to rounding.

TABLE 9-3 PY12 SK&E LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
School Kits	11	6,803,648	6,803,648
Total	**11**	**6,803,648**	**6,803,648**

Sums may differ due to rounding.

TABLE 9-4 PY12 SK&E PARTICIPATION AND INCENTIVE SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend ($)
School Kits	48	$108,325
Total	**48**	**$108,325**

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.

The kit component of the program includes a 45 to 90-minute presentation given by program staff to 6th and 10th grade students. The presentation focuses on energy use and the importance of conservation. Students also receive an energy efficiency kit that contains the following items:

- Four 9W LEDs and two 15W LEDs;
- Two low flow faucet aerators;
- One low flow showerhead;
- A flow-rate bag for measuring the flow rate of faucets and showers;
- A flyer that describes the kit items and their benefits, and other Energy Smart offerings; and
- QR codes printed by each item that link to installation videos to aid in installation.

The adult outreach activities are intended to educate the organizations' members about energy efficiency and the program. The outreach activities include:

- Presentations at neighborhood groups and churches;
- Attendance at fairs and festivals; and
- Hosting tables at public events and public buildings.

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. Marketing of the program and recruitment of teachers occurs in July and August and then program staff schedules time to visit the classrooms during the school year based on teachers' curricula. Typically, the kits are incorporated into students' science classes, but program staff have also visited social studies classes. The schools kit program was also able to visit two summer camps in the summer of 2022 and distribute about 300 kits to campers. Program staff hope to expand into more summer camps through a partnership with the New Orleans Recreation Department.

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.

9.1.1.2 Timing of Projects

There are no dates reported in the program data.

9.1.1.3 Trade Allies

There are no trade allies in the program.

9.1.1.4 Goal Achievement

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

TABLE 9-5 PY12 SK&E SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
681,132	88%	596,196	81.00	104%	84.18

9.2 EM&V Methodology

Electricity savings and peak demand reductions were estimated using inputs from the NO TRM V5.0. 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
1.0 Bathroom Aerator	35.7%	PY12 Student / Teacher Survey
1.5 Kitchen Aerator	37.0%	PY12 Student / Teacher Survey
1.5 Showerhead	45.3%	PY12 Student / Teacher Survey
LED 14W A-Type	56.2%	PY12 Student / Teacher Survey
LED 9W A-Type	42.0%	PY12 Student / Teacher Survey
Water Heater Electric Fuel %	57.4%	PY12 Student / Teacher Survey

9.2.2 DEEMED SAVINGS CALCULATIONS

Calculation inputs for LED lamps are outlined below.

TABLE 9-7 ENERGY STAR OMNIDIRECTIONAL LEDS – DEEMED SAVINGS PER LAMP

Minimum Lumens	Maximum Lumens	LED Wattage	Incandescent Equivalent 1st Tier EISA 2007 (W_{base})
310	749	7	29
750	1,049	9	43
1,050	1,489	12	53
1,490	2,600	15	72

$$kWh_{savings} = \left((W_{base} - W_{post})/1000\right) \times Hours \times ISR^{12} \times IEF_E{}^{13}$$

$$9W\ LED\ kWh_{savings} = 4 \times \left(\frac{(43-9)}{1000}\right) \times 819.43 \times 1 \times 0.91 = 101.41\ kWh$$

$$15W\ LED\ kWh_{savings} = 2 \times \left(\frac{(72-15)}{1000}\right) \times 819.43 \times 1 \times 0.91 = 85.01\ kWh$$

Deemed savings for faucet aerators are outlined below.

[12] 100% in this calculation. Measure-specific ISR applied after.

[13] Unknown heating type: 0.91

TABLE 9-8 FAUCET AERATORS – DEEMED SAVINGS

Efficient GPM Rating	Deemed kWh Savings	Deemed kW Reductions
1.5 GPM	26.80	0.0028
1.0 GPM	44.66	0.0046

Deemed savings for low flow showerheads are outlined below.

TABLE 9-9 FAUCET AERATORS – DEEMED SAVINGS

1.50 GPM Showerhead Deemed Savings		
Water gal. saved /year/showerhead @ 1.5 GPM	2,860	
$T_{\_Supply}$	74.8°F	
$T_{\_Mixed}$	106.8°F	
Water heater EF (excluding standby losses)	0.98 (Electric Resistance) / 2.2 (Heat Pump)	
Energy Savings	Electric: 26.8 kWh	Heat Pump: 11.94 kWh
Demand Savings	Electric: 0.0028 kW	Heat Pump: 0.0012 kW

9.3 Evaluation Findings

Evaluation findings are reported in Section 9.1 Summary.

9.3.1 GROSS IMPACT FINDINGS

Ex post gross savings are 811,149 kWh and 116.58 kW. Savings are summarized in Table 9-10 below.

TABLE 9-10 PY12 SK&E EXPECTED AND VERIFIED SAVINGS

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
810,950	596,196	74%	116.55	84.18	72%

9.3.1.1 Avoided Replacement Cost

The Evaluators have added the benefits of avoided replacement costs (ARC). The table below summarizes the ARC by measure in SK&E. Information on methodology can be found in Section 3.4.1.3 Avoided Replacement Costs.

TABLE 9-11 SUMMARY OF ARC FOR SK&E

Measure	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	NPV ARCs ($)
School Kits	$32,538	$32,538	$32,538

Sums may differ due to rounding.

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 9-12 PY12 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
596,196	596,196	100%	84.18	84.18	100%

Individual measure net savings are summarized in Section 9.1 Summary.

9.3.3 PROCESS FINDINGS

The evaluation of the SK&E is dependent upon collection of adequate data at the time of implementation. The past survey issued to program participants by program staff collected in-service rate data for the equipment included with the kit. Further, this survey allowed participants to indicate willingness to complete a telephone or web-based survey. Our approach for this program was to survey respondents, which have agreed to provide the needed contact information.

The survey collected key data points including:

- What items in the kit did they install;
- What type of water heating do they have; and
- Basic satisfaction rating questions.

With this data, we then applied in-service rates and stipulated per-unit savings to develop program savings results.

9.3.3.1 Staff and Implementer Interview

9.3.3.1.1 *Program Changes*

The Evaluator interviewed ENO, APTIM, Franklin, Energy Wise Alliance staff to gather information about the program.

Staff noted that there were no major changes to the SKE program, or the measures contained in the school kits in PY12. They discussed that the program offered an opportunity to make up for the program losses experienced over the previous two programs years that resulted from COVID-19 and the changing learning environment. One unexpected positive result from the pandemic and hybrid learning environments has been the shift to computer-based teaching. According to the staff, all students have access to computers for work in and out of school, and thus these devices can be used for virtual data collection for the kits program. Unlike the previous paper-based data collection methods, virtual data collection allows students to complete forms online and instantly submit them, rather than manage paper surveys. This switch to virtual data collection has streamlined the data entry process and increased accuracy, as there is less room for transcription errors. Moreover, the program has been testing out a new QR code system in which parents can learn about and enroll in residential programs through the school kits.

9.3.3.1.2 *Program Challenges*

Finding a replacement for LED lamps in the school kits after EISA takes effect in 2023.

9.4 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data and noted that the fields that were missing in PY11 data were still missing in PY12. The following bullets outline notes from reviewing the data:

- **Shipping dates**: When the kits were shipped to participating schools.
- **Participant information**: Some key elements in participant contact information was missing in the data, such as phone numbers and emails.
- **Measure-level parameters required for savings calculations:** Historically, kit contents and measure-specific information has not been provided in the tracking data and instead has been provided as supplemental information through emails. It may be unclear from the tracking data alone to determine what the kits contain as measures.

9.5 Findings and Conclusions

The following summarizes the key findings and conclusions from the evaluation.

- **The program increased the number of schools in PY12.** Participation rates increased from 25 schools in PY11 to 37 schools in PY12.
- **The program offerings have been successful in providing education to 6th and 10th grade students over multiple years.** The program offerings have remained consistent with devices included in kits while increasing the total number of students in the program.
- **Program staff are concerned about the loss of LED savings due to EISA.** Moving forward as LED savings are diminishing, staff are exploring alternative measure offerings for the kits.

9.6 Recommendations

The following summarizes key recommendations after completing the evaluation.

- **Consider adding an advanced power strip into the kit offerings**. Advanced power strips are a cost-effective direct-install measure that have the potential to add considerable energy savings into the overall kit offerings if one unit is added into each kit. The Evaluators have seen similar school kit programs that have replaced kit LED lamps with an advanced power strip and have succeeded in achieving the same amount (or more) of energy savings with fewer kits offered.
- **Consider adding hot water restrictor valves into the kit offerings.** These come in both automatic and manual configurations, with both functioning to cut water use from the shower prior to reaching temperature. The manual version of the restrictor valve can be installed alongside a low flow showerhead, or a showerhead can be included instead which has this functionality integrated.
- **Continue to update and improve curriculum and materials. C**onsider gathering feedback from teachers and students to ensure that the curriculum is meeting their needs and addressing any gaps or challenges they are experiencing. Providing professional development opportunities for teachers to learn more about energy efficiency and how to incorporate it into their lessons may also be beneficial. Finally, program staff should ensure that the curriculum and materials are accessible and inclusive for all learners, including those with disabilities or who come from diverse cultural or linguistic backgrounds.

- **Focus efforts on recruiting new teachers for the program.** Program staff could prioritize efforts to recruit new teachers for the program. This might include offering referral incentives, direct outreach to schools, or targeted marketing materials to increase awareness of the program and its benefits. Bringing in new teachers will help to expand the reach of the program and improve the likelihood of achieving energy saving and kit distribution targets.
- **Consider conducting a focus group with willing teachers to learn from them the best ways to improve the program.** Conducting a focus group with willing teachers can provide valuable feedback on how to improve the program, including curriculum, teaching resources, and program outreach. The insights gained from the focus group can be used to make improvements to the program to better meet the needs of teachers and students. It is also an opportunity to show that the program values feedback and is committed to continuous improvement.

10 APPLIANCE RECYCLING AND REPLACEMENT

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 PY12 AR&R ENERGY SAVINGS (KWH)

Measure	*Ex Ante* Gross Savings (kWh)	Realization Rate (kWh)	*Ex Post* Gross Savings (kWh)	NTG	*Ex Post* Net Savings (kWh)
Freezer Recycling	8,580	100%	8,580	65%	5,577
Refrigerator Recycling	135,542	100%	135,542	54%	73,193
Refrigerator Replacement	23,642	103%	24,348	100%	24,348
Total	**167,764**	**100%**	**168,470**	**61%**	**103,117**

Sums may differ due to rounding.

TABLE 10-2 PY12 AR&R DEMAND REDUCTIONS (KW)

Measure	*Ex Ante* Gross Demand (kW)	Realization Rate (kW)	*Ex Post* Gross Demand (kW)	NTG	*Ex Post* Net Demand (kW)
Freezer Recycling	1.04	102%	1.06	65%	0.69
Refrigerator Recycling	1.65	1017%	16.74	54%	9.04
Refrigerator Replacement	3.45	103%	3.55	100%	3.55
Total	**6.14**	**348%**	**21.35**	**62%**	**13.28**

Sums may differ due to rounding.

TABLE 10-3 PY12 AR&R LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
Recycled Freezer	12	102,960	66,924
Replaced Refrigerator	17	2,304,214	1,244,276
Recycled Refrigerator	17	413,912	413,912
Total	**17**	**2,821,086**	**1,725,111**

Sums may differ due to rounding.

TABLE 10-4 PY12 AR&R COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend ($)
Recycled Freezer	13	$650
Replaced Refrigerator	124	$6,100
Recycled Refrigerator	244	$142,200
Total	**381**	**$148,950**

Sums may differ due to rounding.

10.2 Program Description

The Appliance Recycling and Replacement (AR&R) program offering encourages early recycling of qualifying low efficiency appliances, such as refrigerators and freezers, for residential customers. The program also offers refrigerator replacement options for income-qualified residential customers. This new offering goes beyond federal recycling requirements using environmentally friendly best practices for recycling all components of each appliance.

The program is designed to help ENO residential customers recycle inefficient appliances to receive a new efficient refrigerator appliance replacement. The program adheres to the following guidelines:

- Only residential customers that receive their electric service from ENOs can participate in this program;
- Standard size refrigerators and freezers are eligible (10-30 cubic feet); mini fridges are not eligible;
- Only refrigerators or freezers that are in operating condition qualify for recycling or replacement. If the unit is not functional, as determined by the Implementer staff onsite, the unit will not be collected, and the customer will not receive an incentive;
- Customers are required to be onsite at the time of appliance testing and collection;
- The Implementer will recycle and replace a maximum of one appliance per year, per customer account; and

Customers are eligible to receive an incentive of $50 per appliance recycled and may receive an energy efficient replacement refrigerator, if qualified and supplies are available.

The program relies on direct mail, email blasts and bill insert to spread awareness. Additionally, in PY12, a large source of projects leads came from trade ally referrals. Staff noted that one success this year has been being able to continue focusing on low-income customers, compared to other cities and states. They look forward to continuing this into the next program year, *"we want to be able to try to help as many different folks as we can."*

10.2.1 PROGRAM DELIVERY CHANNELS AND EXPECTED SAVINGS

The program was introduced to the portfolio in PY11, but PY12 is the first year in which savings are being claimed. The PY12 evaluation of the program included the following: project data review, desk reviews, and literature reviews to determine NTG ratios for each of the measures.

The figure below shows the contribution to energy savings (kWh) by measure along with evaluation impacts.

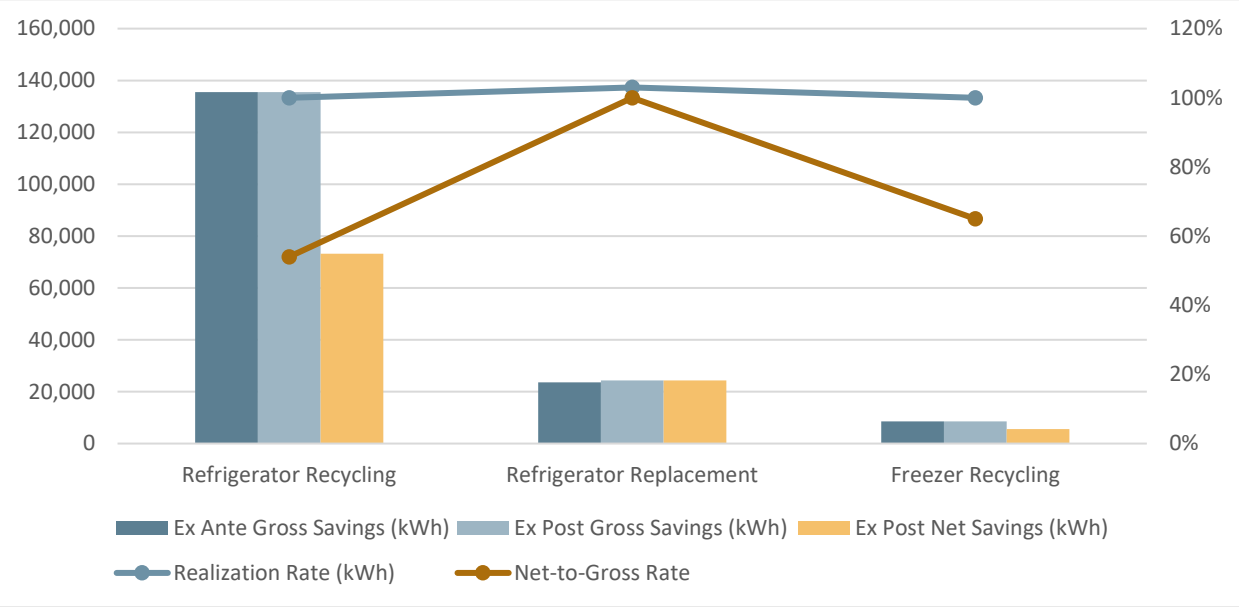
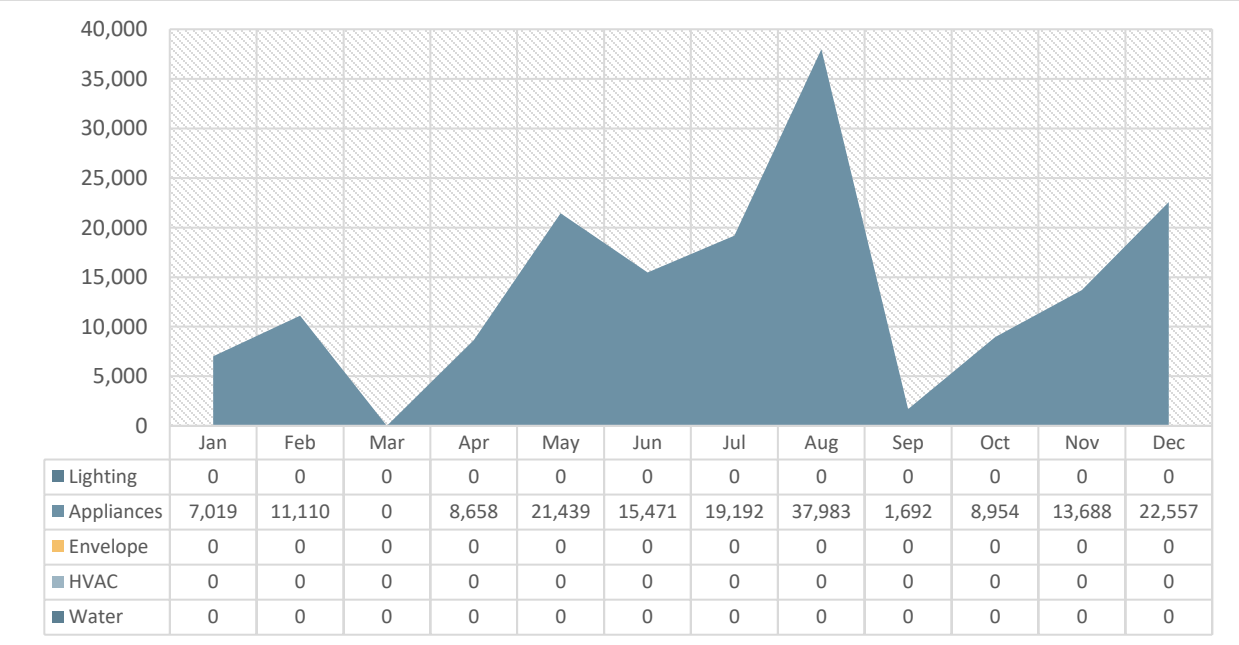


FIGURE 10-1 ENERGY SAVINGS (KWH) SUMMARY

Recycling refrigerators (81%) and replacing refrigerators (14%) were the high impact measures, comprising 95% of claimed savings. The other five percent of savings were from freezer recycling.

10.2.2 TIMING OF PROJECTS

The figure below shows *Ex Ante* energy savings (kWh) for AR&R by end use, by month.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Appliances	7,019	11,110	0	8,658	21,439	15,471	19,192	37,983	1,692	8,954	13,688	22,557
Envelope	0	0	0	0	0	0	0	0	0	0	0	0
HVAC	0	0	0	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0	0	0	0

FIGURE 10-2 *EX ANTE* SAVINGS BY END USE BY MONTH

10.2.3 TRADE ALLIES

There are no trade allies in the AR&R program.

The market actor who facilitates recycling are Recyclers. Contact information was not provided in the project data, however, the TPI provided contact information for a single recycler. The Evaluators attempted to schedule a ride-along to provide feedback, however, the effort was unsuccessful.

10.2.4 GOAL ACHIEVEMENT

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

TABLE 10-5 PY12 AR&R SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
167,764	100%	168,470	6.14	348%	21.35

10.3 EM&V Methodology

Impact savings were calculated using methods and inputs in the NO TRM V5.0. Impact methodologies for the refrigerator replacement projects are the same as described for RLA, described in Section 6.3.1.

The following section discusses savings calculation methods for measures not covered.

10.3.1 SITE VISITS

There were no site visits in PY12. However, a participant survey was performed. All 17 responses confirmed participation in the program. All installation rates are 100%.

10.3.2 DEEMED SAVINGS CALCULATIONS

10.3.2.1 Freezer Recycling

Freezer recycling savings were calculated using the savings methodology from the NO TRM V5.0, section C.1.12.4. The following table outlines the methodology that the Evaluators adhered to.

TABLE 10-6 COEFFICIENTS FOR FREEZER RECYCLING SAVINGS

Independent Variable	Estimated Coefficient	Default Input	kWh Impact
Intercept	- 0.296	1	- 108.04
Age (years)	0.039	17.10	243.42
Pre-1990	0.486	0.081	14.37
Size (cubic feet)	0.104	15.9	603.56
Freezer Chest	0.122	0.119	5.30
Side-by-Side	0.957	0.323	112.83
Unconditioned x CDD	- 0.002	0.741 * 3,470	- 5.14
Unconditioned x HDD	0.024	0.741 * 1,058	18.82
Total Unit Energy Consumption			772
Part-Use Adjustment			85.5%
Default kWh Savings			660

$$Savings_{kWh} = \begin{bmatrix} -0.296 + (Age \times 0.039) + (Pre_{1990} \times 0.486) + (Size \times 0.104) \\ +(Freezer\ Chest \times 0.122) + (Unconditioned_{CDD} \times -0.002) \\ +(Unconditioned_{HDD} \times 0.024) \end{bmatrix} \times 365.25 \times 0.855$$

Where:

Age = Age of retired unit

Pre_{1990} = Pre-1990 dummy (= 1 if manufactured pre-1990, else 0)

$Size$ = Capacity (cubic feet) of retired unit

$Freezer\ Chest$ = Freezer chest dummy (= 1 if unit has freezer chest, else 0)

0.855 = Part-use, accounting for units that are not running all year = 85.5%

$$Reductions_{kW} = \frac{Savings_{kWh}}{8{,}760} \times CF$$

Where: CF = Coincidence factor = 1.065 for freezers

10.3.2.2 Refrigerator Recycling

Refrigerator recycling savings were calculated using the savings methodology from the NO TRM V5.0, section C.1.12.4. The following table outlines the methodology that the Evaluators adhered to.

TABLE 10-7 COEFFICIENTS FOR REFRIGERATOR RECYCLING SAVINGS

Independent Variable	Estimated Coefficient	Default Input	kWh Impact
Intercept	0.750	1	273.75
Age (years)	0.032	17.10	199.73
Pre-1990	1.140	0.081	33.70
Size (cubic feet)	0.067	19.00	464.65
Single Door	- 1.085	0.039	- 15.44
Side-by-Side	0.957	0.323	112.83
Primary Usage	0.477	0.696	121.18
Unconditioned x CDD	0.007	0.259 * 3,470	6.29
Unconditioned x HDD	- 0.016	0.259 * 1,058	- 4.38
Total Unit Energy Consumption			1,192
Part-Use Adjustment			93.2%
Default kWh Savings			1,111

$$Savings_{kWh} = \begin{bmatrix} 0.75 + (Age \times 0.032) + (Pre_{1990} \times 1.140) + (Size \times 0.067) \\ +(Single\ Door \times -1.085) + (\text{Side} - \text{by} - \text{Side} \times 0.957) \\ +(Primary\ Usage \times 0.477) + (Unconditioned_{CDD} \times 0.007) \\ +(Unconditioned_{HDD} \times -0.016) \end{bmatrix} \times 365.25 \times 0.932$$

Where:

Age = Age of retired unit

Pre_{1990} = Pre-1990 dummy (= 1 if manufactured pre-1990, else 0)

$Size$ = Capacity (cubic feet) of retired unit

$Single\ Door$ = Single door dummy (= 1 if one door, else 0)

$Side - by - side$ = Side-by-side dummy (= 1 if side-by-side, else 0)

$Primary\ Usage$ = Primary usage type dummy (= 1 if Primary, else 0)

$Unconditioned_{CDD}$ = Weather interaction effect, New Orleans CDD base 65 °F = 3,470

$Unconditioned_{HDD}$= Weather interaction effect, New Orleans CDD base 65 °F = 1,058

0.932 = Part-use, accounting for units that are not running all year = 93.2%

$$Reductions_{kW} = \frac{Savings_{kWh}}{8{,}760} \times CF$$

Where: CF = Coincidence factor = 1.082 for refrigerators

10.4 Evaluation Findings

10.4.1 GROSS IMPACT FINDINGS

10.4.1.1 Freezer Recycling

Expected and verified savings for the PY12 AR&R recycled freezers are summarized below. Thirteen freezers were recycled.

TABLE 10-8 PY12 AR&R PROGRAM EXPECTED AND VERIFIED RECYCLED FREEZER SAVINGS

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
8,580	8,580	100%	1.04	1.06	102%

10.4.1.2 Refrigerator Recycling

Expected and verified savings for the PY12 AR&R recycled freezers are summarized below. One hundred and twenty-two refrigerators were recycled.

TABLE 10-9 PY12 AR&R PROGRAM EXPECTED AND VERIFIED RECYCLED REFRIGERATOR SAVINGS

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
135,542	135,542	100%	1.65	16.74	1015%

10.4.1.3 Refrigerator Replacement

ENERGY STAR Refrigerator savings were calculated using the deemed savings from the NO TRM V5.0, section C.1.4.1. After verifying model configurations and features, deemed savings were assigned to each unit using TRM. Expected and verified savings for refrigerators are summarized below. Two hundred refrigerators were replaced.

TABLE 10-10 AR&R PROGRAM EXPECTED AND VERIFIED REPLACED REFRIGERATOR SAVINGS

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
23,642	24,348	103%	3.45	3.55	103%

10.4.2 NET IMPACT FINDINGS

The Evaluators performed a participant survey to determine NTG for the measure offerings in the AR&R.

TABLE 10-11 AR&R NTG BY MEASURE

Measure	Net-to-Gross Ratio	Source of NTG
Freezer Recycling	65.0%	Participant Survey
Refrigerator Recycling	54.0%	Participant Survey
Refrigerator Replacement	100.0%	Participant Survey

Results for overall verified net savings are shown by measure in Section 10.1 Summary.

10.4.3 PROCESS FINDINGS

The Evaluators conducted a full process evaluation of the RLA program in PY12 of the program.

10.4.3.1 Staff Interview

The following section summarizes the key findings from in-depth interviews with ENO staff, and Legacy Professional Services regarding AR&R operations in PY12. These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The Evaluators recorded all interviews with participant permission.

10.4.3.1.1 *Program Changes*

This year, program implementors have been using the IQW program to identify leads for the AR&R program. Using the Clipboard software, when assessments are done for the IQ program, staff can add an option to generate a lead for this program.

10.4.3.2 Survey findings

10.4.3.2.1 *Methodology*

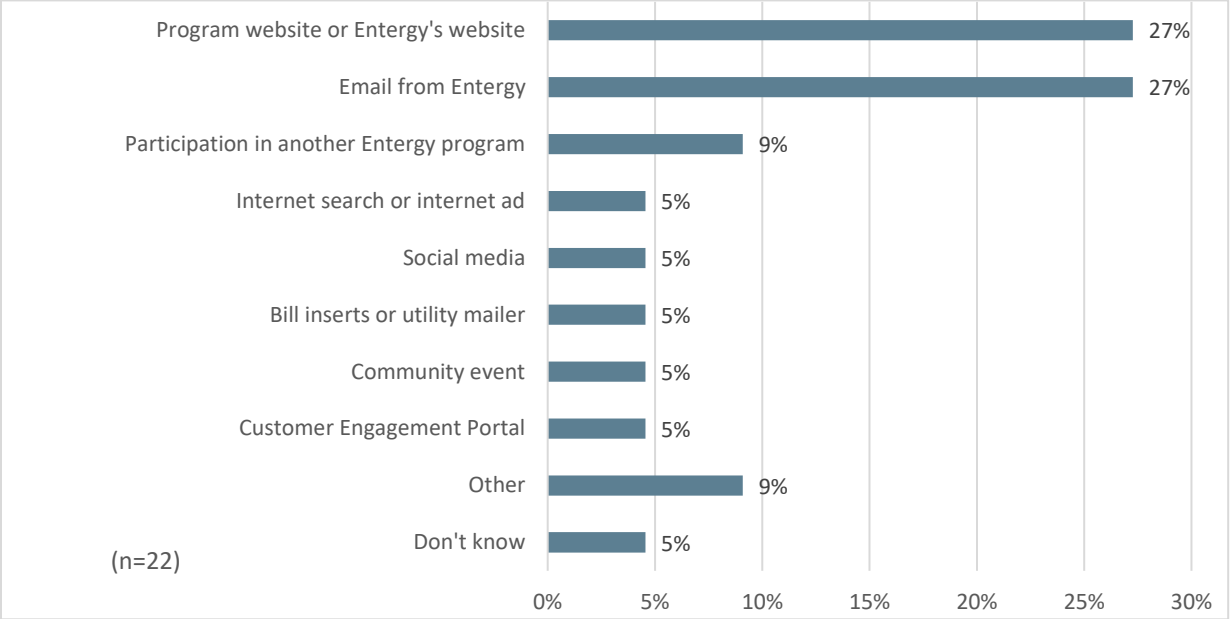
The Evaluators conducted a survey with customers who participated in program, to gain insight into customer satisfaction and feedback about their experiences. Program participants were contacted by email, 192 were initially contacted to complete the online survey, and 17 completed it (Table 10-12). Among those who responded to the survey, 12 recycled and 6 replaced their appliance. Among the recycled appliances, 11 were refrigerators and 1 was a freezer. The precision of the survey is +/- 19.9% at the 10% level of confidence. The following sections summarize those responses.

TABLE 10-12 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of participants contacted via email	192
Undeliverable emails	75
Completed	18
Incentives paid	$425
Response rate	15%

10.4.3.2.2 *Program Awareness and Sign-up Experience*

Survey respondents often learned about the program through the website, and/or the program website, an email from ENO, or from past participation in another program (Figure 10-3). The two respondents who found out through other sources, one noted that they called in and asked about the program and another found out through their apartment complex.



[14]

FIGURE 10-3 PROGRAM AWARENESS

Most of the 18 survey respondents (83%) signed up to have their appliance recycled or replaced themselves, while two respondents had someone else sign up for them (Table 10-13).

TABLE 10-13 WHO SIGNED UP FOR APPLIANCE RECYCLING/REPLACEMENT

Response	Percentage of All Responses (n = 18)	Percentage of Recycle Responses (n = 12)	Percentage of Replacement Responses (n = 6)
Customer	83%	100%	50%
Someone else	11%	0%	33%
Don't know	6%	0%	17%

Of those who signed up for the program themselves, most (80%) did so online, two signed up via telephone, and one respondent was not sure (Table 10-14). The two participants who signed up by telephone recycled their appliance. The two respondents signed up via telephone because the website had an issue that prevented them from signing up online and the other customer had questions about the program they wanted answered, prior to signing up.

[14] Survey respondents could select multiple options.

TABLE 10-14 METHOD FOR PARTICIPANT SIGN-UP

Response	Percent of Survey Respondents (n = 15)
Online	80%
Telephone	13%
Don't know	7%

All twelve respondents who signed up online said that the sign-up screen was easy to find, and the website answered all their questions (100%, n=12) regarding the program. After signing up online, half of those respondents (50%) contacted a program representative to either confirm their appointment (83%, n=5) or cancel or reschedule their appointment (16%, n=1) (Table 10-15).

TABLE 10-15 REASONS FOR CONTACTING PROGRAM REPRESENTATIVES AFTER SIGNING UP

Response	Percent of Survey Respondents (n = 6)
Cancel or reschedule an appointment	17%
Confirm appointment date/time	83%

10.4.3.2.3 *Appliance Recycling Participation*

All twelve respondents who recycled their appliance were able to schedule a pick-up time that was convenient for them. Eleven indicated they had interacted with the people who came to pick up the appliance, while one respondent noted they did not. Of those eleven respondents, all indicated the people picking up the appliance were professional. Ten out of those eleven respondents also noted that the personnel picking up the appliance check to see if the appliance was still working; while one participant noted that they were not sure. A majority of respondents (82%) indicated that the appliance was plugged in, at the time of pick-up, while one respondent indicated it was not, and another was not sure. Table 10-16 summarizes the interactions participants had during the pick-up of their old appliances.

TABLE 10-16 APPLIANCE PICK-UP INTERACTIONS

Response	Interactions with the People who Picked up Appliance? (n = 12)	Professionals who Picked up Appliance were Professional? (n = 11)	Appliance was Plugged in at Time of Pick-up? (n = 11)	Professional Checked to see if Appliance Still Working? (n = 11)
Yes	92%	100%	82%	91%
No	8%	0%	9%	0%
Don't know	0%	0%	9%	9%

Among survey respondents who indicated that the appliance that was removed, 75% of appliances were located in their kitchen and all twelve respondents noted that it was plugged in and running all of the time.

TABLE 10-17 LOCATION OF APPLIANCE THAT WAS REMOVED

Response	Percent of Survey Respondents (n = 12)
Kitchen	75%
Garage	8%
Basement	8%
Laundry room	8%

Additionally, ten respondents noted that the appliance was still in working condition (e.g., the unit maintained a cold temperature) upon pick-up, while two respondents indicated that it worked but had some issues. Those two respondents elaborated and one stated that water would pool at the bottom of the fridge, and the other stated that the fridge would occasionally freeze up. Once the appliance had been removed, half of respondents indicated that it took four to six weeks to receive their rebate, while 42% of respondents received the rebate within two to four weeks (Table 10-18).

TABLE 10-18 TIME TO RECEIVE REBATE

Response	Percent of Survey Respondents (n = 12)
2 to 4 weeks	42%
4 to 6 weeks	50%
6 to 8 weeks	0%
8 weeks or more	8%

Eighty percent of participants who recycled their appliance through the program replaced it with new equipment they purchased, while 10% moved the replacement from somewhere else in the house and another 10% received the replacement from someone else (Figure 10-4). Four participants acquired the new equipment before they recycled their old units, three acquired new units after, and two got the new appliances the same day.

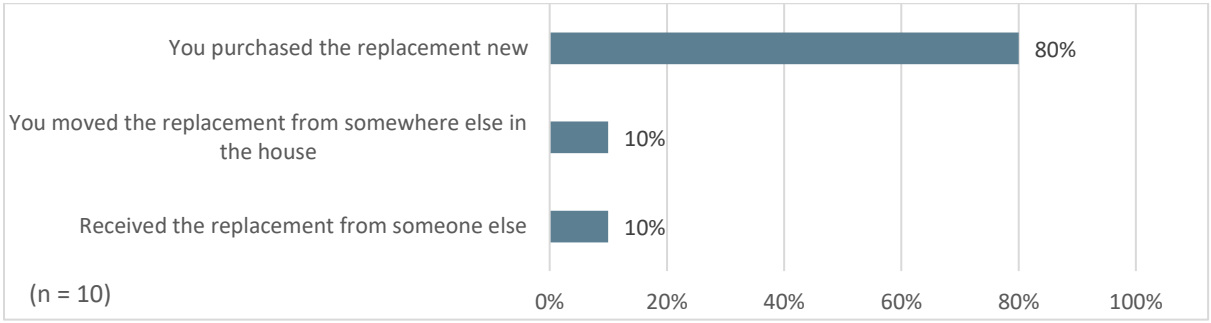


FIGURE 10-4 REPLACEMENT APPLIANCES

Of those eight respondents who purchased new equipment, all indicated the new appliance was ENERGY STAR certified; six noted that the replacement was about the same size as the old appliance, while two noted the replacement was larger, and one indicating that it was smaller (Table 10-19).

TABLE 10-19 SIZE OF NEW APPLIANCE

Response	Percent of Survey Respondents (n = 9)
Smaller	11%
About the same size	67%
Larger	22%

Additionally, half of the respondents replaced their refrigerator with a two-door (freezer on top), followed by three doors with the freezer door on the bottom (Figure 10-5).

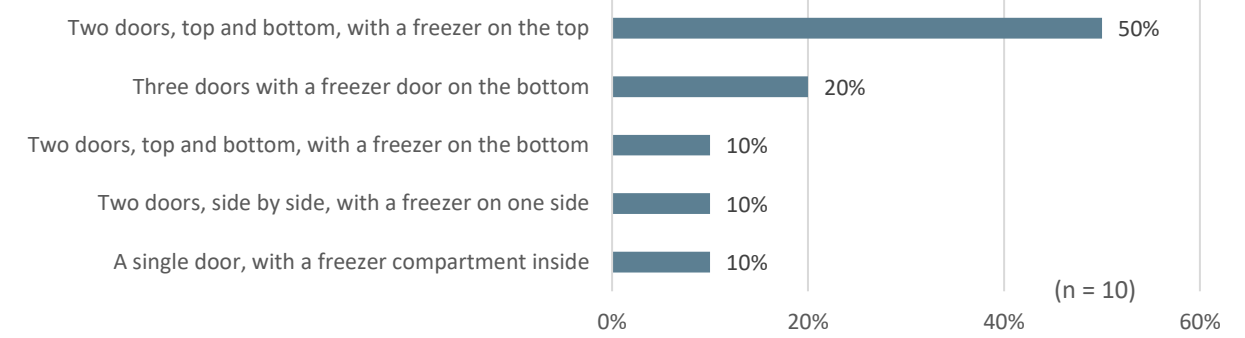


FIGURE 10-5 REPLACEMENT APPLIANCE STYLE

Program participants who recycled their old appliances provided feedback about what they would have done with their unit if the program had not been available. No respondents indicated they would have recycled the unit themselves, although all respondents indicated that they would have discarded the units through other means. Respondents indicated they would have hired someone to take it to the dump, would have had it removed by the dealer they purchased the new appliance through, given it away either for free or sold it private party, or sell it to a used appliance dealer (Table 10-20).

TABLE 10-20 WHAT PARTICIPANTS WOULD HAVE DONE WITH OLD APPLIANCE IF PROGRAM WAS NOT AVAILABLE

Response	Percent of Survey Respondents (n = 12)
Hired someone to take it to the dump	17%
Would have had it removed by new appliance dealer	17%
Put it on the curb with a free sign	17%
Given it away to a private party	17%
Sold it to a private party	17%
Given it away to charity	8%
Sold it to a used appliance dealer	8%

10.4.3.2.4 *Appliance Replacement Participation*

Six respondents (67%) who exchanged their old appliance with a new one was able to schedule a pick-up time that was convenient for them. One respondent indicated they were not able to schedule a convenient time and the other person was unsure. All six respondents indicated they had interacted with the people who came to pick up the appliance. Of those eleven respondents, all indicated the people picking up the appliance were professional. Two respondents reported that the personnel picking up the appliance, did check to see if the appliance was still working; while two participants noted they did not and the other two were unsure. Three

respondents indicated that the appliance was plugged in at the time of pick-up, while the other three respondents indicated it was not. Table 10-21 summarizes the interactions participants had when their old unit was replaced with a new one supplied through the program.

TABLE 10-21 APPLIANCE REPLACEMENT INTERACTIONS

Response	Interactions with the People who Exchanged the Appliance? (n = 6)	Professionals who Exchanged the Appliance were Professional? (n = 6)	Appliance was Plugged in at Time of Pick-up? (n = 6)	Professional Checked to see if the Old Appliance was Still Working? (n = 6)
Yes	100%	100%	50%	33%
No	0%	0%	50%	33%
Don't know	0%	0%	0%	33%

10.4.3.2.5 *Program Satisfaction and Relationship with ENO*

Most program participants (78%) were very satisfied with their overall program experience. Respondents were also very satisfied the process of having their appliance removed (78%), and the scheduling process (78%). However, respondents were least satisfied with the time it took to receive their rebates. Figure 10-6 provides additional details regarding participants' satisfaction with the program and its components.

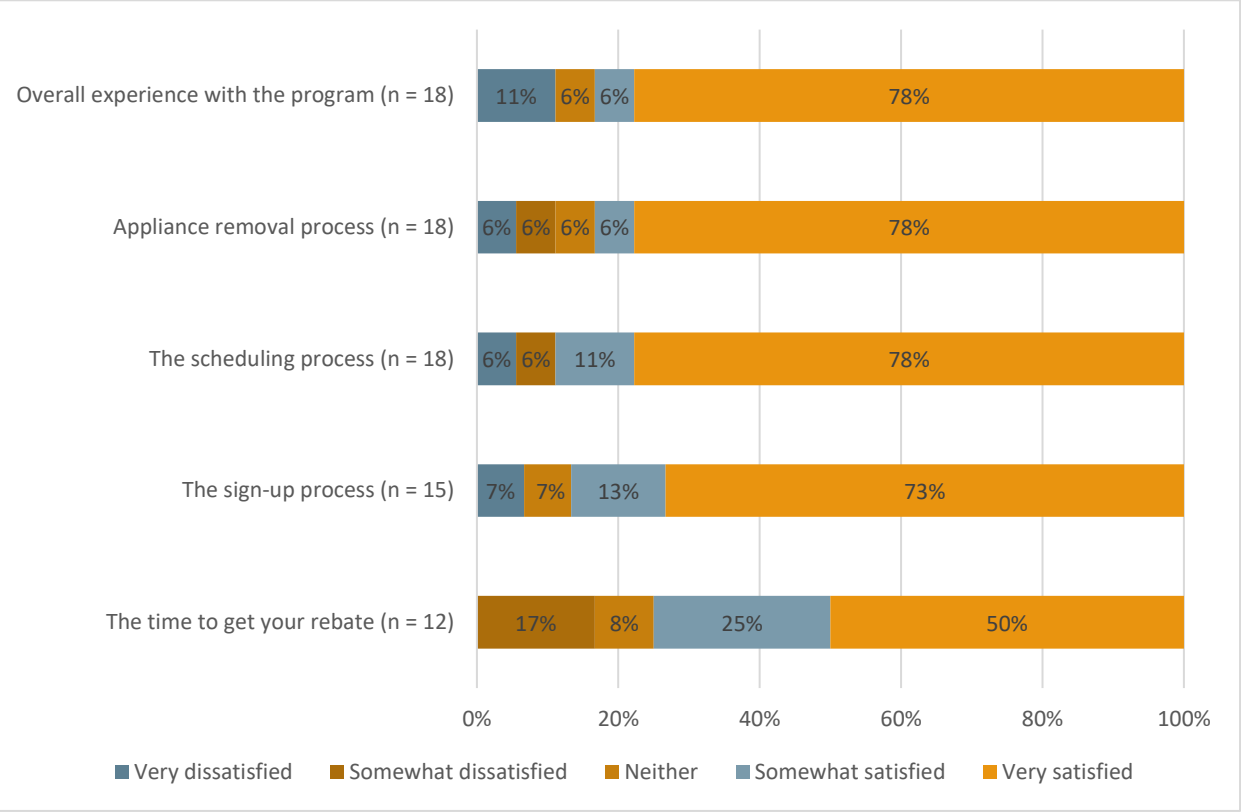


FIGURE 10-6 PROGRAM SATISFACTION

Dissatisfied survey respondents provided feedback about why they were dissatisfied with the program. High energy bills, low rebate amount, and wait time to pick up the appliance, were reasons listed for customer

dissatisfaction. A little more than half of the survey respondents (55%) are dissatisfied with ENO as their electricity provider (Figure 10-7).

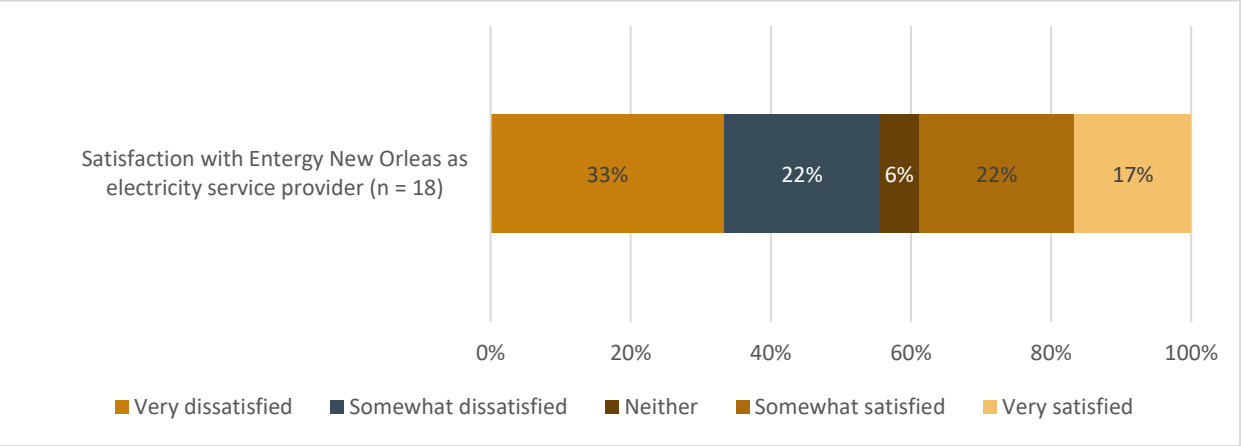


FIGURE 10-7 PARTICIPANT SATISFACTION WITH ELECTRICITY SERVICE PROVIDER

10.4.3.2.6 *Respondent and Residence Characteristics*

Half of the survey respondents reported living in a detached, single-family home, with most of the respondents' residences being built before 1970. Over half of the survey participants (67%) indicated they own their home, while five respondents rent, and one owns the home but rents to someone else. Eighty-three percent of respondents rely on a central forced air furnace to heat their home. Half of the respondents use natural gas for their water heater, seven utilize an electric water heater. Table 10-22 summarizes the survey respondents' housing characteristics in more detail.

TABLE 10-22 RESIDENCE CHARACTERISTICS

Response	Percentage of Survey Respondents	Count
Year Home was Built		
Before 1970s	61%	11
1970 – 1979	0%	0
1980 – 1989	22%	4
1990 – 1999	0%	0
2000 – 2009	6%	1
Prefer not to state	11%	2
Residence Type		
Single family detached home	50%	9
Townhome	6%	1
Duplex or Triplex	28%	5
Apartment building	17%	3
Home Size (Square Feet)		
Less than 1,000	24%	4
1,001 – 1,500	24%	4
1,501 – 2,000	18%	3
2,001 – 2,500	12%	2
Greater than 2,500	12%	2
Don't know	12%	2
Home Heating Fuel		
Natural gas	28%	5
Electricity	67%	12
Don't know	6%	1
Water Heating Fuel		
Natural gas water heater	50%	9
Electric water heater	39%	7
Don't know	11%	2
Prefer not to state	0%	0

Household size varies between survey respondents, with 83% (n=15) residing in a household with one to four persons year-round. Income also varied between respondents; three indicated they earn $200,000 or more per year, another three indicated they make between $50,000 to $75,000 per year, four indicated they earn $20,000 or less per year, and three preferred not to say. More than half (61%) of respondents have a graduate or professional degree, three have a four-year degree, and three have an associate degree, vocational/technical school, or some college. Table 10-23 provides additional information about survey respondents' education level, income level, and household size.

TABLE 10-23 RESPONDENTS' EDUCATION, INCOME AND HOUSEHOLD SIZE

Response	Percentage of Respondents	Count
Respondent Education Level		
High school graduate	6%	1
Associates degree, vocational/technical school, or some college	17%	3
Four-year college degree	17%	3
Graduate or professional degree	61%	11
Household Income		
Less than $10,000	13%	2
$10,000 to less than $20,000	0%	0
$20,000 to less than $30,000	13%	2
$30,000 to less than $40,000	0%	0
$40,000 to less than $50,000	6%	1
$50,000 to less than $75,000	19%	3
$75,000 to less than $100,000	6%	1
$100,000 to less than $150,000	0%	0
$150,000 to less than $200,000	0%	0
$200,000 or more	19%	3
Don't know	6%	1
Prefer not to state	19%	3
Household Size		
1	28%	5
2	39%	7
3	17%	3
4	11%	2
5	6%	1

10.5 Data Tracking Review

The Evaluators reviewed the implementer-provided tracking data. The following bullets outline notes from reviewing the AR&R data:

- **Installation / rebate dates**: the Evaluators noted that installation / rebate dates were missing in the PY12 data.
- **Recycler information**: Request primary contact names, company names, contact phone numbers, and email addresses.
- **Participant information**: In general, participant contact names, contact phone numbers, and email addresses were provided in PY12 data, however, there were many projects that were missing these fields:
  - **Participant main phone number**: 306 projects unique by address (306 out of 325)
  - **Participant email address**: 120 projects unique by address (120 out of 325)
- **Measure-level parameters**: the following is an outline of missing or problematic parameters needed for savings calculations by measure:
  - **Refrigerator Recycling**: tracking data claimed kW reductions of 0.0137 kW are smaller by a factor of 10 compared to the deemed kW reductions of 0.137 kW found in the NOLA TRM 5.0, resulting in realization rates over 1,000%

  - **Refrigerator Replacements**: there were 57 instances in which the refrigerator model numbers in the 'Efficient Equipment Model' field were switched with the part numbers in the 'Efficient Equipment Part Number' field.
- **Recycling company information**: If applicable, any companies that assist in recycling the units.

10.6 Findings and Conclusions

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **IQW participants are a focus of AR&R recruitment.** Using Clipboard software, when assessments are done for the IQW program, staff generate a lead for this program, if applicable.
- **Most respondents learned about the program through direct outreach.** Outreach methods included website information, emails, as well as participation in another program.
- **The online sign-up tool was easy to use and informative.** All 12 respondents who signed up online indicated that the sign-up screen was easy to find, the website answered all their questions, and they were able to schedule an appointment.
- **Rebate processing time varied across participants.** Some respondents received their rebate within 2-4 weeks (42%), while others received it within 4-6 weeks (50%) or more than 8 weeks (8%).
- **Most respondents were satisfied with the program.** Respondents were most satisfied with the scheduling process (89%), the overall program experience (84%), and the appliance removal process (84%). Respondents were least satisfied with the time it took to get the rebate (17%).

10.7 Recommendations

The following summarizes key recommendations after completing the evaluation.

- **Consider adding refrigerator replacement product category assumptions in tracking data.** If the implementer provides all of the data required for savings verification, such as product categories that align with Table C-26 in the NOLA TRM V5.0 in the tracking data, the Evaluators will be better able to identify the differences between the *ex ante* and *ex post* calculations.
- **Consider adding refrigerator/freezer recycling staff contact information in tracking data.** Learning about their overall program participation, communication, and satisfaction can help the Evaluators better understand potential gaps in the program.
- **Consider providing email confirmation of appointments to customers who sign up online.** Consider providing email confirmation of appointments to customers who sign up online. Eighty-three percent of customers who followed up with a program representative after signing up did so because they wanted to confirm their appointment. If the program does not already provide customers with a confirmation email, it should consider adding this feature or using text messaging to alert customers about their appointments. The program could also look into sending a follow-up email or text message to customers after their appliance is picked up.

11 BEHAVIORAL

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), and participation, by cohort, where applicable.

TABLE 11-1 PY12 BEHAVIORAL ENERGY SAVINGS (KWH)

Measure	*Ex Ante* Gross Energy Savings (kWh)	Realization Rate (kWh)	*Ex Post* Gross Energy Savings (kWh)	NTG	*Ex Post* Net Energy Savings (kWh)
Neighbor Compare – ADM	6,327,874	0.00%	0	100%	0
Neighbor Compare – New	8,505,798	34.78%	2,958,643	100%	2,958,643
Neighbor Compare – Original	3,679,622	0.00%	0	100%	0
Neighbor Compare – Print	1,445,052	112.86%	1,630,816	100%	1,630,816
Self Compare – New	1,020,094	0.00%	0	100%	0
Self Compare – Original	721,560	65.34%	471,451	100%	471,451
Total	**21,700,000**	**23.32%**	**5,060,909**	**100%**	**5,060,909**

Sums may differ due to rounding.

TABLE 11-2 PY12 BEHAVIORAL DEMAND REDUCTIONS (KW)

Measure	*Ex Ante* Gross Demand Reductions (kW)	Realization Rate (kW)	*Ex Post* Gross Demand Reductions (kW)	NTG	*Ex Post* Net Demand Reductions (kW)
Neighbor Compare – ADM	-	N/A	0.00	100%	0.00
Neighbor Compare – New	-	N/A	480.46	100%	480.46
Neighbor Compare – Original	-	N/A	0.00	100%	0.00
Neighbor Compare – Print	-	N/A	264.83	100%	264.83
Self Compare – New	-	N/A	0.00	100%	0.00
Self Compare – Original	-	N/A	76.56	100%	76.56
Total	**-**	**N/A**	**821.84**	**100%**	**821.84**

Sums may differ due to rounding.

TABLE 11-3 PY12 BEHAVIORAL LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
Neighbor Compare – ADM	1	0	0
Neighbor Compare – New	1	2,958,643	2,958,643
Neighbor Compare – Original	1	0	0
Neighbor Compare – Print	1	1,630,816	1,630,816
Self Compare – New	1	0	0
Self Compare – Original	1	471,451	471,451
Total	**1**	**5,060,909**	**5,060,909**

Sums may differ due to rounding.

TABLE 11-4 PY12 BEHAVIORAL PARTICIPATION BY COHORT

Measure	Weighted Treatment Customers	Weighted Control Customers
Neighbor Compare – ADM	23,127	6,683
Neighbor Compare – New	31,086	3,439
Neighbor Compare – Original	13,448	13,448
Neighbor Compare – Print	5,281	1,329
Self Compare – New	3,728	915
Self Compare – Original	2,637	2,637
Total	**79,308**	**28,451**

Sums may differ due to rounding.

11.2 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.

11.3 EM&V Methodology

The impact evaluation approach for this program is as follows:

- The remaining control groups for each treatment group were tested for validity as a statistical match for the treatment households in the baseline year;
- Cohorts in which a valid counterfactual group does not exist were matched to an ad-hoc control group 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.

Franklin implemented six cohorts since the transfer of the program implementation from Accelerated Innovations to Franklin Energy Services. The following table summarizes the new cohorts implemented during PY12.

TABLE 11-5 FRANKLIN COHORTS

Cohort	Treatment	Control	Intervention Date
Neighbor Compare – ADM	23,127	6,683	March 1, 2021
Neighbor Compare – New	31,086	3,439	October 29, 2020
Neighbor Compare – Original	13,448	13,448	July 9, 2020
Neighbor Compare – Print	5,281	1,329	October 29, 2020
Self Compare – New	3,728	915	October 29, 2020
Self Compare – Original	2,637	2,637	July 10, 2020
Total	**79,308**	**28,451**	-

This led to a total of 79,308 treatment customers for the Behavioral Program. The Evaluators attempted to provide savings estimates for each cohort. All cohorts contained the full 12 months of post-period data to include in the analysis.

11.3.1 DATA PROVIDED

ENO provided the following data to support the analysis:

- Pre- and post-treatment electric billing data for all customers in the Entergy service territory. The data started on December 1, 2016, and ended on December 31, 2022;
- Participants that received reports through the 2022 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.

11.3.2 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 that had less than 10 billed days or greater than 90 billed days were excluded from analysis—months that meet these criteria have overlapping bills and are unreliable for analysis.
- Months that were present after a customer's move out date were also excluded from analysis.
- Customer months in which average daily usage exceeded 200 kWh were excluded from analysis.
- Pre-treatment data was limited to the 12 months prior to the treatment start date for each experimental cohort.

- Customers without at least 9 of the 12 months of pre-period data, as well as at least 9 of the 12 months of post-period data was removed from the analysis.

The data provided to ADM was in the form of bi-monthly billing data. However, after calendarization, the data was essentially converted to monthly resolution. For the remainder of the report, the Evaluators will reference the billing data as having monthly intervals.

The Evaluators identified high outliers at the threshold of average daily kWh usage over 200 kWh per day. 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 reading rather than remove high and low users, as these subgroups contribute real behaviors to the average savings estimate.

11.3.3 VALIDITY TESTING

For reliable estimation of savings effects, it is ideal to have a randomized control trial (RCT). In this experimental design, a group of eligible customers are randomly assigned to treatment or control groups. The offering was a RCT, however, due to changes in program design, the previously defined RCT groups were altered. The Evaluators evaluated the program using Franklin cohorts.

Although this method likely portrays deflated savings, it is the only viable method for providing statistically significant savings. For the Franklin cohorts, the Evaluators verified control group validity. In cases where the control group was not a sufficient match, the Evaluators employed propensity score matching and verified the counterfactual groups with monthly t-tests.

The remaining control groups' alteration was tested for statistically significant differences in usage between the treatment and control groups for each of the 12 pre-period months. The control groups were validated in prior evaluations of this program, however due to treatment and control groups decay, there is a possibility of the groups ceasing to be a statistical match. Validity testing was completed to determine if propensity score matching is required to create an ad-hoc, quasi-experimental control group for any of the cohorts.

The Evaluators estimated savings displayed in the customers that continued treatment through the transfer of implementors. The table below displays the results of the control group validation for each cohort.

TABLE 11-6 VALIDITY TESTING RESULTS

Cohort	Valid Control Group	PSM
Neighbor Compare – ADM	✓	
Neighbor Compare – New	✓	
Neighbor Compare – Original	✓	
Neighbor Compare – Print	✓	
Self Compare – New		✓
Self Compare – Original		✓

The Evaluators found all neighbor compare groups retained a statistically valid control group. The self-compare groups did not have a randomly assigned control group. Therefore, the Evaluators employed propensity score matching to create a valid counterfactual group for the Third group and self-compare groups, as displayed in the table above. These subsets created by the Evaluators passed the validity testing for each month in the pre-period.

11.3.4 PROPENSITY SCORE MATCHING

Regression model analyses are unable to be run on cohorts in which a statistically comparable control group is not defined. Therefore, in order to analyze cohorts that have non-equivalent counterfactual groups, a post-hoc control group is required to be created. The Evaluators created a statistically similar control group using propensity score matching (PSM), a method that allows the Evaluators to find the most similar household based on the customers' billed consumption trends in the pre-period and verified with statistical difference testing. The Evaluators conducted propensity score matching for each cohort in which a valid counterfactual group was not defined or validated.

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 compiled billing data of all control participants from all waves to compare against treatment households via quasi-experimental methods. This allowed the Evaluators to select from a large group of similar households that have not received home energy reports. With this information, the Evaluators matched the treatment group to a similar control group via seasonal pre-period usage. After matching, a t-test was 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.

11.3.5 LINEAR REGRESSION MODELING

After validating control groups were a sufficient match for each cohort, the Evaluators employed a post-program regression model to evaluate verified savings for the impact evaluation for each cohort.

11.3.5.1 Post-Program Regression Model

The post-program regression (PPR) model combines both cross‐sectional and time series data in a panel dataset. This model uses only the post‐program data, with lagged energy use for the same calendar month of the pre‐program period acting as a control for any small systematic differences between the participant and control customers. In particular, energy use in calendar month t of the post‐program period is framed as a function of both the participant variable and energy use in the same calendar month of the pre‐program period. The underlying logic is that systematic differences between participants and controls will be reflected in differences in their past energy use, which is highly correlated with their current energy use. The version we estimate includes monthly fixed effects and interacts these monthly fixed effects with the pre‐program energy use variable. These interaction terms allow pre‐program usage to have a different effect on post‐program usage in each calendar month.

The model specification is as follows:

EQUATION 11-1 POST-PROGRAM REGRESSION (PPR) MODEL SPECIFICATION

$$ADC_{it} = \alpha_0 + \beta_1(Treatment)_i + \beta_2\ (PreUsage)_i + \beta_3(Month)_t + \beta_4(Month \times PreUsage)_{it} + \varepsilon_{it}$$

Where,

i = the ith household

t = the first, second, third, etc. month of the post-treatment period

ADC_{it} = Average daily usage for reading t for household i during the post-treatment period

$Treatment_i$ = Dummy variable indicating whether household i was in the treatment or control group

$Month_t$ = Dummy variable indicating month-year of month t

$PreUsage_i$ = Average daily usage across household i's available pre-treatment billing reads

ε_{it} = Customer-level random error

α_0= The model intercept for home i

β_{1-4} = Coefficients determined via regression

The coefficient β_1 represents the average change in consumption between the pre-period and post-period for the treatment group.

In this specification, savings are calculated by:

EQUATION 11-2 MONTHLY SAVINGS ESTIMATE

$$Savings = \sum Treatment\ Coeff \times Number\ of\ recipients\ in\ month\ i \times Number\ of\ days\ in\ month\ i$$

11.3.6 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 11-3 DOUBLE COUNT SPECIFICATION

$$Double\ Counting = \left(\frac{OP\ kWh}{Household_{Treatment}} - \frac{OP\ kWh}{Household_{Control}}\right) \times \#\ Accounts_{Treatment}$$

Where,

$\frac{OP\ kWh}{Household_{Treatment}}$ = 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 customer ID or address;
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.

11.3.7 DEMAND REDUCTION

The relationship between annual usage savings and peak demand savings has not been defined for HURs. Program savings rely on monthly meter reading data provided by AI. At this time, smart meter data (hourly usage data) are not yet available for the majority of Entergy residential customers. Thus, the resolution of billing data provided for analysis is unsuitable for the direct evaluation of peak demand savings. It can be assumed that

total monthly usage can be attributed to the usage of other residential components (e.g., HVAC, lighting, etc.) and that any reduction in usage is proportional to the overall usage of these components. Load factors are available for these components at an hourly resolution; thus, the Evaluators have developed a model for predicting coincident peak demand savings from component load factors from the gross energy savings calculated using the methodology defined below.

11.3.7.1 Normalize kWh Usage

To increase the generalizability of the model, the Evaluators will first normalize the kWh savings value predicted by the impact evaluation regression model into a percent savings value by dividing each month's savings by the total annual savings, as represented in Equation 11-4.

EQUATION 11-4 MONTHLY SAVINGS NORMALIZATION CALCULATION

$$\%\ Savings\frac{month}{year} = {kWh\ savings_m}\Big/{kWh\ savings_y}$$

Where,

M = Value for given program month m.

Y = Value for given program year y.

11.3.7.2 Calculate Monthly Load Factors

The model assumes a linear relationship between the component variables and the percentage savings calculated above. Because load shape information is available for residential components at an hourly resolution, the Evaluators can estimate the relationship between component load and percent savings to estimate total demand savings. To make sure that the model is interpretable, hourly load factors must be converted to monthly load factors. The Evaluators sourced hourly load data from the U.S. Department of Energy Open Data Catalog of residential hourly load profiles. The database contains hourly load profiles for all TMY3 locations in the United States. The specific location chosen for this evaluation was the New Orleans International Airport.

11.3.7.3 Simple Regression

In order to determine the relationship between the percent savings and the component load factors, the Evaluators ran a simple linear regression. Because the model is used to predict savings from known variables, we hold the intercept constant at 0 to ensure that the majority of the variability will be explained by the component load factors. The following equation displays an example regression equation used to predict percent savings attributable to a higher resolution time period.

EQUATION 11-5 PERCENT SAVINGS PREDICTION

$$\%\ Savings\frac{month}{year} = \beta_1 lf_{Total\ kWh}$$

Where,

Lf = Load factor for each component variable of interest

Total kWh = All end-uses combined

The regression coefficients for the above regression equation represent the relationship of each of the component variables to percent savings. Because both independent and dependent variables are calculated in units of months, the numerator of the regression weights are time invariant and can be used to estimate the percentage of savings across any unit of time of interest in a year.

11.3.7.4 Demand Calculation

Coincidence peak load was estimated for the total electric load by summing the total electric load over peak hours as defined by the TRM—non-weekend and non-holiday days between 4:00 p.m. and 5:00 p.m. for the months of June through August. The following equation illustrates the calculation for calculating the peak load factor.

EQUATION 11-6 PEAK LOAD FACTOR CALCULATION

$$Peak\ load\ factor_x = \sum_{i=1}^{n} Hourly\ load\ factor_x$$

Where,

X = Component variable of interest (Total electric load)

I = First peak hour for the entire annual peak period

N = Last peak hour for the entire annual peak period

This will generate the percent of annual savings that took place in the total peak period. Equation 11-7 demonstrates this calculation.

EQUATION 11-7 PERCENT SAVINGS ATTRIBUTABLE TO PEAK PERIOD

$$\%\ Savings\frac{peak}{year} = \beta_x \cdot Peak\ load\ factor_x$$

Multiplying this value by the total annual savings will then generate the kWh savings that took place during the peak period, as illustrated by Equation 11-8.

EQUATION 11-8 ENERGY SAVINGS DURING PEAK PERIOD

$$Peak\ kWh\ savings = Total\ kWh\ savings\ \cdot \%\ savings\frac{peak}{year}$$

Dividing this value by the total number of peak hours will generate coincident peak demand savings in units of kW, as shown in Appendix C.

EQUATION 11-9 PEAK DEMAND SAVINGS

$$Peak\ kW\ savings = \frac{Peak\ kWh\ savings}{Anual\ Peak\ Period} \cdot \frac{Annual\ Peak\ Period}{Number\ of\ peak\ hours}$$

As with gross usage savings, the Evaluators anticipates that some participants in the treatment group will also participate in other Entergy programs. The adjusted savings per month is an input for the demand savings estimation with this method. The Evaluators adjust the savings per month by weighing the HVAC measures by degree day.

11.4 Evaluation Findings

This section details the level of program activity for 2022, the reported and verified gross savings that resulted from that activity.

The program-level savings are calculated by multiplying the average annual household impact estimate by the weighted number of active program participants in the treatment group and after removing double counted savings, by program year.

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 for each program year. That value is then adjusted for uplift from downstream measures. This methodology is presented in the UMP Chapter 17 Residential Behavior Protocol[15].

11.4.1 DATA PREPARATION AND CLEANING

The Evaluators prepared and cleaned billing data provided by Entergy. The Evaluators employed the following cleaning steps for each cohort:

- Filter for customers currently treated in 2022
- Remove negative bills (no occurrences)
- Remove bills with 0 days duration (less than 0.1% of bills)
- Remove bills from customers in which account billing data does not overlap with intervention date
- Filter for post-period after January 1, 2022 and pre-period for 1 year prior to intervention date
- Remove customers from analysis if intervention date is not similar to median intervention date (within 45 days)
- Remove bills with less than 10 days duration or greater than 90 days duration
- Remove outlier bills (bills with greater than 200 kWh consumed per day) (0.2% occurred)
- Remove bills from customers with insufficient data (less than 9 months pre-period data or less than 9 months post-period data)
- Remove accounts with multiple addresses

After conducting the above cleaning steps, the Evaluators conducted validity testing. The results of validity testing are displayed below.

[15] https://energy.gov/sites/prod/files/2015/02/f19/UMPChapter17-residential-behavior.pdf

11.4.2 VALIDITY TESTING

The remaining groups after billing preparation and cleaning were tested for statistically significant differences in usage between the treatment and control groups for each of the 12 pre-period months in each wave. If there was no control group created for the cohort, or if the remaining control group is no longer valid, the Evaluators employed propensity score matching to create an ad-hoc counterfactual group.

11.4.3 PROPENSITY SCORE MATCHING

The Evaluators created a valid post-hoc control group for the Self Compare New group and the Self Compare – Original group because they were not designed with a valid counterfactual group. Quasi-experimental methods are required when the control group has not been randomly assigned as it would be in a RCT. All other cohorts retained counterfactual group validity as displayed through validity testing in the section above.

The Evaluators created a statistically similar control group using propensity score matching (PSM), a method that allows the Evaluators to find the most similar household based on the customers' billed consumption trends in the pre-period, specifically covariates for average summer, winter, fall, and spring pre-period usage were used and verified with statistical difference testing.

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 compiled billing data of all control participants from all cohorts to compare against treatment households via quasi-experimental methods. This allowed the Evaluators to select from a large group of similar households that have not received home energy reports. With this information, the Evaluators matched the treatment group to a similar control group on the following variables:

- Pre-period spring usage
- Pre-period summer usage
- Pre-period fall usage
- Pre-period winter usage

After matching, a t-test was conducted for each month in the pre-period to help determine the success of PSM.

The Evaluators employed propensity score matching using the nearest match algorithm at a one-to-one matching ratio for the self-compare groups. The matching ratio defines the number of control customers to be matched to one treatment customer. In addition, the Evaluators allowed replacement of customers, essentially allowing the algorithm to select a control customer for more than one unique treatment customer. The tables provided in Appendix C display the validity of the matched groups before and after propensity score matching.

The following tables provide the results for t-testing, which helps determine the success of matching. The test measures whether there are statistically significant differences in average daily kWh usage between the treatment and control groups in the pre-period by month. Statistically significant differences occur when the P-Value is less than 0.05 at the 95% significance level. As displayed in the table below, the P-Value is much greater than 0.05 for all 12 pre-period months. This result further indicates propensity score matching performed satisfactorily, as there was at maximum one instance for a rejection of the null hypothesis for any of the pre-period months. Therefore, the Evaluators accept these matched group as viable matches for each the Self Compare – New group and Self Compare – Original group.

TABLE 11-7 PY12 SELF COMPARE – NEW VALIDITY TESTING RESULTS

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
Oct 2019	33.43	35.10	-1.67	0.2464	-
Nov 2019	33.66	34.39	-0.73	0.5490	-
Dec 2019	36.96	37.27	-0.31	0.8139	-
Jan 2020	35.31	36.78	-1.47	0.2591	-
Feb 2020	32.35	32.57	-0.22	0.8535	-
Mar 2020	34.73	34.99	-0.25	0.8093	-
Apr 2020	30.52	30.80	-0.28	0.7633	-
May 2020	39.80	40.42	-0.61	0.5902	-
Jun 2020	50.32	50.97	-0.65	0.6325	-
Jul 2020	52.94	53.94	-1.00	0.4435	-
Aug 2020	55.03	55.72	-0.70	0.6118	-
Sep 2020	42.30	43.67	-1.37	0.2603	-

TABLE 11-8 PY12 SELF COMPARE – ORIGINAL VALIDITY TESTING RESULTS

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
Jun 2019	48.64	78.67	-30.03	0.0075	*
Jul 2019	38.64	38.80	-0.16	0.9131	-
Aug 2019	37.50	38.35	-0.85	0.4694	-
Sep 2019	37.87	38.96	-1.09	0.3717	-
Oct 2019	26.06	26.95	-0.89	0.3067	-
Nov 2019	24.45	25.15	-0.70	0.4836	-
Dec 2019	26.33	27.30	-0.96	0.3969	-
Jan 2020	25.35	26.57	-1.22	0.2476	-
Feb 2020	24.35	24.62	-0.27	0.7961	-
Mar 2020	22.83	23.80	-0.96	0.2324	-
Apr 2020	20.62	20.02	0.60	0.3571	-
May 2020	25.38	25.11	0.27	0.7382	-

After propensity score matching for the above cohorts, 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 section below.

11.4.4 LINEAR REGRESSION MODELING RESULTS

This section details the regression results of each of the evaluated cohorts. The Initial, Supplemental, and Neighbor Compare groups were evaluated with the remaining RCT groups. The Third group and self-compare groups were evaluated with the matched control group created via propensity score matching.

As discussed in the evaluation approach section, savings are determined through the equation summarized in Equation 11-2. Model output for each cohort is further summarized in Appendix C.

Per-home results and percent savings are presented for each of the analyzed cohorts. Joint savings attributable to Energy Smart downstream programs were calculated and removed to avoid double counting.

The Evaluators found four of the nine cohorts to display statistically significant savings. In addition, the majority of the models displayed ideal fitness, as displayed by adjusted R-squared values of 0.55 and above. The Evaluators summarize the model results for each cohort in the table below.

TABLE 11-9 PY12 REGRESSION MODEL RESULTS BY COHORT

Cohort	Treatment Coefficient	P-Value	Adjusted R-Squared	Statistically Significant Savings
New ADM Cohort	0.1183	0.0506	0.6929	No
Franklin Neighbor Compare - New	-0.3048	0.0011	0.6578	Yes
Franklin Neighbor Compare - Original	0.0171	0.8937	0.5917	No
Franklin Neighbor Compare - Print	-0.8316	0.0000	0.7119	Yes
Franklin Self Compare - New	-0.2918	0.1522	0.6811	No
Franklin Self Compare - Original	-0.4784	0.0250	0.5480	Yes

The regression output displays statistically significant savings if the treatment coefficient is negative and if the p-value for the treatment coefficient is less than 0.05. As displayed, the following three cohorts meet these requirements: Neighbor Compare – New, Neighbor Compare – Print, and Self Compare – Original.

The ADM cohort, Neighbor Compare – Original, and Self Compare – New group do not demonstrate energy consumption differences between the treatment group and the control group, as demonstrated by the p-value above 0.05. This means that the null hypothesis that the treatment group and control group are similar cannot be rejected. Thus, the Evaluators are unable to verify savings for these cohorts through the Behavioral Program.

The treatment coefficients for cohorts in which statistically significant savings were displayed were multiplied by the total number of days in the evaluation period (365.25 days for all cohorts). The following table summarizes the average annual household savings and percent annual household savings for each cohort that displayed statistically significant savings, prior to double counting analysis adjustments.

TABLE 11-10 PY12 HOUSEHOLD-LEVEL UNADJUSTED SAVINGS BY COHORT

Cohort	Unadjusted Household Savings	Average Annual Household Usage	Percent Annual Household Unadjusted Savings
Neighbor Compare – ADM	0	11,494	0.00%
Neighbor Compare – New	111	16,216	0.69%
Neighbor Compare – Original	0	13,179	0.00%
Neighbor Compare – Print	304	13,770	2.21%
Self Compare – New	0	14,545	0.00%
Self Compare – Original	175	10,238	1.71%

The average household savings for each cohort were then extrapolated to the total number of customers treated in PY12, weighted by number of days during the evaluation period. The following table summarizes the program-level savings resulting from regression model analysis, prior to double counting adjustments.

TABLE 11-11 PY12 PROGRAM-LEVEL UNADJUSTED SAVINGS BY COHORT

Cohort	Unadjusted Household Savings	Weighted Number of Customers in PY12	Unadjusted PY12 kWh Savings
Neighbor Compare – ADM	0	23,127	0
Neighbor Compare – New	111	31,086	3,460,865
Neighbor Compare – Original	0	13,448	0
Neighbor Compare – Print	304	5,281	1,604,051
Self Compare – New	0	3,728	0
Self Compare – Original	175	2,637	460,810
Total	**-**	**79,308**	**5,525,727**

The program displays a total of 5,525,727 kWh verified savings across 79,308 customers in PY12. Three of the six cohorts demonstrated statistically significant, positive energy savings. The Evaluators were able to verify savings for 49% of the treated households in PY12. The remaining cohorts were unable to provide valid energy savings demonstrated through monthly energy consumption.

11.4.5 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:

- Income-Qualified Weatherization Program
- AC Tune-Up Program
- Home Performance with ENERGY STAR Program
- Residential Lighting and Appliances Program
- Multifamily 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 11-12 PY12 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)
Neighbor Compare – ADM	22.80	27.21	-4.41	
Neighbor Compare – New	38.06	21.90	16.16	502,223
Neighbor Compare – Original	17.87	12.08	5.79	
Neighbor Compare – Print	28.70	33.77	-5.07	-26,764
Self Compare – New	32.91	30.86	2.04	
Self Compare – Original	11.03	15.06	-4.03	-10,641
Total	**28.56**	**24.60**	**3.96**	**464,818**

The results are separated by cohort. PY12 displays a total of 464,818 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 11-13 PY12 HOUSEHOLD-LEVEL ADJUSTED SAVINGS BY COHORT

Cohort	Unadjusted Household Savings	Household Double Counted Savings	Adjusted Household Savings	% Change to Savings
Neighbor Compare – ADM	0	0	0	-
Neighbor Compare – New	111	16	95	14.51%
Neighbor Compare – Original	0	0	0	-
Neighbor Compare – Print	304	-5	309	-1.67%
Self Compare – New	0	0	0	-
Self Compare – Original	175	-4	179	-2.31%

After conducting double counting adjustments, the Evaluators extrapolated household-level adjusted savings to estimate total annual energy savings for PY12 for each cohort. The total verified and adjusted program-level savings are displayed in the table below.

TABLE 11-14 PY12 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 PY12
Neighbor Compare – ADM	0	11,494	0.00%	23,127
Neighbor Compare – New	95	16,216	0.59%	31,086
Neighbor Compare – Original	0	13,179	0.00%	13,448
Neighbor Compare – Print	309	13,770	2.24%	5,281
Self Compare – New	0	14,545	0.00%	3,728
Self Compare – Original	179	10,238	1.75%	2,637
Total	**130**	**15,481**	**0.84%**	**79,308**

11.4.6 DEMAND REDUCTION RESULTS

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 both the annual program year and the extended program year.

The Evaluators conducted the steps presented in the demand calculation methodology subsection. The following table displays the resulting demand savings for each group in which statistically significant energy savings was estimated.

TABLE 11-15 PY12 PROGRAM-LEVEL ADJUSTED SAVINGS BY COHORT

Cohort	Adjusted PY12 kW Savings
Neighbor Compare – ADM	0.00
Neighbor Compare – New	480.46
Neighbor Compare – Original	0.00
Neighbor Compare – Print	264.83
Self Compare – New	0.00
Self Compare – Original	76.56
Total	**821.84**

The Behavioral Program displayed 821.84 kW reductions in PY12 resulting from energy savings demonstrated by Neighbor Compare – New, Neighbor Compare – Print, and Self Compare – Original cohorts.

11.4.7 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 5,060,909 kWh and 821.84 kW between January 1, 2022 and December 31, 2022.

TABLE 11-16 PY12 BEHAVIORAL VERIFIED ENERGY AND DEMAND REDUCTIONS BY COHORT

Cohort	*Weighted Number of Customers in PY12*	*Verified PY12 kWh Savings*	*Verified PY12 kW Savings*	*Percent Annual Household Adjusted Savings*
Neighbor Compare – ADM	23,127	0	0.00	0.00%
Neighbor Compare – New	31,086	2,958,643	480.46	0.59%
Neighbor Compare – Original	13,448	0	0.00	0.00%
Neighbor Compare – Print	5,281	1,630,816	264.83	2.24%
Self Compare – New	3,728	0	0.00	0.00%
Self Compare – Original	2,637	471,451	76.56	1.75%
Total	**79,308**	**5,060,909**	**821.84**	**0.84%**

Three of the six groups displayed statistically significant, positive savings. The Neighbor Compare – New, and Neighbor Compare – Original, and Self Compare – Original groups display an average household annual savings of 0.59%, 2.24%, 1.75% respectively. Typically, behavioral energy report programs display a range between 0.5%

and 2.5% annual household savings. However, these groups displayed deflated savings due to a combination of the following implications:

- Lack of RCT experimental design
- Changes in implementation which led to the treatment of 75% of the control group.
- Several data disruptions in customer email occurred during PY2020 through PY2022 which disabled implementors from sending reports to a large number of customers in evaluation periods

The Neighbor Compare – ADM cohort did not display statistically significant savings likely due to lack of consistent messaging. Two messages were sent to this cohort, one in April 2022 and one in July 2022. Typically, behavioral cohorts receive at least quarterly messages or monthly messages. Lack of consistent messaging may limit the behavioral change customers adopt to reduce observed energy consumption.

The Evaluators would like to emphasize that the Behavioral Program PY12 results are atypical due to disruption of randomized control trial cohort assignment and reduced mailed and emailed reports to customers due to data disruptions. For future program years and program planning, the Evaluators estimate a range between 0.5% and 2.5% annual household savings would better align with typical year savings.

11.5 Key Findings & Conclusions

The following summarizes the key findings and conclusions for the evaluation.

- **The Evaluators estimated Behavioral Program savings for Entergy through billing analysis of cohorts.** The Evaluators found positive annual savings that is statistically significant savings for three of the six cohorts in the 2022 calendar year evaluation. The Evaluators verified program savings of 5,060,909 kWh for PY12 and verified demand reductions of 821.84 kW.
- **The regression analysis resulted in unadjusted program savings of 5,525,727 kWh for PY12.** The Evaluators estimated downstream double counted savings at 464,818 for PY12. The Evaluators removed this double counted savings from the regression results, leading to total verified, adjusted program savings of 5,060,909 kWh.
- **The Neighbor Compare – New, and Neighbor Compare – Original, and Self Compare – Original groups display an average household annual savings of 0.59%, 2.24%, 1.75% respectively.** Typically, behavioral energy report programs display a range between 0.5% and 2.5% annual household savings. The Behavioral Program displayed lower than typical behavioral program savings.
- **These groups displayed deflated savings due to changes in implementation**. This led to the treatment of 75% of the control group, data disruptions in customer emails which disabled implementors from sending reports to a large number of customers, potentially leading to a decrease in treatment effect during the 2022 evaluation year.
- **The Evaluators are unable to estimate savings for the Neighbor Compare – ADM, Neighbor Compare – Original, and Self Compare – New cohorts.** The Evaluators attempted to match valid counterfactual groups and although the ad-hoc counterfactual groups passed validity testing, the regression results were improbable with zero or negative average household savings, which likely demonstrates inherent differences between the treatment and control groups. The Evaluators recommend that all future cohorts align with RCT designs and are randomly selected by a third-party evaluator.

- **The Evaluators emphasize that the Behavioral Program PY12 results are atypical due to disruption of randomized control trial cohort assignment and reduced mailed and emailed reports to customers due to data disruptions.** For future program years and program planning, the Evaluators estimate a range between 0.5% and 2.5% annual household savings would better align with typical year savings.

11.6 Recommendations

The following summarizes key recommendations after completing the evaluation.

- **The Evaluators recommend that the implementors continue to halt treatment of all control group customers.** This will enable the Evaluators to employ the RCT designs created at program outset, which allow the Evaluators to estimate verified savings as recommended by the NREL Behavioral Protocol.**The Evaluators recommend that the implementors correct data disruptions to allow treatment of all customers assigned to a treatment cohort.** This will allow behavioral changes to accumulate, leading to observable changes in energy consumption.
- **The Evaluators recommend that the implementors consult third party evaluators to select all future cohorts.** The Evaluators also recommend that all future cohorts align to NREL Behavioral Protocol RCT experimental design and contain at least 25,000 treatment customers in each cohort to ensure measurable treatment effects. This will alleviate the need to employ propensity score matching and will ensure that treatment and control groups are equivalent, thus allowing proper and accurate measurement of treatment effect in the post-period.

12 SMALL C&I SOLUTIONS

12.1 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 by type (e.g., OLM, kit, etc.) and by stratum.

TABLE 12-1 PY12 SMALL 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)
Refrigeration	12,123	59%	7,210	100%	7,201
Linear LED	1,747,793	169%	2,946,946	95%	2,806,966
HID LED	700,682	109%	766,818	95%	730,394
Interior LED	191,738	96%	184,855	100%	184,855
Screw Based LED	194,829	142%	276,075	95%	262,961
Strip Curtain	3,461	112%	3,892	100%	3,887
Door Gasket	47,883	105%	50,468	100%	50,407
HVAC	154,686	104%	160,559	100%	160,366
Lighting Control	16,446	175%	28,758	95%	27,392
OLM Smart Thermostat	148,712	73%	108,559	76%	82,505
OLM Faucet Aerator	77,735	80%	62,188	96%	59,701
Retail Business Kit	68,719	25%	17,103	85%	14,537
Office Business Kit	165,044	25%	40,791	87%	35,488
OLM Screw Based LED	81,137	100%	81,137	31%	25,152
Restaurant Business Kit	35,987	50%	18,090	80%	14,472
OLM LED Exit Sign	8,692	100%	8,692	71%	6,171
OLM Low Flow Showerhead	3,555	71%	2,524	100%	2,524
Exterior LED	190,170	129%	244,896	95%	233,263
LED Exit Sign	25,431	239%	60,672	95%	57,790
BAS[16]	105,122	105%	110,092	94%	103,475
AC Tune-up	10,953	131%	14,335	100%	14,318
OLM Advanced Power Strip	122	65%	80	72%	57
VFD[17]	256,750	99%	255,216	94%	239,724
Convection Oven	1,988	97%	1,933	100%	1,931
Total	**4,249,756**	**128%**	**5,451,890**	**94%**	**5,125,542**

Sums may differ due to rounding.

[16] Building Automation Software (BAS)

[17] Variable Frequency Drive (VFD)

TABLE 12-2 PY12 SMALL C&I SOLUTIONS DEMAND REDUCTIONS (KW)

Measure	*Ex Ante* Gross Demand (kW)	Realization Rate (kW)	*Ex Post* Gross Demand (kW)	NTG	*Ex Post* Net Demand (kW)
Refrigeration	1.43	60%	0.86	100%	0.00
Linear LED	421.24	182%	767.00	95%	730.57
HID LED	93.23	130%	121.00	95%	115.25
Interior LED	33.70	122%	41.00	100%	41.00
Screw Based LED	43.15	146%	63.00	95%	60.01
Strip Curtain	0.47	106%	0.50	100%	0.00
Door Gasket	5.44	104%	5.64	100%	0.00
HVAC	56.60	136%	77.00	100%	76.91
Lighting Control	5.52	199%	11.00	95%	10.48
OLM Smart Thermostat	0.00	NA	0.00	76%	0.00
OLM Faucet Aerator	16.56	80%	13.25	96%	12.72
Retail Business Kit	19.03	25%	4.74	85%	4.03
Office Business Kit	45.69	25%	11.29	87%	9.83
OLM Screw Based LED	14.49	100%	14.49	31%	4.49
Restaurant Business Kit	6.59	50%	3.31	80%	2.65
OLM LED Exit Sign	1.22	100%	1.22	71%	0.87
OLM Low Flow Showerhead	157.68	71%	111.95	100%	111.95
Exterior LED	0.00	NA	0.00	95%	0.00
LED Exit Sign	3.66	273%	10.00	95%	9.53
BAS	0.00	NA	0.00	94%	0.00
AC Tune Up	5.58	125%	7.00	100%	6.99
OLM Advanced Power Strip	0.00	NA	0.00	72%	0.00
VFD	15.72	140%	22.00	94%	20.66
Convection Oven	0.38	97%	0.37	100%	0.00
Total	**947.38**	**136%**	**1,286.62**	**95%**	**1,217.94**

Sums may differ due to rounding.

TABLE 12-3 PY12 SMALL C&I SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
Refrigeration	11	76,956	76,864
Linear LED	15	44,204,190	42,104,491
HID LED	15	11,502,270	10,955,912
Interior LED	15	2,772,825	2,772,825
Screw Based LED	9	2,484,675	2,366,653
Strip Curtain	5	19,460	19,437
Door Gasket	4	201,872	201,630
HVAC	17	2,713,330	2,710,074
Lighting Control	8	230,064	219,136
OLM Smart Thermostat	11	1,194,153	907,557
OLM Faucet Aerator	10	621,883	597,008
Retail Business Kit	13	228,642	194,346
Office Business Kit	10	424,700	369,489
OLM Screw Based LED	9	730,230	226,371
Restaurant Business Kit	10	189,811	151,849
OLM LED Exit Sign	15	130,380	92,570
OLM Low Flow Showerhead	10	25,241	25,241
Exterior LED	15	3,673,440	3,498,952
LED Exit Sign	15	910,080	866,851
BAS	15	1,651,380	1,552,132
AC Tune Up	10	143,350	143,178
OLM Advanced Power Strip	10	796	573
VFDs	15	3,828,240	3,595,866
Convection Oven	12	23,196	23,168
Total	**14**	**77,981,165**	**73,672,171**

Sums may differ due to rounding.

TABLE 12-4 PY12 SMALL C&I SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend ($)
Custom - LED	95	$469,183.30
Prescriptive - LED	6	$1,152.00
Prescriptive - TA Incentive	113	$188,050.96
Prescriptive - Restaurant Small Business Kit	30	$67,331.45
Prescriptive - Office Small Business Kit	60	$21,377.17
Prescriptive - Retail Small Business Kit	39	$6,893.50
Prescriptive - Smart Thermostat	3	$515.80
Prescriptive - Screw-Based LED	26	$8,610.43
Prescriptive - Lighting Control	10	$16,980.00
Prescriptive - Refrigeration	7	$1,710.00
Prescriptive - OLM Smart Thermostat	204	$47,058.76
Prescriptive - OLM Showerhead	14	$483.00
Prescriptive - OLM Advanced Power Strip	52	$299.88
Prescriptive - OLM Screw Based LED	95	$2,023.00
Prescriptive - OLM Aerator	75	$2,750.50
Custom - Custom	39	$575.64
Prescriptive - OLM Exit Sign	14	$764.00
Custom - Chiller	13	$628.00
Custom - HVAC	10	$10,327.00
Prescriptive - AC Tune Up	5	$1,452.00
Prescriptive - Duct Sealing	3	$12,614.64
Prescriptive - Ida Recovery Fund	2	$910.00
Prescriptive - Convection Oven	14	$16,323.25
Prescriptive - HVAC	2	$18.00
Prescriptive - BMS	1	$30,810.00
Prescriptive - OLM LED	1	$230.00
Total	**933**	**$909,072**

Sums may differ due to rounding.

12.2 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 below in the table below.

TABLE 12-5 SUMMARY OF OFFERING INCENTIVES

Measure	Incentive
Prescriptive	$ per unit
Custom Lighting	$0.12 per kWh Saved
Custom Non-Lighting	$0.12 per kWh Saved

The offering is designed to provide small business owners with energy efficiency information and develop awareness of energy and non-energy benefits of energy efficiency. The information helps small business customers invest in energy efficient technologies and help overcome high “first costs.” It is intended to increase awareness of the latest energy efficient technologies available to small business customers. Through the offering, a network of trade allies was developed that work specifically with small business customers. The offerings provide the tools and training for trade allies to quantify the energy savings and incentives for small business customers.

This year, staff are very pleased with their more streamlined application process and having more outreach staff on-hand to help walk participants through the application process. Additionally, staff noted that ENO is forwarding project leads or requests for program information, which has been helpful in increasing program participation and program awareness. Also, being able to return to in-person engagement this year has also attributed to the program successes.

12.2.1 PROGRAM DELIVERY CHANNELS AND EXPECTED SAVINGS

The evaluation approach for PY12 included the following activities: database review, desk review, site visits, participant surveys and staff interviews.

A total of 484 projects were completed across are measure offerings in PY12. The figure below shows the contribution to savings by offering as part of the overall expected savings.

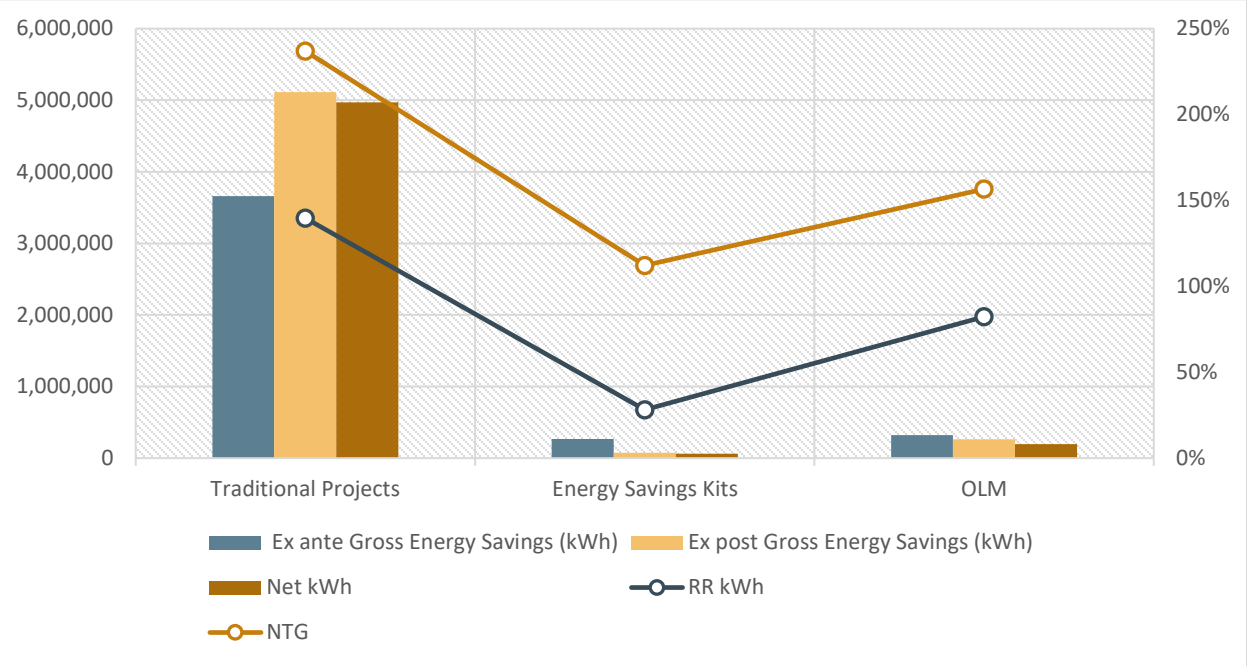


FIGURE 12-1 SAVINGS BY PROJECT TYPE

12.2.2 TIMING OF PROJECTS

48% of energy savings had a project start date between October 2022 and December of 2022 with the largest single start month being November 2022, which accounted for 25% of total savings. This spike in projects in Q4 is the result of the Lagniappe Fund bonus offered in the Fall of 2022. The figure below outlines savings and project count by the start date.

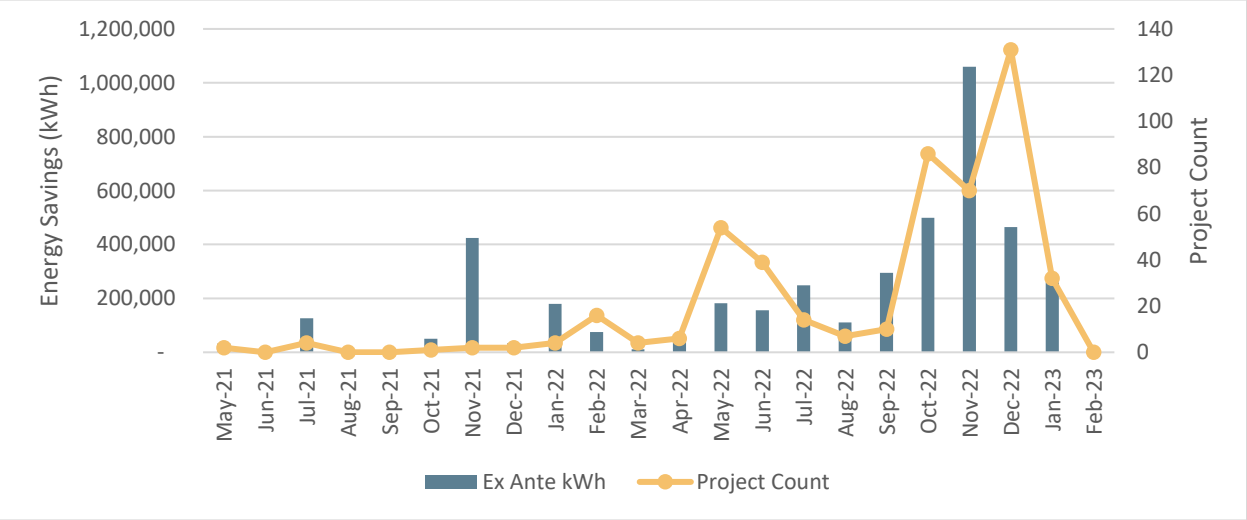


FIGURE 12-2 EX ANTE SAVINGS BY PROJECT START MONTH

Expected energy savings and the month in which the project was closed out are shown in the figure below.

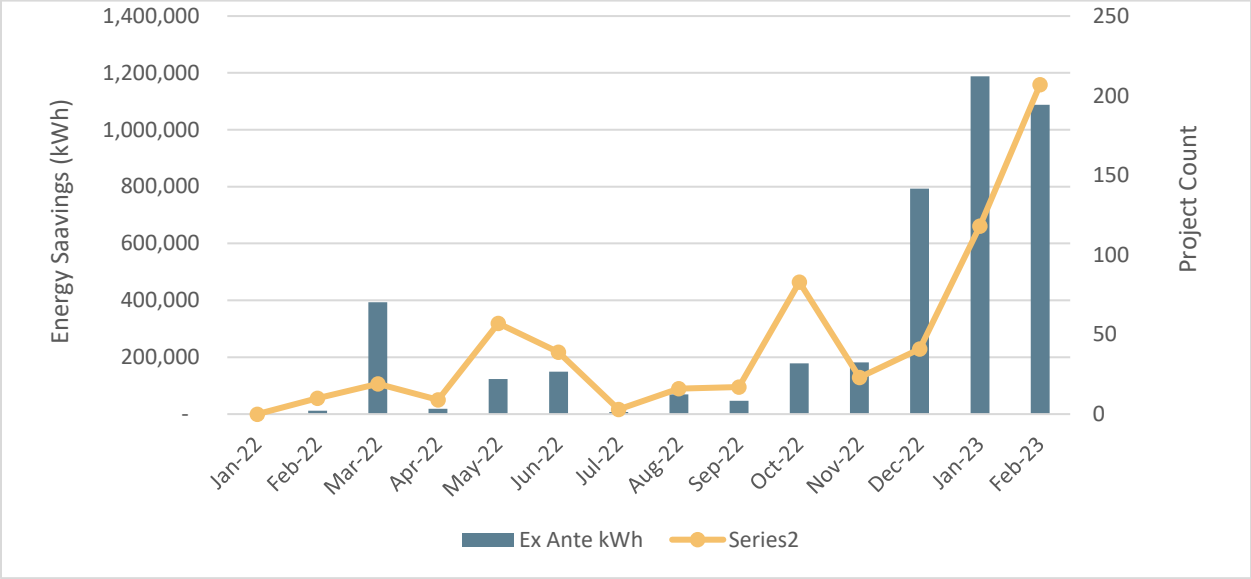


FIGURE 12-3 SMALL C&I SOLUTIONS MONTHLY PROGRAM PARTICIPATION

Fifty-four percent of expected savings had a completion date listed as January and February of 2023. PY12 saw a lower number of projects completed when compared to PY11. Project close outs happened in 2023 (final invoices, payments, etc.) but all installation work was completed by December 31, 2022.

12.2.3 TRADE ALLIES

In PY12, the program saw projects completed by 43 different trade allies. The below table shows trade ally activity.

TABLE 12-6 SMALL C&I SOLUTIONS TRADE ALLY ACTIVITY

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	2,688	1	0.1%
Trade Ally 2	8,265	1	0.2%
Trade Ally 3	105,122	3	2.5%
Trade Ally 4	154,347	10	3.6%
Trade Ally 5	410,153	229	9.7%
Trade Ally 6	28,558	11	0.7%
Trade Ally 7	25,093	7	0.6%
Trade Ally 8	176,068	3	4.1%
Trade Ally 9	125,538	4	3.0%
Trade Ally 10	117,952	4	2.8%
Trade Ally 11	141,377	3	3.3%
Trade Ally 12	1,026,914	11	24.2%

Trade Ally 13	5,504	1	0.1%
Trade Ally 14	16,471	2	0.4%
Trade Ally 15	53,014	3	1.2%
Trade Ally 16	101,162	4	2.4%
Trade Ally 17	8,881	1	0.2%
Trade Ally 18	18,036	2	0.4%
Trade Ally 19	26,726	2	0.6%
Trade Ally 20	255,144	14	6.0%
Trade Ally 21	3,464	1	0.1%
Trade Ally 22	13,746	1	0.3%
Trade Ally 23	11,258	1	0.3%
Trade Ally 24	8,660	2	0.2%
Trade Ally 25	368,190	1	8.7%
Trade Ally 26	17,528	1	0.4%
Trade Ally 27	2,276	1	0.1%
Trade Ally 28	15,632	1	0.4%
Trade Ally 29	36,673	2	0.9%
Trade Ally 30	18,746	1	0.4%
Trade Ally 31	303,000	6	7.1%
Trade Ally 32	70,049	3	1.6%
Trade Ally 33	63,279	1	1.5%
Trade Ally 34	69,512	2	1.6%
Trade Ally 35	1,252	1	0.0%
Trade Ally 36	8,753	1	0.2%
Trade Ally 37	144,783	5	3.4%
Trade Ally 38	9,373	1	0.2%
Trade Ally 39	38,801	1	0.9%
Trade Ally 40	12,333	1	0.3%
Trade Ally 41	3,426	1	0.1%
Trade Ally 42	21,978	1	0.5%
Trade Ally 43	200,031	132	4.7%

12.2.4 GOAL ACHIEVEMENT

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

TABLE 12-7 SMALL C&I SOLUTIONS SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
8,830,250	61.7%	5,451,890	1,948.00	66.0%	1,286.62

12.3 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 11 site visits.
- 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.

12.3.1 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 inspections were used to help verify installations and to determine any changes to the operating parameters since the measures were first installed. The Evaluators verified that NO TRM V5.0 lighting hours of operation had been correctly assigned by space type. Projects were deemed analyzed using the methods described in the NO TRM V5.0, Section D.6.2 and 3, Lighting Efficiency and Lighting Controls. Specific algorithms for lighting savings and an explanation of deemed inputs are below.

12.3.2 NON-KIT PROJECTS

12.3.2.1 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 (Standard Wattage Table, Appendix E pages C-323 to C-475)

Wfixt(i), post = Rated wattage of post-retrofit fixtures of type i (Appendix E)

CF = Peak demand coincidence factor (TRM Table 227, pages C-294 to C-295)

AOH = Annual operating hours for specified space type (TRM Table 227, pages C-294 to C-295)

IEFD = Interactive effects factor for demand savings (TRM Table 228, page C-296)

IEFE = Interactive effects factor for energy savings (TRM Table 228, page C-296)

12.3.2.2 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 12-8 below.

TABLE 12-8 PROGRAM SAMPLE DESIGN

	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Totals
Strata boundaries (kWh)	< 5,000	5,001 - 20,000	20,001 - 60,000	> 60,001	**NA**
Number of projects	38	44	29	16	**127**
Total kWh savings	92,231	517,518	1,035,410	1,994,413	**3,639,572**
Average kWh Savings	2,427	11,762	35,704	124,651	**17,964**
Standard deviation of kWh savings	1,458	4,096	10,944	92,497	**41,013**
Coefficient of variation	0.60	0.35	0.31	0.74	**2.28**
Final design sample	20	21	16	12	**69**

TABLE 12-9 EXPECTED SAVINGS FOR SAMPLED/NON-SAMPLED PROJECTS BY STRATUM

Stratum	Sample Expected Savings	Total Expected Savings
1	58,877	92,231
2	241,086	517,518
3	585,361	1,035,410
4	1,582,337	1,994,413
Total	**2,467,662**	**3,639,572**

The achieved sampling precision was ±10.0% at 90% confidence.

12.3.3 KIT PROJECTS

Savings for lighting and water heating measures in the kits was assessed using the NO TRM V5.0.

TABLE 12-10 APPLICABLE TRM SECTIONS

Measure	TRM Section
LED A-Lamps	D.6
Low flow Faucet Aerators 1.0 GPM	D.2.2
Low flow Faucet Aerators 1.5 GPM	D.2.3
Advanced Power Strips	D.7.6
LED 'Exit' sign	D.6

To determine gross realization rates, the Evaluators surveyed kit recipients. The tables below show responses and gross realization rates.

TABLE 12-11 ISR FOR OFFICE KIT MEASURES

Measure	ISR	Responses
LED lamp	50%	4
Aerator 1.00 GPM	20%	5
Aerator 1.50 GPM	20%	5
Advanced Power Strip	67%	3
LED Exit Sign	20%	5

TABLE 12-12 ISR FOR RETAIL KIT MEASURES

Measure	ISR	Responses
LED lamp	44%	19
Aerator 1.00 GPM	29%	7
LED Exit Sign	22%	9

TABLE 12-13 ISR FOR RESTAURANT KIT MEASURES

Measure	ISR	Responses
LED lamp	75%	4
Aerator 1.00 GPM	50%	3
Aerator 1.50 GPM	38%	4
LED Exit Sign	25%	4

Savings for businesses with gas water heating were not claimed for hot water measures, Staff tracked the water heating type for each kit delivered and included this data in tracking provided to the Evaluators. In addition to asking questions related to in-service rates, the Evaluators also confirmed each businesses' water heating type during surveys. No discrepancies were found.

12.4 Evaluation Findings

12.4.1 GROSS IMPACT FINDINGS

12.4.1.1 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 12-14 EXPECTED AND VERIFIED SAVINGS BY SAMPLED PROJECT

Project ID(s)	Facility Type	Ex Ante Gross Energy (kWh)	Ex Post Gross Energy (kWh)	Realization Rate
CIP_688	Service (Excluding Food)	57,389	63,450	111%
CIP_687	Small Office	36,178	39,476	109%
CIP_682	Education: K-12	38,708	40,009	103%
CIP_681	Religious or Faith-Based	12,224	12,917	106%
CIP_680	Small Office	33,277	33,276	100%
CIP_679	Small Office	16,569	16,730	101%
CIP_678	Religious or Faith-Based	15,814	16,781	106%
CIP_677	Small Office	15,871	19,659	124%
CIP_669	Religious or Faith-Based	1,252	1,183	94%
CIP_667	Retail: Strip Shopping & Non-enclosed Mall	29,242	29,242	100%
CIP_663	Religious or Faith-Based	10,517	10,517	100%
CIP_660	Education: K-12	8,881	8,514	96%
CIP_659	Education: K-12	63,279	22,532	36%
CIP_653	Public Assembly	4,601	4,599	100%
CIP_648	Retail: Excluding Malls & Strip Centers	4,330	4,330	100%
CIP_647	Retail: Excluding Malls & Strip Centers	11,258	11,258	100%
CIP_639	Outdoor	48,395	49,681	103%
CIP_637	Small Office	3,770	4,724	125%
CIP_633	Outdoor	6,910	6,910	100%
CIP_632	Service (Excluding Food)	13,746	2,761	20%
CIP_625	Small Office	296,903	296,903	100%
CIP_616	Education: K-12	24,575	24,477	100%
CIP_613	Outdoor	163,407	156,650	96%
CIP_575	Education: K-12	69,750	194,550	279%
CIP_573	Education: K-12	41,839	45,606	109%
CIP_568	Education: K-12	60,475	217,312	359%
CIP_562	Food Service: Sit-down Restaurant	13,041	52,599	403%
CIP_560	Education: K-12	14,454	14,288	99%
CIP_527	Religious or Faith-Based	21,823	27,432	126%
CIP_526	Warehouse: Non-refrigerated	213,483	192,279	90%
CIP_523	Retail: Excluding Malls & Strip Centers	97,382	237,375	244%
CIP_521	Religious or Faith-Based	2,176	869	40%
CIP_518	Food Sales: Non 24-hour Supermarket/ Retail	247	292	118%
CIP_517	Gas Station	6,640	6,688	101%
CIP_515	Food Sales: Non 24-hour Supermarket/ Retail	2,175	3,060	141%
CIP_507	Food Service: Sit-down Restaurant	1,425	1,430	100%

CIP_505	Unknown	794	889	112%
CIP_504	Gas Station	8,320	8,623	104%
CIP_503	Gas Station	4,322	4,321	100%
CIP_502	Food Service: Fast Food	1,988	1,933	97%
CIP_501	Retail: Excluding Malls & Strip Centers	61,755	68,851	108%
CIP_500	Retail: Excluding Malls & Strip Centers	70,599	142,028	201%
CIP_498	Retail: Excluding Malls & Strip Centers	29,161	143,469	492%
CIP_494	Food Service: Fast Food	2,957	1,501	51%
CIP_491	Parking Structure	39,842	71,902	180%
CIP_486	Lodging (Hotel/Motel/Dorm): Common Areas	2,276	2,276	100%
CIP_485	Food Service: Sit-down Restaurant	2,994	1,810	60%
CIP_484	Food Service: Sit-down Restaurant	3,548	2,145	60%
CIP_482	Food Service: Sit-down Restaurant	6,320	3,821	60%
CIP_481	Food Service: Sit-down Restaurant	4,768	10,422	219%
CIP_476	Not listed	17,193	9,135	53%
CIP_473	Food Service: Sit-down Restaurant	26,310	100,775	383%
CIP_470	Unknown	46,874	45,164	96%
CIP_469	Small Office	10,122	55,108	544%
CIP_451	Retail: Strip Shopping & Non-enclosed Mall	21,978	201,685	918%
CIP_450	Food Service: Sit-down Restaurant	3,533	3,719	105%
CIP_449	Food Service: Sit-down Restaurant	3,592	4,579	127%
CIP_447	Food Service: Sit-down Restaurant	4,310	4,310	100%
CIP_441	Food Service: Sit-down Restaurant	5,490	5,451	99%
CIP_440	Unknown	8,060	8,060	100%
CIP_422	Unknown	72,067	34,125	47%
CIP_421	Unknown	28,203	23,558	84%
CIP_410	Unknown	132,459	132,459	100%
CIP_403	Unknown	3,819	3,181	83%
CIP_397	Small Office	12,063	33,037	274%
CIP_384	Education: K-12	79,037	79,750	101%
CIP_382	Retail: Strip Shopping & Non-enclosed Mall	38,801	36,107	93%
CIP_381	Religious or Faith-Based	9,373	11,301	121%
CIP_354	Education: K-12	140,567	139,727	99%
CIP_297	Retail: Excluding Malls & Strip Centers	61,175	131,489	215%
CIP_294	Retail: Strip Shopping & Non-enclosed Mall	18,220	22,006	121%
CIP_245	Small Office	22,766	14,237	63%
Total		**2,467,662**	**3,433,312**	**139%**

TABLE 12-15 SUMMARY OF KWH SAVINGS BY SAMPLE STRATUM

Stratum	Sample *Ex Ante* Gross Energy Savings (kWh)	Sample *Ex Post* Gross Energy Savings (kWh)	Stratum Realization Rate
1	58,877	61,573	105%
2	241,086	336,164	139%
3	585,361	989,545	169%
4	1,582,337	2,046,030	129%

12.4.1.2 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 ±10% from 100% and the cause of the variance in savings.

TABLE 12-16 CAUSES OF VARIANCE IN PROJECT SAVINGS

Project ID(s)	Expected kWh Savings	Verified kWh Savings	Realization Rate	Causes of Variance in Savings
CIP_688	57,389	63,450	111%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_677	15,871	19,659	124%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_659	63,279	22,532	36%	*Ex Ante* estimate was based on non-TRM hours. *Ex Post* savings were calculated using the deemed TRM AOH for the facility.
CIP_637	3,770	4,724	125%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_575	69,750	194,550	279%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_568	60,475	217,312	359%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_562	13,041	52,599	403%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_527	21,823	27,432	126%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage. The evaluator verified different efficient wattages as well.
CIP_526	213,483	192,279	90%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_523	97,382	237,375	244%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_521	2,176	869	40%	*Ex Ante* estimates were based on an average of all deemed values and *Ex Post* savings were verified using the deemed values that matched the efficient equipment specs.
CIP_518	247	292	118%	The evaluator verified more door gaskets being installed than what was claimed in the ex-ante estimate.

CIP_515	2,175	3,060	141%	The evaluator verified more door gaskets being installed than what was claimed in the ex-ante estimate.
CIP_505	794	889	112%	The evaluator verified more door gaskets being installed than what was claimed in the ex-ante estimate.
CIP_500	70,599	142,028	201%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_498	29,161	143,469	492%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_494	2,957	1,501	51%	*Ex Ante* estimates were based on an average of all deemed values and *Ex Post* savings were verified using the deemed values that matched the efficient equipment specs.
CIP_491	39,842	71,902	180%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_485	2,994	1,810	60%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_484	3,548	2,145	60%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_482	6,320	3,821	60%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_481	4,768	10,422	219%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_476	17,193	9,135	53%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_473	26,310	100,775	383%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_469	10,122	55,108	544%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_451	21,978	201,685	918%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_449	3,592	4,579	127%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_422	72,067	34,125	47%	*Ex Ante* estimates were based on an average of all deemed values and *Ex Post* savings were verified using the deemed values that matched the efficient equipment specs.
CIP_421	28,203	23,558	84%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage. The evaluator verified different efficient wattages as well.
CIP_403	3,819	3,181	83%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage. The evaluator verified different efficient wattages as well.
CIP_397	12,063	33,037	274%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_381	9,373	11,301	121%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_297	61,175	131,489	215%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_294	18,220	22,006	121%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_245	22,766	14,237	63%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.

12.4.1.3 Realization of Traditional Projects

Using the realization rates presented in Table 12-15, the Evaluators extrapolated results from sampled sites to non-sampled sites in developing offering-level savings estimates. Table 12-17 presents results by stratum.

TABLE 12-17 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	38	92,231	94,818.00	105%	8.29	8.19	99%
2	44	517,518	704,879.00	139%	30.35	30.35	100%
3	29	1,035,410	1,701,369.00	169%	69.10	62.56	91%
4	16	1,994,413	2,611,659.00	129%	80.39	66.24	82%
Total	**127**	**3,639,572**	**5,112,725**	**140%**	**188.13**	**167.35**	**89%**

12.4.1.4 Energy Efficiency Kit Realization

Savings for kits were analyzed separately from the stratified sample of traditional projects. Since the expected energy savings were reported out in the tracking data at the kit level, the verified energy savings are reported at the kit level and not at the measure level, the results are as followed.

TABLE 12-18 BUSINESS KIT REALIZATION BY COMPONENT

Measure Kit	*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
Office Kit	165,044	40,791	24.7%	45.69	11.29	24.7%
Retail Kit	68,719	17,103	24.9%	19.03	4.74	24.9%
Restaurant Kit	35,987	18,090	50.3%	6.59	3.31	50.3%
Total	**269,750**	**75,985**	**28.2%**	**71.31**	**19.34**	**27.1%**

TABLE 12-19 KIT REALIZATION BY BUSINESS TYPE AND WATER HEATING FUEL MIX

Kit Type	Count Distributed	*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
Office - ER	71	157,052	39,088	24.9%	44.52	11.08	24.9%
Office - N. Gas	24	7,992	1,989	24.9%	3.14	0.78	24.9%
Retail - ER	30	56,634	14,095	24.9%	82.05	20.42	24.9%
Retail - N. Gas	22	12,085	2,987	24.7%	9.76	2.41	24.3%
Restaurant - ER	15	22,706	11,414	50.3%	28.32	14.24	50.3%
Restaurant – N. Gas	24	13,282	6,677	50.3%	8.46	4.25	50.3%
Totals	**186**	**269,750**	**76,249**	**28.3%**	**176.25**	**53.18**	**30.2%**

Verified savings differs from the expected estimates because the verified gross realization rates are lower than those used in the *ex ante* estimations.

12.4.1.5 Online Marketplace Realization

Savings from the OLM were analyzed separately from the stratified sample of traditional projects and kits. Results are as follows.

TABLE 12-20 OLM PURCHASES SAVINGS BY MEASURE

Measure	*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
Smart Thermostat	148,712	108,559	73.0%	0.00	0.00	NA
Faucet Aerator	77,735	62,188	80.0%	16.56	13.25	80.0%
Screw Based LED	81,137	81,137	100.0%	14.49	14.49	100.0%
LED Exit Sign	8,692	8,692	100.0%	1.22	1.22	100.0%
Low Flow Shower	3,555	2,524	71.0%	157.68	111.95	71.0%
Advanced Power Strip	122	80	65.0%	0.00	0.00	NA
Totals	**319,953**	**263,180**	**82.3%**	**189.95**	**140.91**	**74.18%**

TABLE 12-21 VERIFIED SAVINGS

Project Type	*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
Non-Kit Project	3,660,054	5,112,725	139.7%	686.11	1,119.00	163.1%
Kit Project	269,750	75,985	28.2%	71.31	19.34	27.1%
OLM	319,953	263,180	82.3%	189.95	140.91	74.2%
Total	**4,249,756**	**5,451,890**	**128.3%**	**947.37**	**1,279.25**	**135.0%**

The overall verified energy savings is 5,451,890 kWh and the peak demand reduction is 1,279.25 kW resulting in realization rates of 128.3% and 135.0% respectively.

12.4.1.6 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 12-22 SUMMARY OF ARC FOR SMALL C&I SOLUTIONS

Measure	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	NPV ARCs ($)
Incentive	$0	$0	$0
Refrigeration	$0	$0	$0
Linear LED	$65,416	$62,309	$62,309
HID LEDs	$84,947	$80,912	$80,912

Interior LED	$3,978	$3,978	$3,978
Screw Based LED	$1,714	$1,633	$1,633
Strip Curtains	$0	$0	$0
Door Gaskets	$0	$0	$0
HVAC	$0	$0	$0
Lighting Controls	$0	$0	$0
OLM Smart Thermostat	$0	$0	$0
OLM Faucet Aerators	$0	$0	$0
Retail Business Kit	$0	$0	$0
Office Business Kit	$0	$0	$0
OLM Screw Based LED	$778	$241	$241
Restaurant Business Kit	$0	$0	$0
OLM LED Exit Signs r	$0	$0	$0
OLM Low Flow Shower	$0	$0	$0
Exterior LED	$23,938	$22,801	$22,801
LED Exit Sign	$0	$0	$0
BAS	$0	$0	$0
AC Tune-up	$0	$0	$0
Custom	$0	$0	$0
OLM Advanced Power Strips	$0	$0	$0
VFDs	$0	$0	$0
Convection Oven	$0	$0	$0
Total	**$180,771**	**$171,873**	**$171,873**

Sums may differ due to rounding.

12.4.2 NET IMPACT FINDINGS

Participant survey responses were used to estimate the net energy impacts for the Small C&I offering. The methodology used is described in Section 3.4.2. No survey respondents reported spillover measures.

12.4.2.1 Net Savings Results

Net savings by measure can be found in Section 16.1 Summary.

12.4.2.2 Program Activity

In PY12, the offering had an expected energy savings of 4,249,756 kWh and an expected peak demand reduction of 947.37kW. The expected savings are the result of three distinct delivery channels within the program, traditional retrofits (traditional), items purchased from the Energy Smart Online Market (OLM) Place and the distribution of small business kits. The count of participants and the expected savings from each channel is found in the table below.

TABLE 12-23 SMALL C&I SOLUTIONS SAVINGS EXPECTATION BY DELIVERY CHANNEL

Delivery Channel	Count of Project Components	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)
Non-Kit	27,211	1,471,959	686.11
OLM	1,246	56,356	189.95
Kits	186	2,088	71.31
Total	**28,643**	**1,530,403**	**947.37**

TABLE 12-24 SMALL C&I SOLUTIONS SAVINGS EXPECTATION BY PROJECT COMPONENT

Participation Path	Project Component	# of Project Components	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)
Non-Kit	Prescriptive	26,798	3,298,182	670.39
	Custom	413	361,872	15.72
Office Kit	Prescriptive	95	165,044	45.69
Restaurant Kit	Prescriptive	39	35,987	6.59
Retail Kit	Prescriptive	52	68,719	19.03
OLM	Prescriptive	1,246	319,953	189.95
Total		**28,643**	**4,249,756**	**947.37**

In PY12, the savings were largely made up of prescriptive measure offerings, which accounted for 78% of the expected energy savings. The measure counts below are off compared to the tables above as line items with no expected energy savings were included (incentive bonuses and the Hurricane Ida Relief Fund to increase incentives to customers).

TABLE 12-25 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
Refrigeration	10	12,123	1.43	0.29%
Lighting	24,056	3,067,088	600.50	72.17%
Strip Curtain	86	3,461	0.47	0.08%
Door Gasket	2,193	47,883	5.44	1.13%
HVAC	323	154,686	56.60	3.64%
OLM	1,246	319,953	189.95	7.53%
Kit	186	269,750	71.31	6.35%
BAS	3	105,122	0.00	2.47%
AC Tune-up	35	10,953	5.58	0.26%
VFD	1	256,750	15.72	6.04%
Convection Oven	1	1,988	0.38	0.05%
Total	**28,140**	**4,249,756**	**947.37**	**100.00%**

Fifty-four percent of expected savings had a completion date listed as January and February of 2023. PY12 saw a higher number of projects completed when compared to PY11.

TABLE 12-26 SMALL C&I SOLUTIONS PARTICIPATION SUMMARY COMPARISON

Project Year	# Projects	*Ex Ante* Gross kWh	kWh per Project
PY11	156	4,768,495	30,567
PY12	281	4,249,756	17,964

12.4.3 PROCESS FINDINGS

The Evaluators conducted staff interviews and administered online marketplace and small commercial solutions participant surveys. The following sections summarizes the findings from interviews and the participant surveys.

12.4.3.1 Staff Interviews

The following section summarizes the key findings from in-depth interviews with two ENO staff and three APTIM staff. These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission.

12.4.3.1.1 *Program Changes*

Changes to the program included new refrigeration measures, as well as increased marketing and outreach and quality control procedures. Staff discussed how the outreach team has invested a lot of time and energy into on-the-ground recruitment and relationship-building efforts. TPI staff have started to engage trade allies in the region to add them to the network.

Program staff also sought to streamline the application process. Now, trade allies and program staff work to complete the form and do not rely on the customer to complete it. This is reducing some barriers to participation.

Further, the program utilized step-down bonuses in PY12. By incentivizing more in the beginning of the year, to spread out applications, and therefore not rushing at the end of the year to process all last-minute applications. Another reason staff use the step-down bonus is to increase the incentive amounts.

12.4.3.1.2 *Program Challenges*

Staff indicated that trade allies are struggling with low incentive rates and high inflation, labor and material costs, and the technical requirements of the application. Staff have indicated that they are working to improve this element for the trade allies. Staff continue to work through how to best distribute and track the kits. Unlike in previous years, kits are requested by customers and are no longer sent to customers who have not requested one. They are investigating additional approaches to increasing the number of requests.

12.4.3.2 Trade Ally Survey Results

12.4.3.2.1 *Methodology*

The Evaluators conducted a survey with commercial trade allies, who participated in the Program, to gain insight into feedback and the trade ally experience. Thirty-six trade allies were contacted through email to complete the survey, and 10 completed it. The following sections summarize those responses. The precision of the survey is +/- 26% at the 10% level of confidence. The following sections summarize those responses.

TABLE 12-27 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of trade allies contacted via email	36
Undeliverable emails	3
Completed	10
Incentives paid	$250
Response rate	30%

12.4.3.2.2 *Trade Ally Background*

Roles varied among surveyed trade allies, with four being indicating they were the owner of their respective company, or another four being an employee (Figure 12-4). One respondent indicated they were a sales coordinator, and another was a rebate administrator.

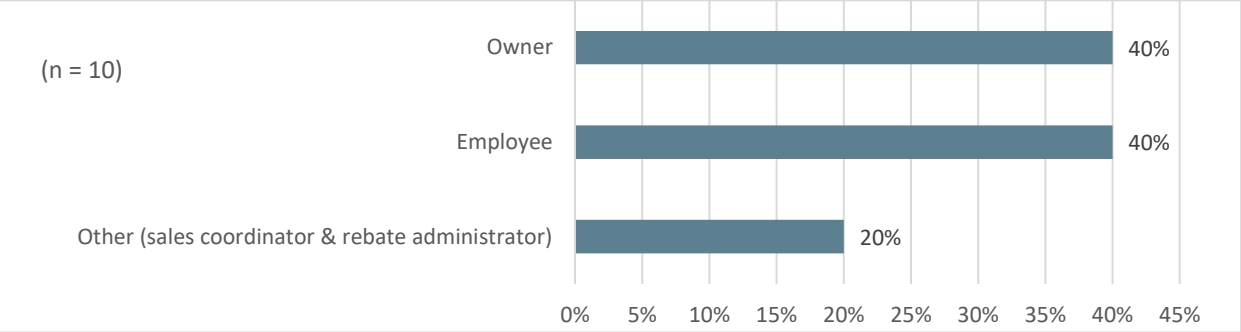


FIGURE 12-4 TRADE ALLY ROLE

Lighting was the most common specialty among the trade ally respondents (31%), followed by lighting controls (19%) and building automation systems or controls (15%).

Table 12-28 provides additional details about trade ally specialties. Respondents could select more than one option.

TABLE 12-28 TRADE ALLY SPECIALTY

Response	% of Survey Respondents (n = 26)	Count
Lighting	31%	8
Lighting Control	19%	5
BAS	15%	4
HVAC	12%	3
Chiller	4%	1
Compressed Air System	4%	1
PC Power Management	4%	1
Refrigeration/Kitchen	4%	1
Electrical	4%	1
EMS Thermostats/Control	4%	1

Trade ally experience with commercial programs varied between each respondent, ranging anywhere from one to twenty years. Additionally, program participation also varied between each respondent, where four respondents indicated they did one to two projects this year; two respondents indicated they completed eight to 16 projects, and one respondent completed 80 projects through the commercial programs this year.

Surveyed trade allies had the most experience with the Large C&I Solutions program (34%), followed by the Small Commercial Solutions program (30%) (

Figure 12-5).

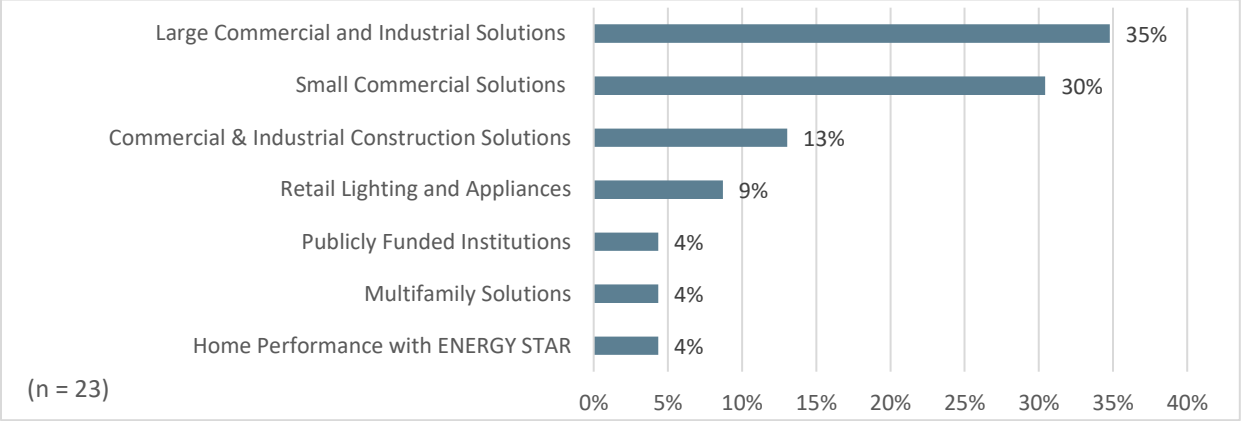


FIGURE 12-5 PROGRAM EXPERIENCE

12.4.3.2.3 *Incentives and Measures*

Two of the eight surveyed trade allies believed that incentives from some measures were too low to encourage customer adoption. One trade ally thought the incentive amount for lighting fixtures was too low, while the other trade ally indicated that incentive amounts for all offered measures were too low. Additionally, one of the trade allies requested additional measures be eligible for incentives; these measures included two pin lamps, tape light, and RGB flood lights. Additionally, they would also like to see a rebate for replacing old LED lighting. The respondent provided feedback about the benefits of adding these measures to the list of qualifying equipment. “We have a vast array of installed products to deal with that aren't all basic cataloged items--and not on the DLC list […] Companies like Philips-ColorKinetics, LumenPulse are not going to apply for DLC cert […] but that doesn't mean the fixtures aren't more efficient than the 1000W HPS or MH.”

12.4.3.2.4 *Marketing and Adoption of Energy Efficient Equipment*

Forty percent of the ten trade ally respondents indicated they always recommend high efficiency equipment to their customers and 60% recommend that equipment most of the time. This finding suggests that the commercial trade allies with ENO’s network typically recommend high efficiency equipment over standard equipment. Additionally, trade allies indicated that customers are likely to choose to install the recommended high efficiency equipment always or most of the time (Table 12-31). This finding could suggest that commercial customers are likely to trust the recommendations of trade allies within the network.

TABLE 12-29 CUSTOMERS' LIKELINESS TO INSTALL RECOMMENDED EQUIPMENT

Response	Percent of Survey Respondents (n = 10)
Always	10%
Most of the time	80%
Some of the time	10%
Never	0%

The trade ally respondents also noted that customers are most driven to choose efficiency equipment over standard equipment to lower their energy costs (50%); followed by available incentives (37%).

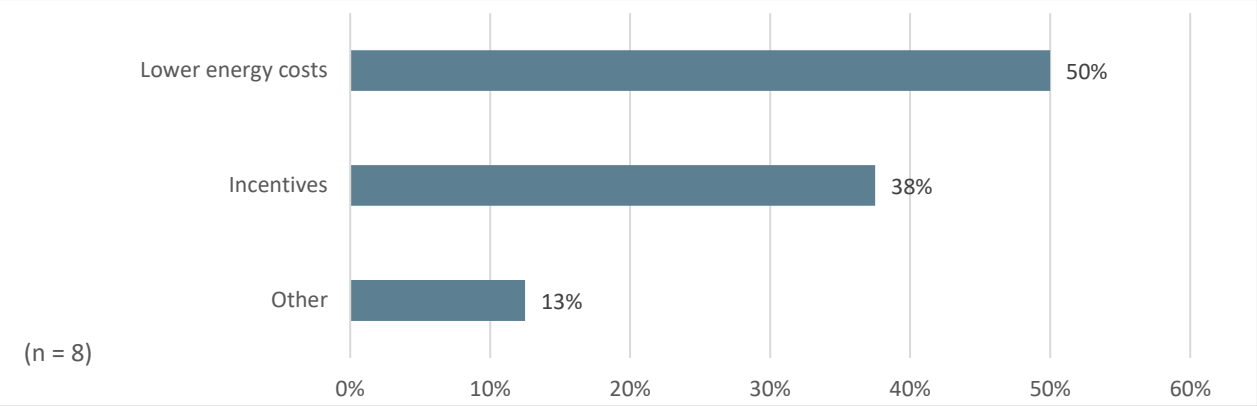


FIGURE 12-6 CUSTOMER MOTIVATION IN CHOOSING ENERGY EFFICIENT EQUIPMENT

Three survey respondents indicated that there are times in which their customers will install program qualifying equipment but not apply for incentives. The main reasons for this are low incentives, time constraints and/or the cost to fill out the application. Overall, the program and its incentives are important for encouraging trade allies to recommend energy efficient equipment and influencing customers' decisions to install the recommended equipment (

Figure 12-7).

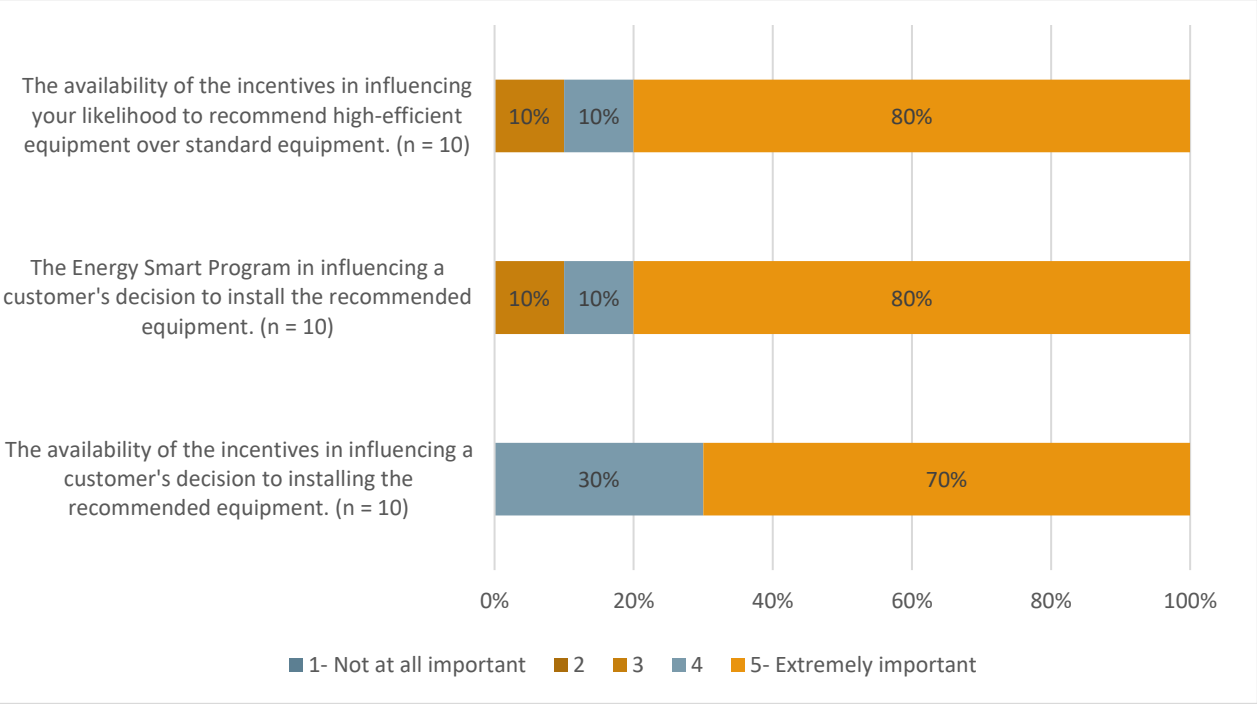


FIGURE 12-7 ROLE AND INFLUENCE OF PROGRAM AND INCENTIVES

Marketing approach of the commercial programs varied between the trade ally respondents. Marketing activities included informing customers about the program, incorporating the program and incentives into bids and overall offerings, market the program as a part of their offerings, email campaigns, and mailers. Of the survey respondents, two indicated that their approach to marketing programs does vary by program type, depending on the amount of the incentive (n=1), and based on the savings calculations and payback (n=1).

Five of the ten trade allies surveyed have Energy Smart marketing materials that they use with customers. Four of those respondents use the materials when talking with customers about the commercial programs. One trade ally indicated they have brochures, customer references, co-marketing materials, and case studies they use with customers. Another trade ally uses energy savings graphs to market the commercial programs. The remaining five respondents who indicated they do not have materials from the Energy Smart program and three indicated that it would be beneficial to have those type materials when working with customers.

Trade allies provided feedback on how they sell energy efficient equipment. Two trade allies emphasize the long-term benefits of high efficiency equipment (such as lower maintenance costs, reliability, etc.) and three other trade allies rely on traditional marketing approaches such as calling and mailers. One trade ally indicated they do not sell equipment, and another was not sure of their approach.

In terms of the general acceptance of energy efficiency now, most respondents (89%) indicated that there is an increase in the average business's acceptance of energy efficiency compared to five years ago (Table 12-30).

TABLE 12-30 AVERAGE BUSINESS'S ACCEPTANCE OF ENERGY EFFICIENCY

Response	Percent of Survey Respondents (n = 9)
Increased acceptance of energy efficiency compared to 5 years ago	89%
No change in acceptance of energy efficiency compared to 5 years ago	11%
Decreased acceptance of energy efficiency compared to 5 years ago	0%

12.4.3.2.5 *Upcoming Code Changes*

Regarding the upcoming International Energy Conservation Code (IECC) building code changes, three trade allies indicated that the code changes have not impacted their company's practices, whereas one respondent noted it has impacted their practices. One trade ally had the following to say. "Ensuring That DLC and ENERGY STAR are Included has helped with making sure each conversation is very efficient."

Two surveyed trade allies are preparing for the new IECC changes by educating or reeducating themselves on the materials, differences, and guidelines. Four trade allies discussed the challenges with the IECC changes. One indicated the challenge of finding customer specific materials that matches listings, another noted meeting the LPD requirements, and another stated that explaining to customers about the changes even though the engineers or architects may not have met these specific code changes.

Two trade allies surveyed stated they were not doing anything to prepare for the EISA backstop and two others were unsure. Respondents provided feedback about the industry-wide impacts that the EISA backstop may have. One respondent believes lighting incentives will decrease, and another noted that people will be forced to use efficient lighting. One trade ally was unsure, and another did not believe the EISA backstop would impact industry.

Trade allies who specialize in HVAC or building automation systems provided feedback about the SEER2 changes that will affect A/C units and heat pumps in 2023. Three surveyed trade allies indicated they were aware of the upcoming changes to SEER ratings for A/C units and heat pumps, while two were not aware. Additionally, two respondents have updated their inventory in preparation for SEER2 changes. No trade allies had seen new SEER2 rated equipment available from distributors yet.

Four respondents who provided feedback about SEER2 changes, all anticipated that the change would impact availability of equipment. These respondents indicated that to prepare for this impact they are recommending customers order equipment well in advance and planning projects with supply chain delay impacts in mind.

Additionally, respondents have already noticed an impact on price of equipment indicating that more efficient equipment is more expensive. Four trade allies have noticed a change in cost for equipment, while one other trade ally had not. Among those who noticed a cost, three have noticed the costs are greater for high efficiency equipment compared to standard equipment.

12.4.3.2.6 *Trade Ally Trainings and Relationship with ENO*

Six respondents indicated they received training from ENO or APTIM in 2022, while three indicated they did not. Of those respondents who received training in the past year, all indicated that it was effective to some degree

(see Figure 12-8). Three respondents noted that they would like to see additional training opportunities provided by ENO. One trade ally specifically would like to have trainings on the new rules and regulations.

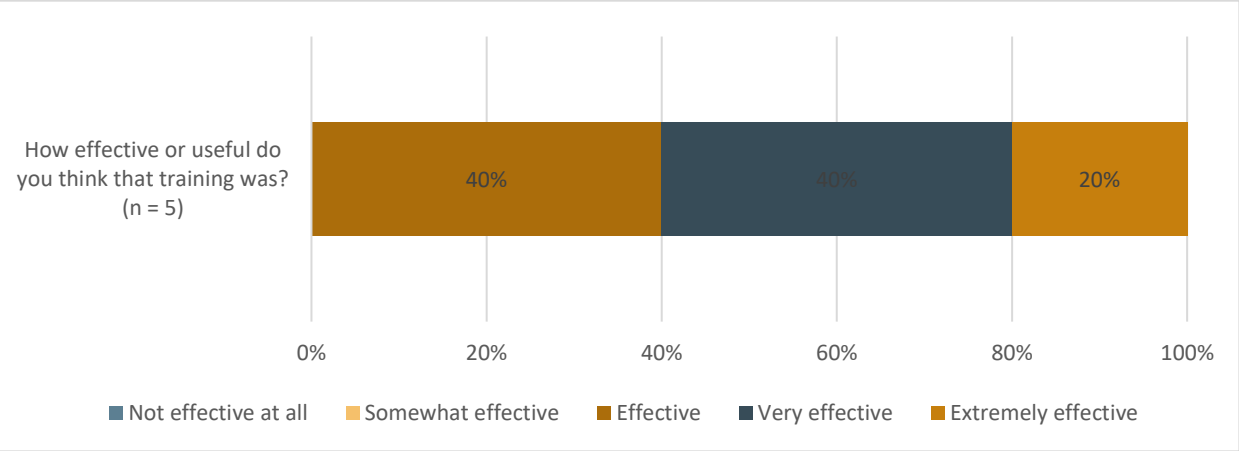


FIGURE 12-8 EFFECTIVENESS OF TRADE ALLY TRAINING

Most respondents (80%) prefer email as the best way to receive information from ENO, regarding any program changes or updates (see Table 12-31).

TABLE 12-31 MOST EFFECTIVE WAY TO COMMUNICATE ABOUT THE ENERGY SMART COMMERCIAL PROGRAMS

Response	Percent of Survey Respondents (n = 10)
Email	80%
Presentation at events or conferences	10%
Phone calls from program representatives	10%

All trade allies were somewhat or very satisfied with the Energy Smart commercial programs. Respondents were most satisfied with communication with ENO or APTIM (70%). Respondents were least satisfied with the required paperwork needed for projects. Figure 12-9 summarizes satisfaction among the various aspects of the Energy Smart commercial programs.

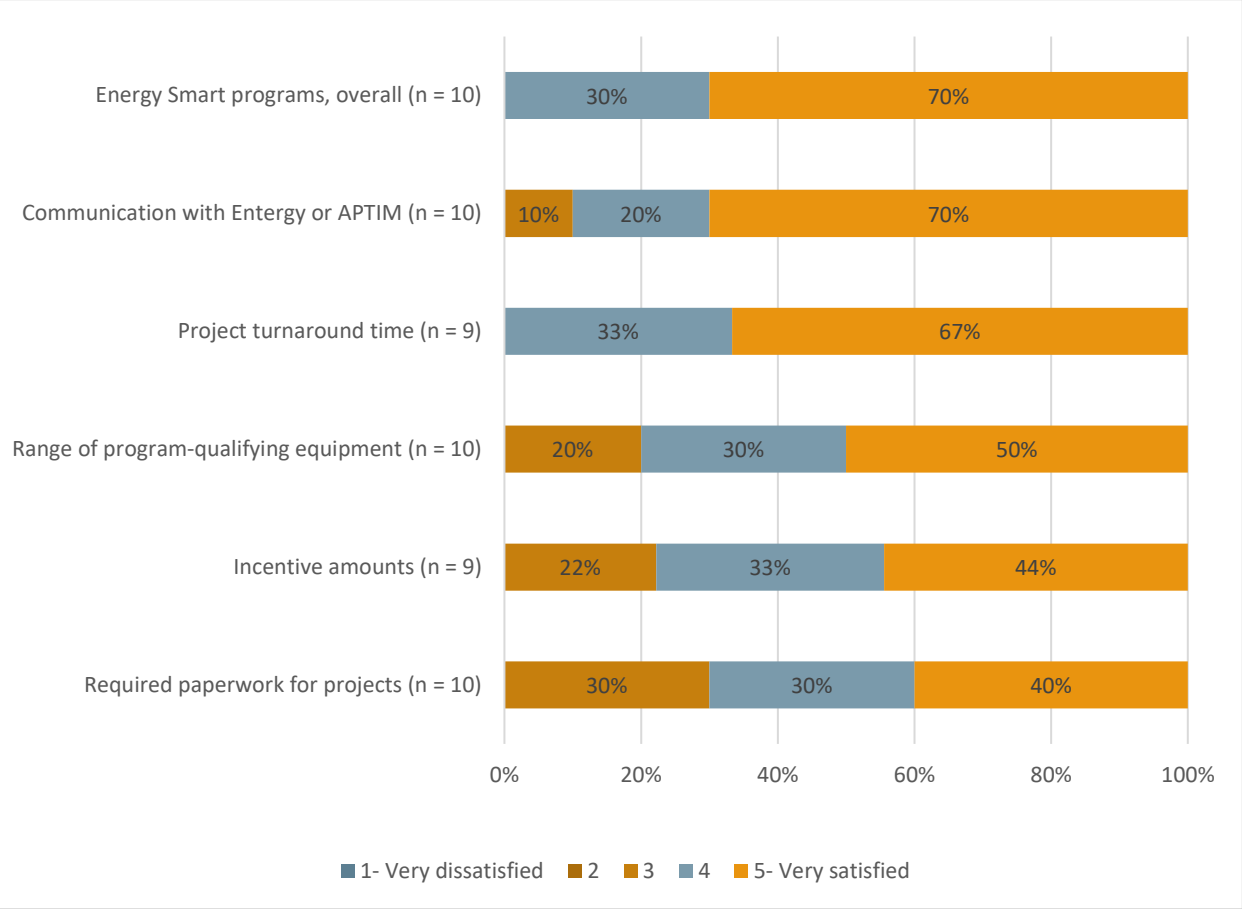


FIGURE 12-9 PROGRAM SATISFACTION

Half of the ten trade ally respondents indicated that ENO made improvements to the paperwork process since last year. These improvements included making it easier to locate application resources, the ability to combine the prescriptive and custom calculator, the excel application has fewer bugs or technical issues, more user friendly, and streamlining the application materials into one location.

Trade allies provided suggestions for improving the commercial offerings. One trade ally would like to see zip codes of the servicing area for hospitality businesses to be provided. Another would like to see an indication as to what project the rebate is for, as currently there is no indication and can be confusing for the trade ally and/or customer. Another respondent would like to see the DLC/ES and product part numbers attached to the application or program forms.

Table 12-32 and Table 12-33 summarize key findings from the trade ally survey, as well as a breakdown for each respondent.

TABLE 12-32 TRADE ALL KEY FINDINGS SUMMARY (N=10)

Resp.	Incentives are too low	Frequency of recommending high efficiency equipment	IECC impacts on business	Awareness of SEER2 changes
Trade Ally 1	Yes	Always	*NA	*NA
Trade Ally 2	No	Most of the time	No change	Yes
Trade Ally 3	No	Most of the time	*NA	*NA
Trade Ally 4	No	Always	*NA	No
Trade Ally 5	No	Most of the time	*NA	*NA
Trade Ally 6	No	Most of the time	No change	*NA
Trade Ally 7	No	Always	*NA	Yes
Trade Ally 8	No	Always	*NA	*NA
Trade Ally 9	Yes	Most of the time	No change	Yes
Trade Ally 10	No	Most of the time	Yes	No

*n/a=Not answered

TABLE 12-33 TRADE ALLY SATISFACTION SUMMARY

Program Satisfaction	Range of measures	Incentive amounts	Required paperwork	Communication w/ staff	Project turnaround time	Program overall
Responses						
Trade Ally 1	Neutral	Neutral	Neutral	Very satisfied	Somewhat satisfied	Somewhat satisfied
Trade Ally 2	Somewhat satisfied	Very satisfied	Neutral	Very satisfied	Very satisfied	Very satisfied
Trade Ally 3	Very satisfied	Somewhat satisfied	Neutral	Very satisfied	Very satisfied	Very satisfied
Trade Ally 4	Very satisfied	Very satisfied	Very satisfied	Very satisfied	Very satisfied	Very satisfied
Trade Ally 5	Very satisfied	Very satisfied	Very satisfied	Very satisfied	Very satisfied	Very satisfied
Trade Ally 6	Very satisfied	*NA	Somewhat satisfied	Neutral	*NA	Very satisfied
Trade Ally 7	Somewhat satisfied	Somewhat satisfied	Very satisfied	Very satisfied	Very satisfied	Very satisfied
Trade Ally 8	Somewhat satisfied	Somewhat satisfied	Somewhat satisfied	Somewhat satisfied	Somewhat satisfied	Somewhat satisfied
Trade Ally 9	Neutral	Neutral	Somewhat satisfied	Somewhat satisfied	Somewhat satisfied	Somewhat satisfied
Trade Ally 10	Very satisfied	Very satisfied	Very satisfied	Very satisfied	Very satisfied	Very satisfied

*n/a=Not answered

12.4.3.3 Online Marketplace Participant Survey Results

12.4.3.3.1 *Methodology*

The Evaluators conducted a participant survey of customers who purchased energy efficient products through the Small Business Store to gain insight into customer satisfaction. The Evaluators contacted a total of 119 customers through email or by phone to complete the online survey, of which 38 completed the survey. The precision of the survey is +/- 13.3% at the 10% level of confidence.

TABLE 12-34 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of Customers contacted by email or phone	119
Undeliverable emails	12
Completed	38
Incentives paid	$950
Response rate	36%

12.4.3.3.2 *Energy Efficient Products*

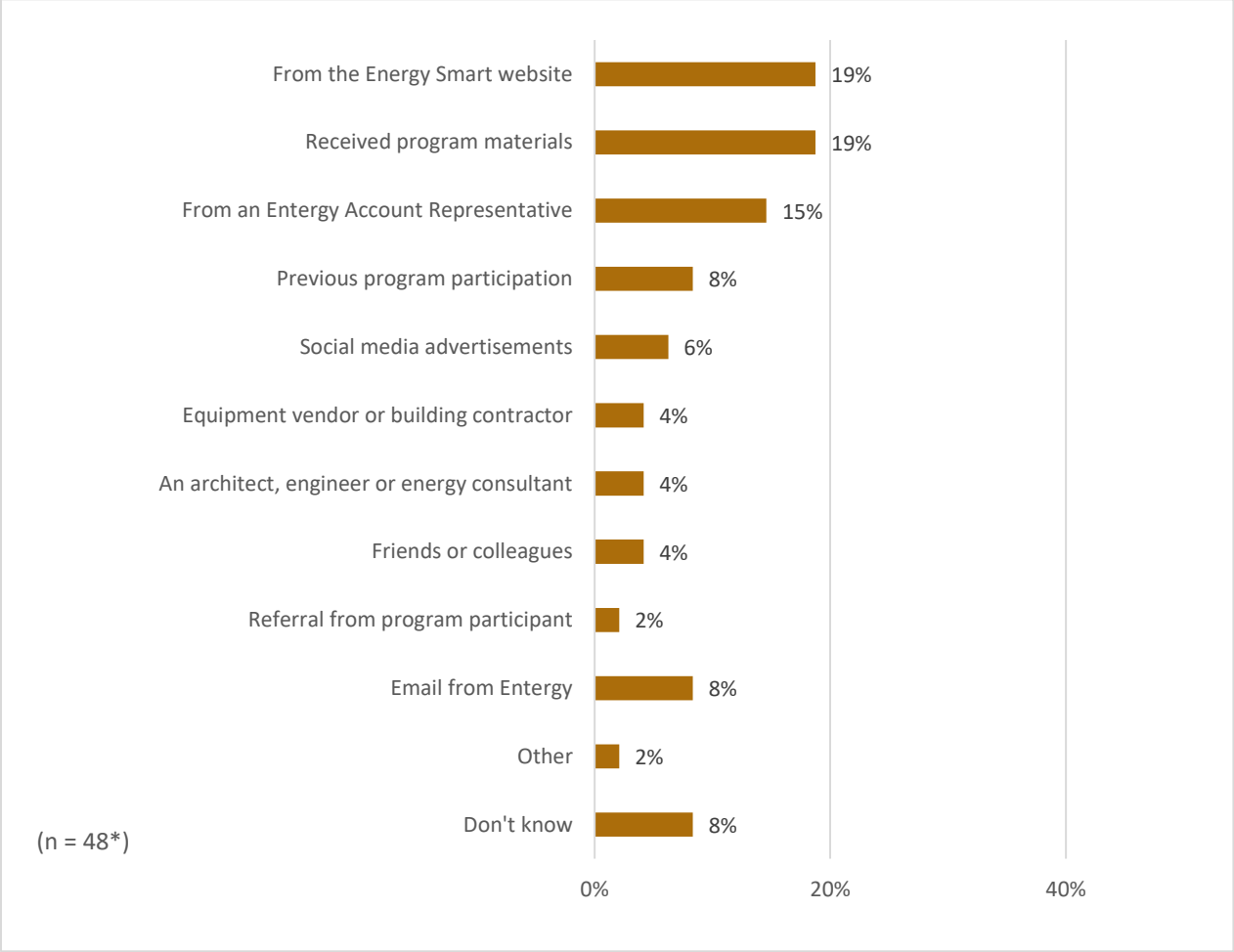
Customers can choose discounted or free energy efficient products through the online marketplace. Among the customers who completed the survey, the majority received a smart thermostat, followed by those who purchased low flow showerheads and LED lamps or exit signs (Table 12-35). About 29% of 38 surveyed participants received more than one measure type. No respondents completed the survey who had received an advanced power strip.

TABLE 12-35 PRODUCTS PURCHASED THROUGH THE ONLINE MARKETPLACE

Measure	Count of Survey Responses
Smart Thermostat	37
LED Lamp	14
Aerator	5
Low flow Showerhead	4
Advanced Power Strip	0
LED Exit Sign	4

12.4.3.3.3 *Program Awareness and Influence*

The program website was a common way survey respondents learned about the online marketplace, as was program materials (informational brochure or newsletter), and ENO account representatives (Figure 12-10).



*The number of respondents is greater than 38 because participants had the option of choosing more than one option.

FIGURE 12-10 HOW CUSTOMERS LEARNED OF THE ONLINE MARKETPLACE

Fifty-seven percent of survey respondents did not plan to purchase a smart thermostat before learning they could receive a free or discounted thermostat through the online marketplace. A small percentage (7%) of customers surveyed did not have plans to purchase LED lighting, all respondents did not have plans to purchase LED exit signs, and none had plans to purchase low flow showerheads. This finding suggests that the online marketplace influenced customers to receive these energy efficient products.

12.4.3.3.4 *Satisfaction with the Online Marketplace*

Generally, customers were satisfied with the Energy Smart Business Store and the energy-efficient products they received. Some respondents offered feedback on how to improve the online marketplace. Several customers suggested removing the limit on the number of smart thermostats available to order. Other customers noted technical difficulties with navigating the website and using their new equipment and suggested adding a customer service department to walk customers through more technical questions.

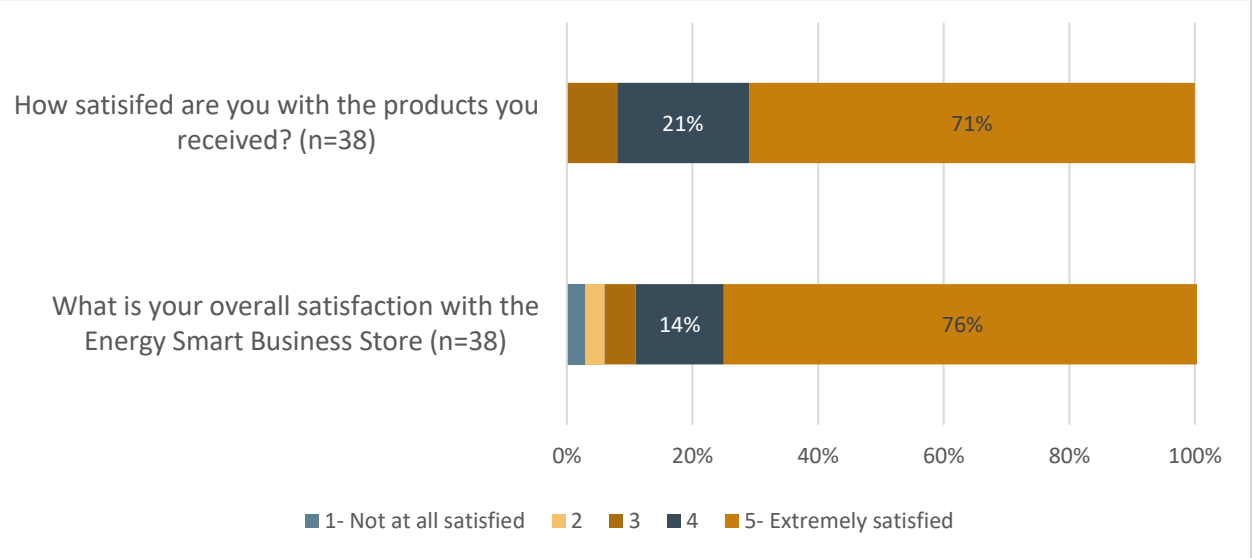


FIGURE 12-11 CUSTOMER SATISFACTION WITH THE ONLINE MARKETPLACE AND ENERGY EFFICIENT PRODUCTS

12.4.3.4 Participant Feedback

The Evaluators conducted a survey with customers who participated in the Program to gain insight into customer satisfaction and feedback. Customers were either solicited to complete an online survey by email or phone, 80 were contacted and 25 completed it. Participants were emailed and phoned at least three times. The precision of the survey is +/- 16.5% at the 10% level of confidence. The following sections summarize those responses.

TABLE 12-36 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Total
Number of customers contacted by email or phone	80
Undeliverable emails	4
Completed	25
Incentives paid	$625
Response rate	33%

Twenty-eight percent of survey respondents identified their role as the proprietor or owner of their respective businesses (Table 12-37). This was followed by energy managers (12%) and presidents/CEOs (12%). The two respondents who selected ‘other’ identified themselves as a pastor and a lawyer.

TABLE 12-37 RESPONDENT ROLE

Response	Percentage of respondents (n = 25)
Proprietor/Owner	28%
Energy Manager	12%
President/CEO	12%
Trustee Board Member	8%
Manager	8%
Analyst	8%
Other financial/administrative position	8%
Facilities Manager	4%
Other Facilities management/maintenance position	4%
Some other role (pastor, lawyer)	8%

More than half of the survey respondents indicated that upgrades made through the program were completed in restaurants, retail spaces, places for religious worship, and mixed-use buildings (Figure 12-12).

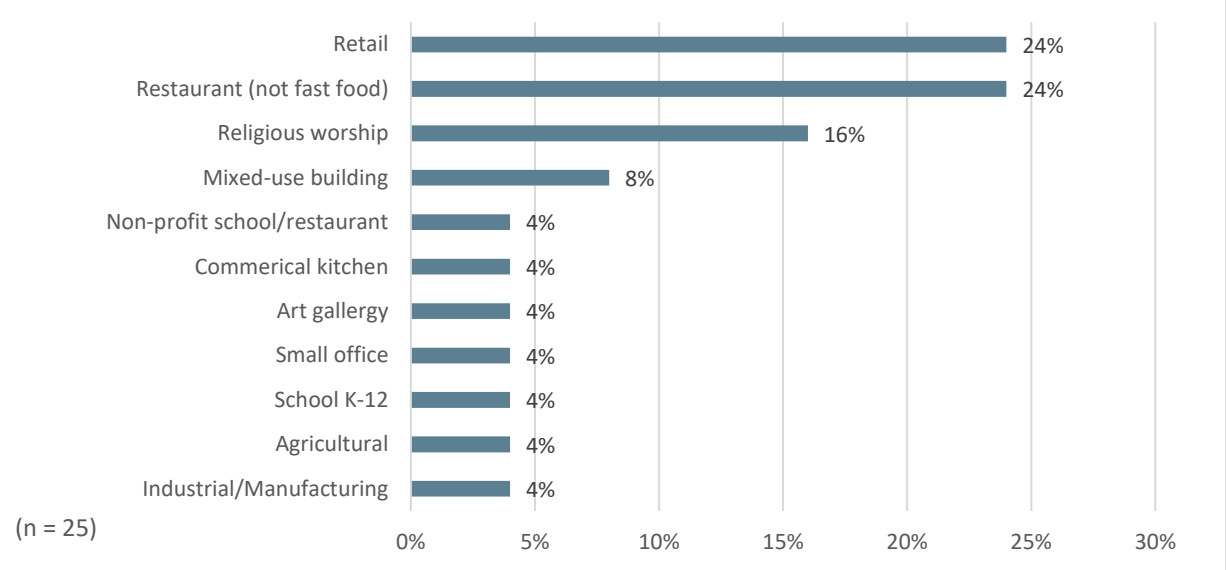


FIGURE 12-12 TYPE OF BUILDING WHERE UPGRADES WERE MADE

Additionally, 72% of respondents indicated that they own and occupy the building where the program upgrades were made, while 20% indicated that they rent the building (

Table 12-38).

Response	Percentage of respondents (n=25)
Response	Percentage of respondents (n=25)
Rent	20%
Own and occupy	72%
Own and rent to someone else	4%
Don't know	4%

Table 12-38 Building Ownership Status

Respondents provided feedback about their organizations' energy saving policies, practices, and goals in place. More than half (68%) indicated they have a person or personnel dedication for managing energy usage; 68% of survey respondents have specific policies requiring that energy usage is considered when purchasing equipment. Less than half of respondents (38%) have carbon reduction goals in place at their small business (Figure 12-13).

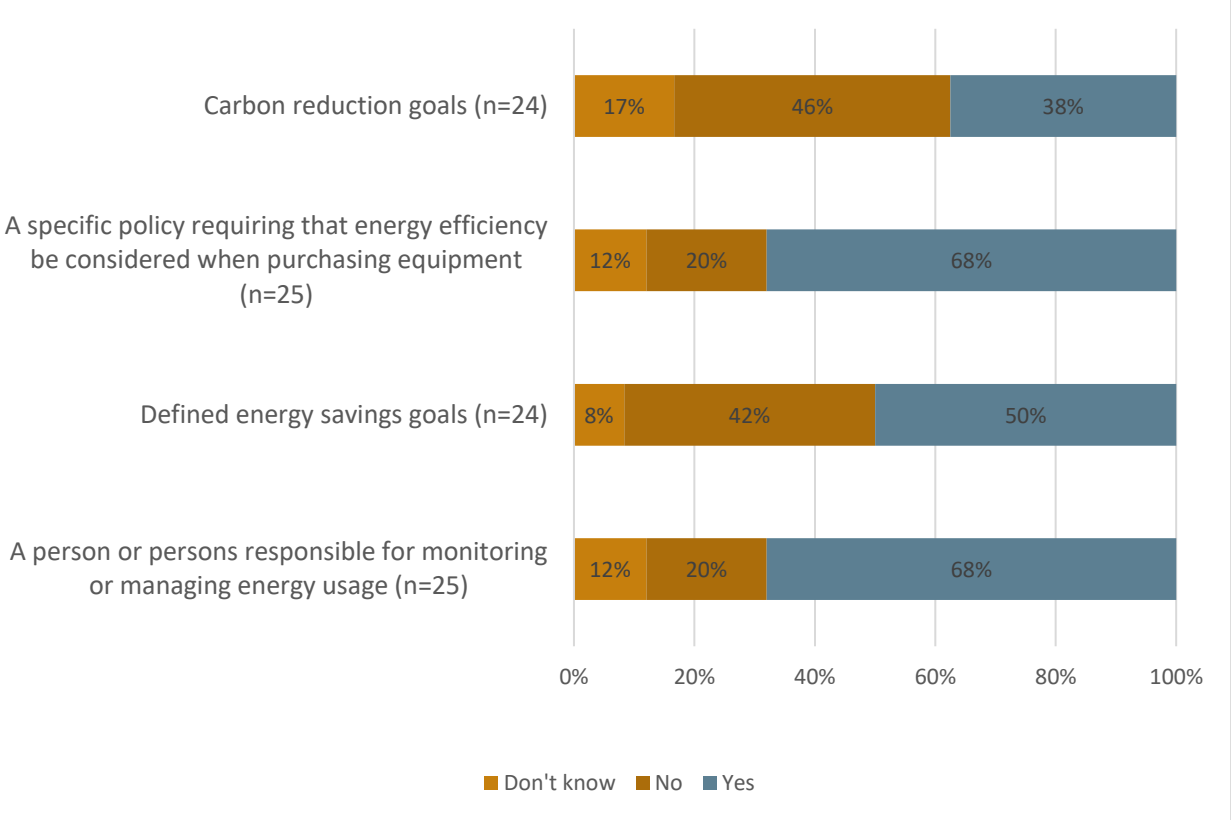


FIGURE 12-13 ENERGY POLICIES OR PROCEDURES IN PLACE

12.4.3.4.1 *Program Awareness and Motivation for Participation*

Twenty-four percent of survey participants learned about the program through a contractor, trade ally, vendor, or energy consultant; followed by 16% who learned of the program through email blasts or an electronic newsletter. Past program participation was also a source of awareness for 16% survey respondents (Figure 12-14).

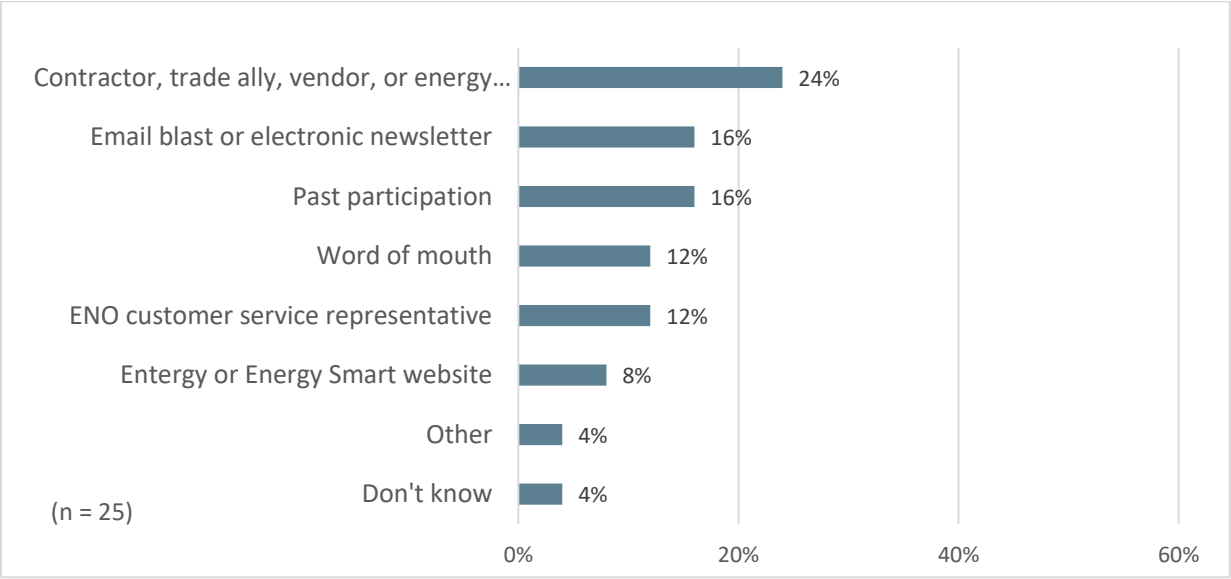


FIGURE 12-14 SOURCE OF PROGRAM AWARENESS

Respondents were most driven to participate in order to reduce their energy costs followed by reducing energy use or power outages, to get a rebate, and to replace old or outdated equipment. Table 12-39 provides additional details about participants' motivation for participating in the program.

TABLE 12-39 MOTIVATION FOR PARTICIPATION

Response	Percentage of respondents (n=25)
To reduce energy costs	68%
To reduce energy use/power outages	56%
To get a rebate from the program	44%
To replace old or outdated equipment	44%
To improve equipment performance	40%
To update to the latest technology	36%
To protect the environment	32%
To reduce maintenance costs	28%
To improve the product quality	24%
Part of planned remodeling, build-out, or expansion	12%
To improve health and safety	12%
Comply w/ organizational policies	8%
Gain more control over how equipment	4%
To solve a processing issue	4%
Comply w/ codes set by regulatory agencies	4%
To improve indoor air quality	4%

Fourteen of the 25 survey respondents had previous experience with Program. Of those who had previous experience, 93% percent indicated that their previous participation was an important factor when deciding to participate (Figure 12-15).

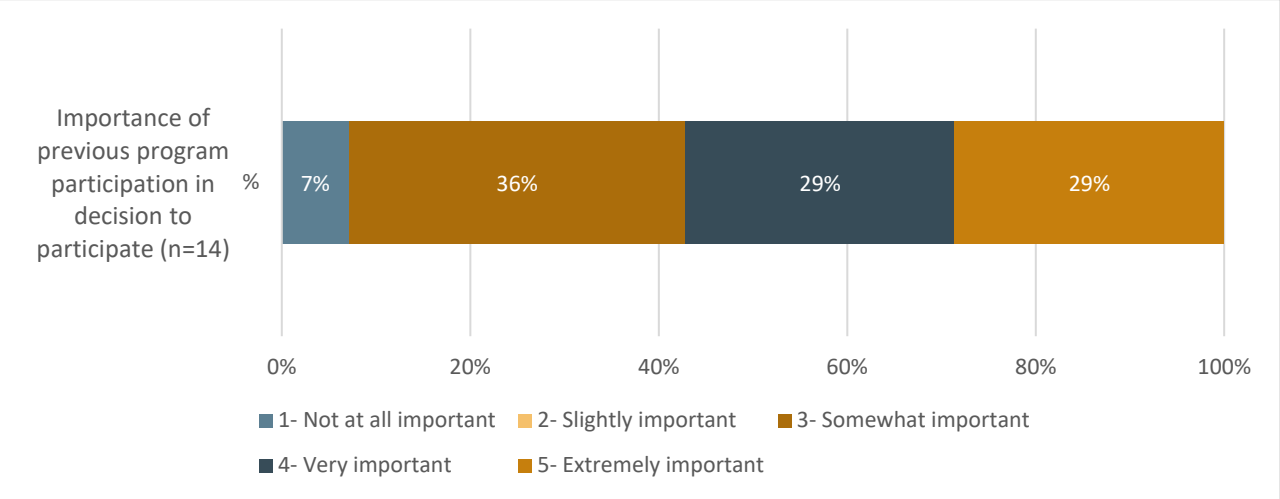


FIGURE 12-15 IMPORTANCE OF PREVIOUS PROGRAM PARTICIPATION

12.4.3.4.2 *Program Experience*

When respondents were first approached about the program by their contractor, 75% indicated that it was an easy decision to decide to participate, while three respondents had some concerns, all regarding upfront costs (n = 16). However, they decided to proceed with the program after speaking with the contractor and learning more about the expected returns on the upfront investment.

Project expectations varied between respondents, however, with 48% indicating that project cost was about what they expected, while 28% of respondents indicated that costs were more than they were expecting (Table 12-40).

TABLE 12-40 EXPECTED PROJECT COSTS COMPARED TO ACTUAL COSTS

Response	Percentage of respondents (n = 25)
It was less than we expected	16%
It was what we expected	48%
It was more than we expected	28%
Don't know	8%

Once the project was completed, more than half of the survey respondents indicated that a program representative conducted an inspection of the work that was done. Three respondents did not receive a post-project inspection from a program representative, either in-person or virtually and five were unsure (Table 12-41).

TABLE 12-41 POST-PROJECT INSPECTION (VIRTUAL OR IN-PERSON)

Response	Percentage of respondents (n = 25)
Yes	68%
No	12%
Don't know	20%

12.4.3.4.3 *Technical Services and Trade Allies*

Respondents indicated whether they received technical assistance from a program representative during their program participation. Of the respondents who received assistance from a program representative, 10 indicated that program upgrades were recommended by the program representative. Almost all of those respondents (90%) indicated that those recommendations were very or extremely influential in their decision to complete the upgrades (Figure 12-16).

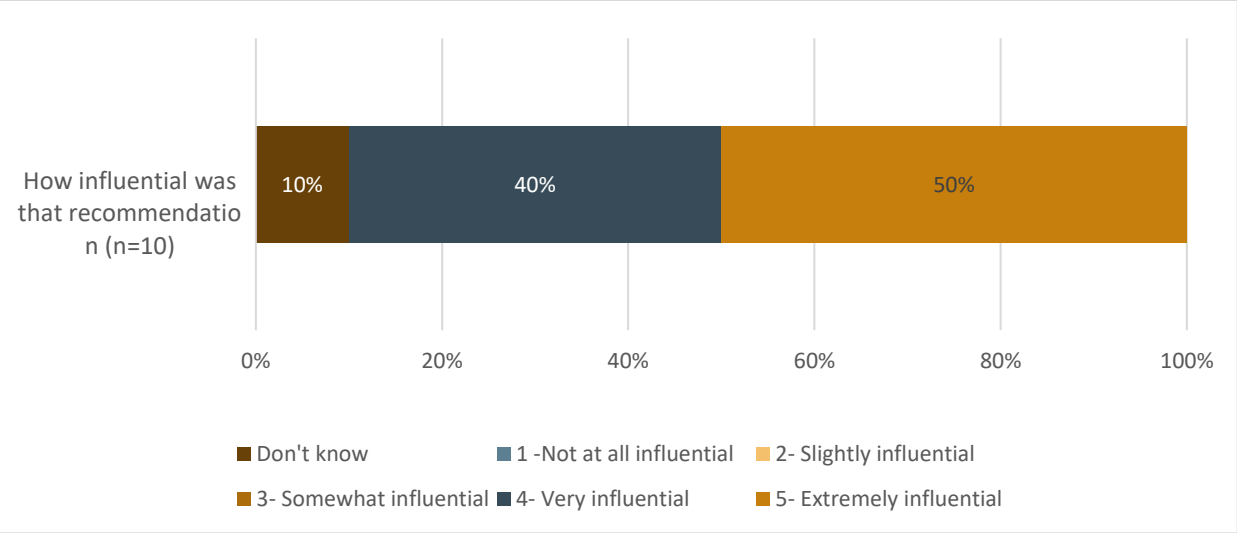


FIGURE 12-16 INFLUENCE OF PROGRAM STAFF RECOMMENDATIONS IN DECISION TO MAKE UPGRADES

Out of the 25 survey respondents, six did not work with a contractor, while 12 respondents worked with a contractor or trade ally throughout the duration of the entire project (Table 12-42). Four respondents worked with a new contractor who was recommended to them, and three respondents worked with a contractor registered with the program.

TABLE 12-42 HOW CLOSELY PARTICIPANTS WORKED WITH A TRADE ALLY OR CONTRACTOR DURING THE PROJECT

Response	Percentage of respondents (n = 25)
Throughout the entire project	48%
Only during the design phase	4%
Only during the installation phase	16%
Did not work with a trade ally	24%
Don’t know	4%

Respondents who worked with a contractor during their program participation, most indicated they were very or somewhat satisfied with their experience working with the contractor, while one respondent indicated dissatisfaction regarding all aspect of working with the contractor. Figure 12-17 provides additional details about participants' experience with their contractor.

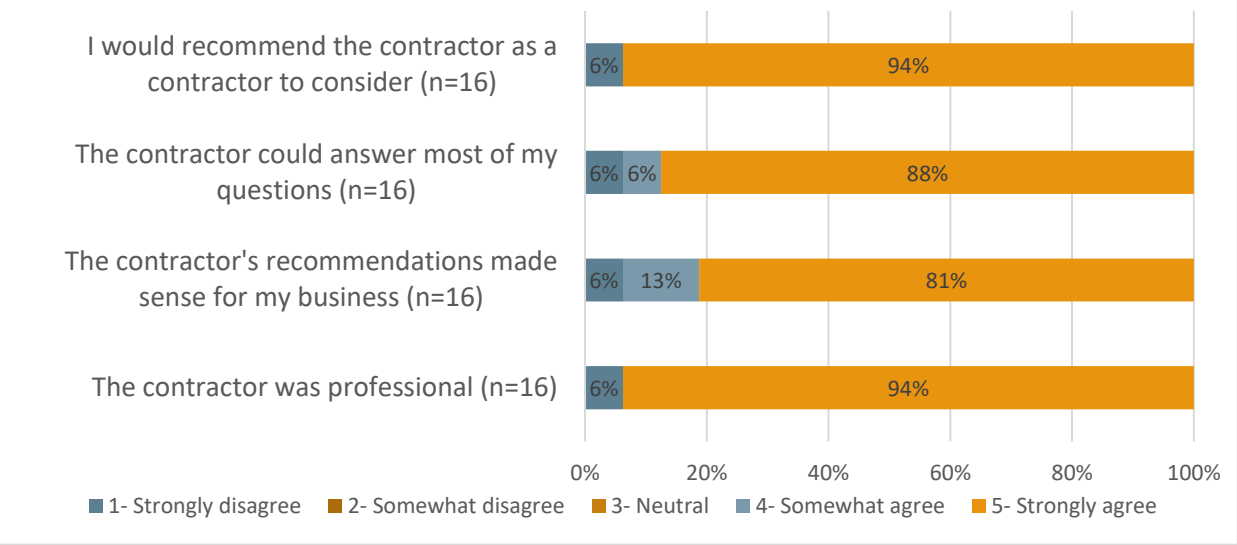


FIGURE 12-17 SATISFACTION WITH CONTRACTOR OR TRADE ALLY

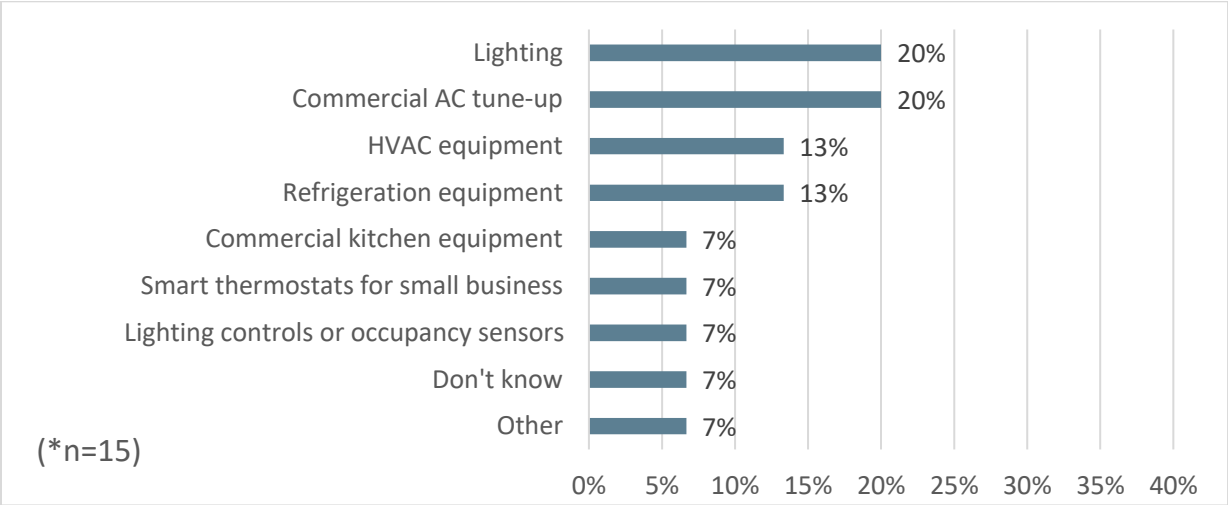
12.4.3.5 Additional Measures or Upgrades

Less than half of the respondents (44%) noted that within the last three years, they have completed significant energy efficiency projects or upgrades. Of those same respondents who completed projects, more than half (55%) did so without receiving an incentive or rebate (Table 12-43).

TABLE 12-43 COMPLETED ENERGY EFFICIENCY PROJECTS WITHIN THE LAST 3 YEARS WITHOUT RECEIVING AN INCENTIVE

Response	Percentage of respondents (n=11)
Yes	55%
No	27%
Don't know	18%

Since participating in the Program, seven respondents made additional upgrades or installations because of their experience with the program. Most additional improvements were lighting and A/C tune-ups, followed by HVAC equipment upgrades.



**Respondents could select more than one option*

FIGURE 12-18 ADDITIONAL UPGRADES

However, they did not receive a rebate or incentive for those additional improvements because the equipment either did not qualify for one, or they did not know about available incentives until after they purchased the equipment (Table 12-44).

TABLE 12-44 REASONS FOR NOT RECEIVING AN INCENTIVE

Response	Percentage of respondents (n = 7)
Did receive an incentive	14%
Equipment did not qualify for financial incentives	29%
Didn't know about incentives until after equipment was purchased	43%
Don't know	14%

12.4.3.5.1 *Program Satisfaction and Relationship with ENO*

Respondents reported being generally satisfied with all aspects of the application process (Figure 12-19). However, respondents were most dissatisfied with the clarity of information to complete the application and ease of using electronic application worksheets. Respondents were most satisfied with how smooth the overall application process was becoming.

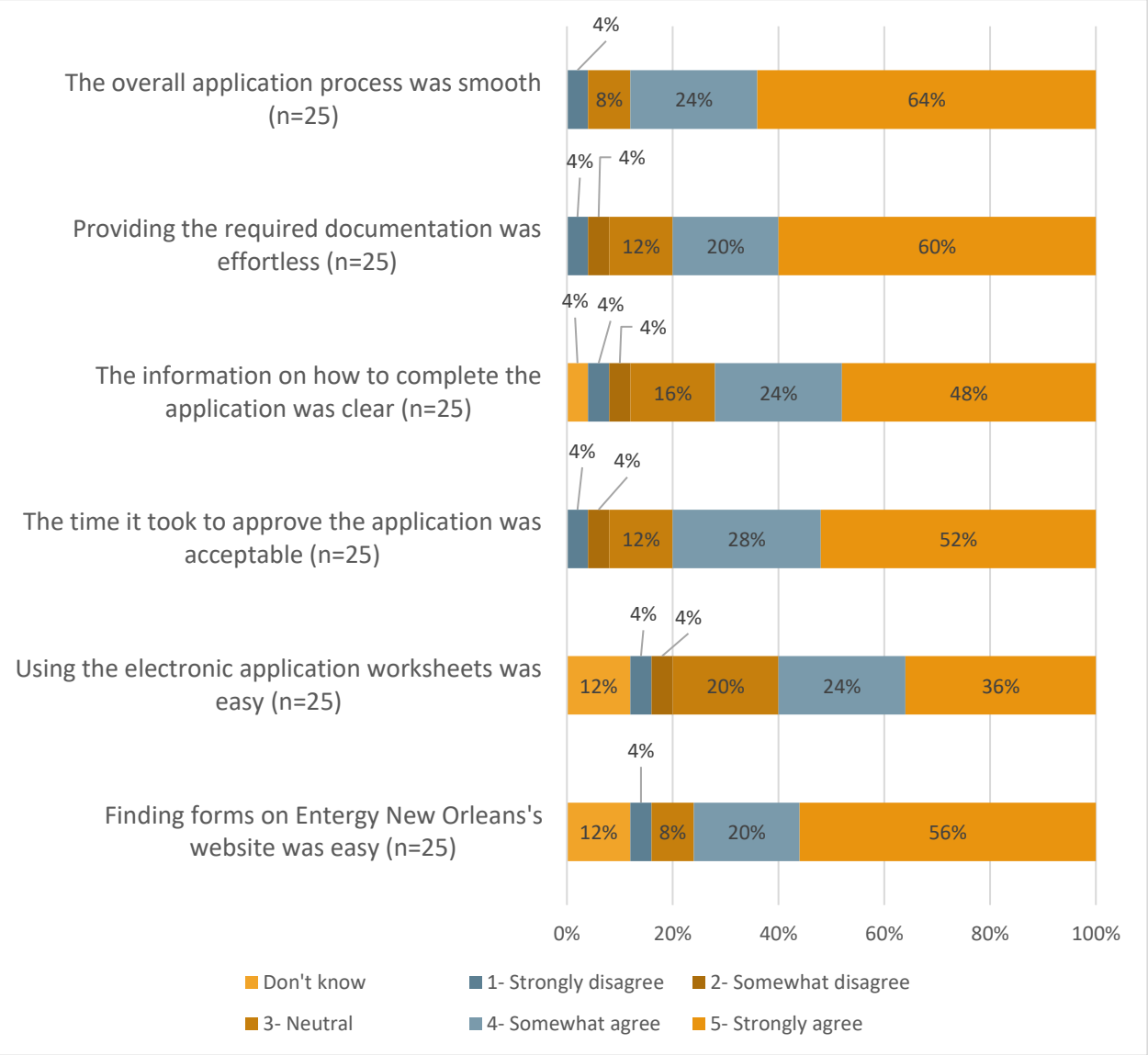


FIGURE 12-19 SATISFACTION WITH THE APPLICATION PROCESS OF THE SMALL C&I PROGRAM

Survey respondents were generally satisfied with the contractor they worked with and the project (Figure 12-20). Regarding overall program satisfaction, most respondents were satisfied to some degree, with various aspects of the overall program experience (Figure 12-21). Respondents were most satisfied with (1) the energy efficiency improvement(s) made through the program; (2) the equipment that was installed; and (3) the program staff who assisted them. However, respondents were least satisfied with the amount of time it took to receive the rebate.

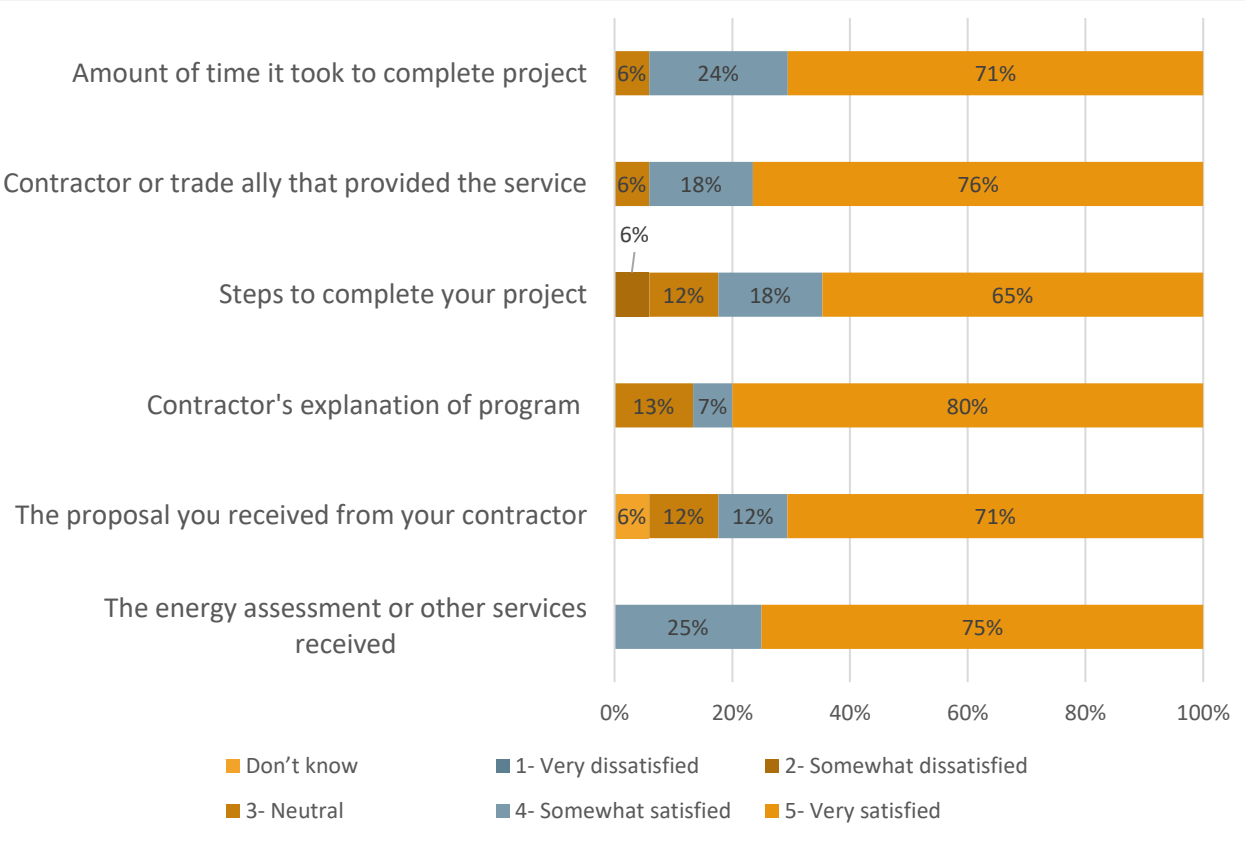


FIGURE 12-20 SATISFACTION WITH THE CONTRACTOR'S SERVICES AND THE PROJECT

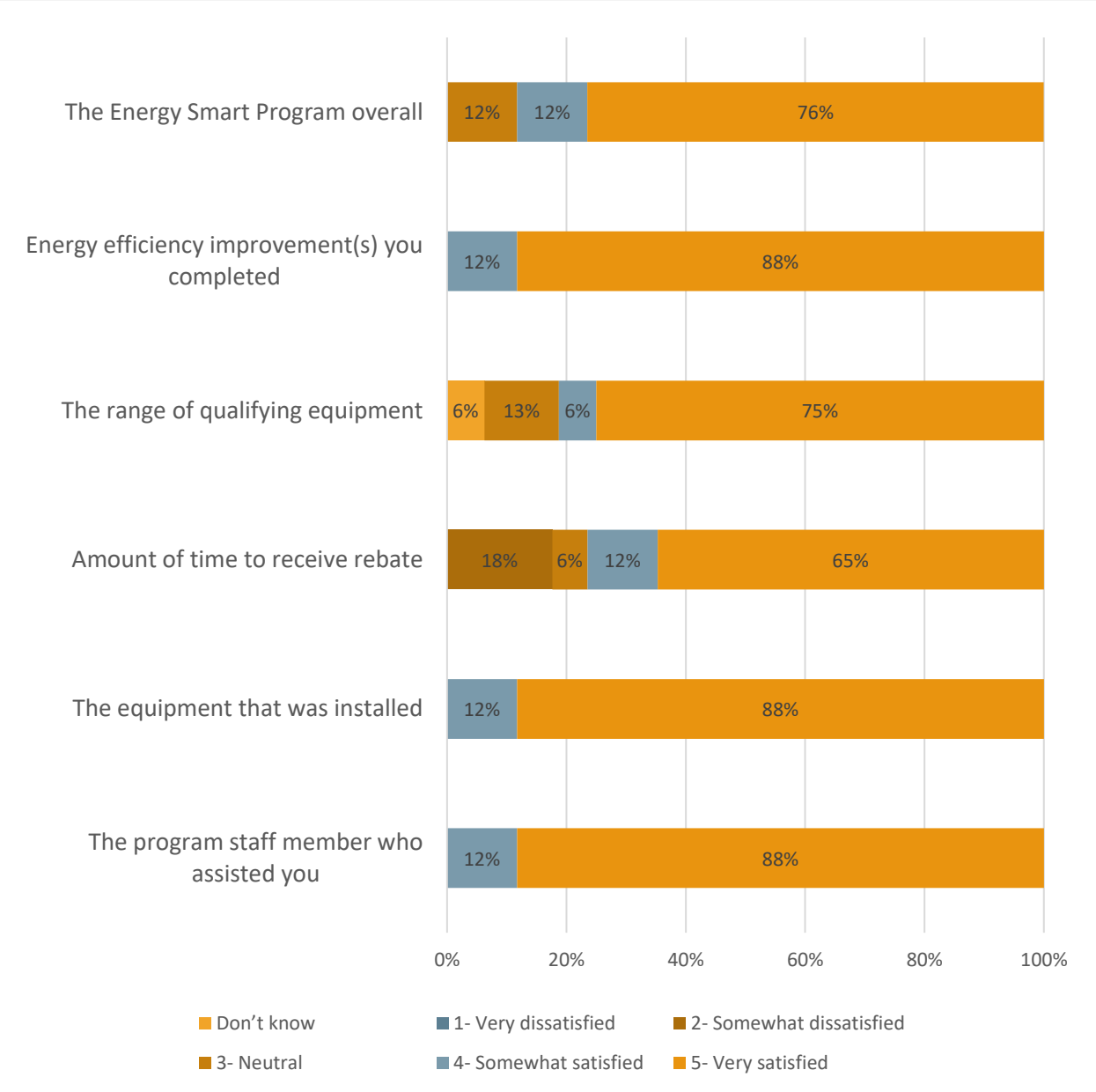


FIGURE 12-21 SATISFACTION WITH THE PROGRAM OVERALL AND ITS COMPONENTS

Eighty percent of respondents are satisfied with ENO as their electricity provider (Figure 12-22).

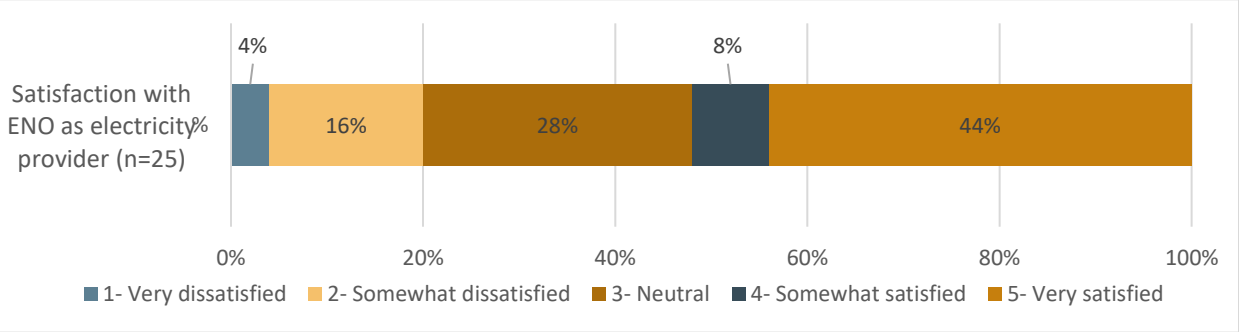


FIGURE 12-22 SATISFACTION WITH ENO

Most respondents indicated that they would recommend the programs to others, while less than half are planning to make additional energy efficient improvements in the next 12 months (Figure 12-23).

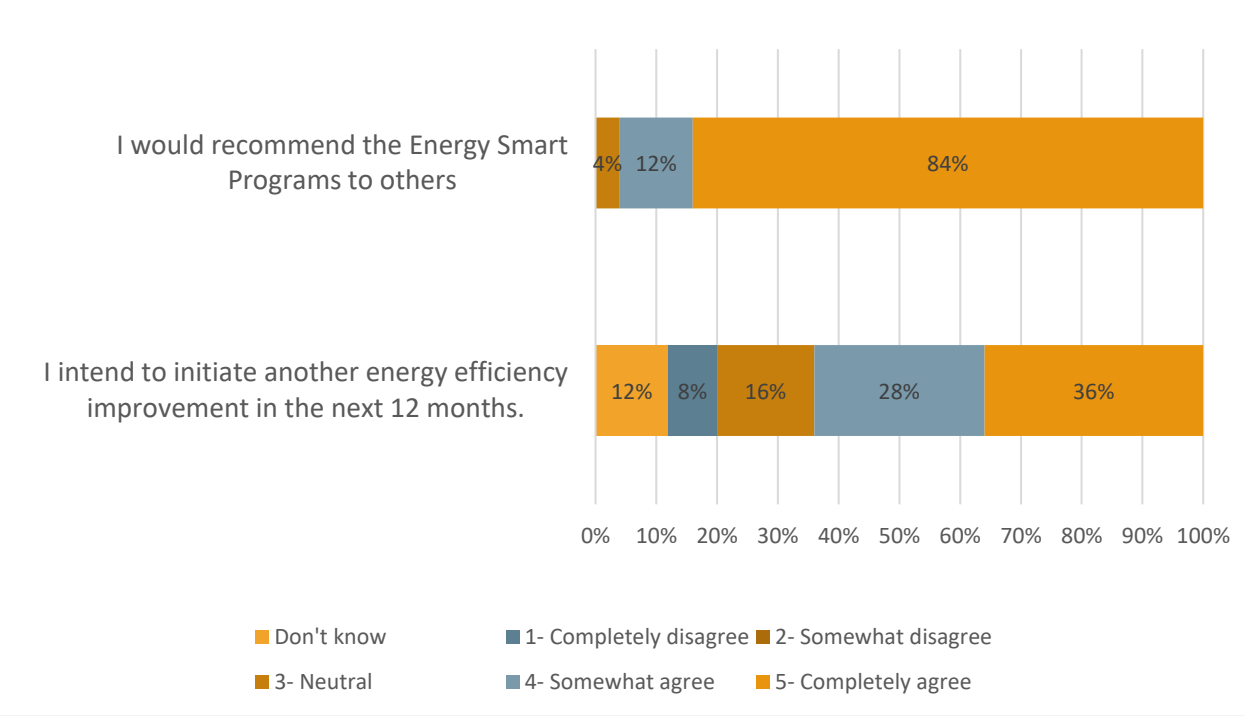


FIGURE 12-23 LIKELINESS TO RECOMMEND PROGRAM & MAKE ADDITIONAL IMPROVEMENTS

12.5 Data Tracking Review

The Evaluators reviewed the tracking dat. The following parameters were missing or incomplete for the program.

- **Measure Specific Information**: The tracking data lacked pre and post measure information such as fixture codes, fixture wattages, equipment size, and equipment efficiency.

The Evaluators note that a supplemental tracking dataset was provided for this program and a few others. This data had some additional fields.

12.6 Key Findings & Conclusions

Below are key findings for this program after the evaluation.

- **Outreach efforts improved this year, but the program still had significant challenges.** In response to low participation rates, Entergy staff brought on external marketing and outreach teams to help promote the program, as well as added more staff to help with application processing. New marketing techniques included door-door visits, bill inserts, digital and social media marketing, Entergy-sponsored trade ally training, as well as television, radio, and newspaper ads.
- **The program application process is being streamlined.** Program staff streamlined the application process by eliminating the need for customer involvement and instead relied solely on trade allies and program staff. This move was in response to previous feedback regarding the application as a barrier to participation.
- **Kits were utilized as a marketing and outreach tool in PY12.** Unlike in PY11, small business kits are only given to customers who request them. Kits are then used as a means of promoting other Entergy offerings. Staff made this change in the hopes of increasing installation rates.
- **The program added refrigeration's measures and integrated stepdown bonuses, though which participation bonuses decreased as the year went on.** Staff introduced stepdown bonuses to help promote engagement earlier in the program year and spread-out applications throughout year, in an attempt to avoid an influx of applications at the end of the year.
- **Trade allies indicated that they find program-sponsored trainings helpful.** Trade allies who were surveyed about their program experience indicated that the training they received was effective. Three respondents noted that they would like to see additional training opportunities, including trainings on the new rules and regulations.
- **All ten surveyed trade allies were satisfied with the program.** Most trade allies were satisfied overall. Four trade allies acknowledge that improvements have been made to the application process including the ability to combine prescriptive and custom calculator, a more user-friendly Excel sheet, and streamlining the application materials into one location. Three trade allies provided suggestions on how to improve the program. Suggestions included adding zip codes of the service territory provided, projections for the project rebate amount, and adding the DLC/ES and product part numbers attached to the application or program forms.
- **The OLM influenced customers' product purchases.** Some survey respondents (43%) did not plan to purchase a smart thermostat before learning they could receive a free or discounted thermostat through the online marketplace, and no respondents had plans to purchase LED exit signs or low flow showerheads.
- **OLM customers were generally satisfied with the online store and the products they purchased, however room for improvement remains.** Suggestions for improvement include improving website navigation and offering customer service assistance to help with equipment usage inquiries.
- **Customer satisfaction with trade allies is high.** Respondents who worked with a contractor (n=16 of 25) during their program reported high satisfaction with their contractor.

- **Most Small C&I customers are satisfied with the program overall (88%).** Respondents were most satisfied with the energy efficiency improvement(s) made through the program, the equipment that was installed, and the program staff who assisted them.

12.7 Recommendations

Below are recommendations for this program after the PY12 evaluation.

- **Continue to offer energy saving measures to small businesses through the online marketplace.** Surveyed participants were satisfied with their online marketplace purchases but did suggest improving the navigation of the website. Program staff should review website analytics and conduct period audits to ensure optimal user experience.
- **Explore ways to expedite rebate processing.** While most surveyed participants were satisfied with their experience, wait time for rebates was rated lowest among respondents (18% dissatisfied). Program staff could focus on reducing the time from project completion to rebates being processed. It might be advantageous to set up performance indicators to track this to ensure customers are completely satisfied with the wait time for rebates.
- **Create targeted marketing or focus efforts to promote the availability of non-lighting measures.** Developing additional marketing or outreach efforts to increase the number of small business projects that include more non-lighting than lighting measures.
- **Continue to offer trade allies up-to-date and relevant training.** To ensure that trade allies are equipped to help small businesses, consider offering a mix of online and in-person training opportunities. These opportunities could also include hands-on workshops, webinars, and conference calls. In addition, solicit feedback from to ensure that the training is meeting their needs and that they have the necessary tools and resources to effectively promote and implement the program's non-lighting measures. Finally, program staff should consider providing incentives for trade allies who successfully complete training or who refer new small business customers to the program.

13 LARGE C&I SOLUTIONS

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, 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 13-1 PY12 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)
Linear LED	7,907,611	140%	11,078,418	100%	11,078,418
Optimizing Process Cooling	6,020,877	119%	7,181,624	94%	6,745,699
Interior LED	1,309,299	120%	1,572,309	100%	1,572,309
BAS	5,906,141	109%	6,424,857	100%	6,417,147
Screw Based LED	1,757,176	199%	3,488,397	95%	3,322,698
HID LED	865,756	110%	951,231	95%	906,048
LED Exit Sign	13,473	102%	13,692	95%	13,042
Lighting Control	11,413	125%	14,294	95%	13,615
Window Film	412,379	100%	412,856	100%	412,361
Exterior LED	338,221	159%	538,183	95%	512,619
Chiller	669,600	109%	731,258	100%	730,380
HVAC	117,366	119%	139,149	100%	138,982
Door Gasket	900	146%	1,311	100%	1,309
Strip Curtain	2,790	146%	4,064	100%	4,059
AC Tune-up	15,995	100%	15,995	100%	15,976
Guest Room Management	87,685	100%	87,685	100%	87,580
Total	**25,436,680**	**128%**	**32,655,323**	**98%**	**25,408,556**

Sums may differ due to rounding.

TABLE 13-1 PY12 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)
Linear LED	1,627.30	141%	2,296.00	100%	2,296.00
Optimizing Process Cooling	540.86	509%	2,753.61	94%	2,586.47
Interior LED	211.05	121%	255.00	100%	255.00
BAS	0.00	NA	0.00	100%	0.00
Screw Based LED	366.06	206%	755.00	95%	719.14
HID LED	118.27	111%	131.00	95%	124.78
LED Exit Sign	1.88	107%	2.00	95%	1.91
Lighting Control	4.33	162%	7.00	95%	6.67
Window Film	300.26	104%	312.00	100%	311.63
Exterior LED	0.00	NA	0.00	95%	0.00
Chiller	226.80	100%	227.00	100%	226.73
HVAC	52.81	134%	71.00	100%	70.91
Door Gasket	0.10	0%	0.00	100%	0.00
Strip Curtain	0.37	269%	1.00	100%	1.00
AC Tune-up	5.25	95%	5.00	100%	4.99
Guest Room Management	0.00	NA	0.00	100%	0.00
Total	**3,455**	**197%**	**6,816**	**98%**	**6,605**

Sums may differ due to rounding.

TABLE 13-2 PY12 LARGE C&I SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
Linear LED	15	166,176,270	166,176,270
Optimizing Process Cooling	3	21,544,872	20,237,098
Interior LED	15	23,584,635	23,584,635
BAS	15	96,372,855	96,257,208
Screw Based LED	9	31,395,573	29,904,283
HID LED	15	14,268,465	13,590,713
LED Exit Sign	15	205,380	195,624
Lighting Control	8	114,352	108,920
Window Film	10	4,128,560	4,123,606
Exterior LED	15	7,929,837	7,553,170
Chiller	20	14,625,160	14,607,610
HVAC	15	2,070,415	2,067,931
Door Gasket	4	5,244	5,238
Strip Curtain	5	20,320	20,296
AC Tune-up	10	159,950	159,758
Guest Room Management	8	701,480	700,638
Total	**11**	**383,303,368**	**379,292,997**

Sums may differ due to rounding.

TABLE 13-3 PY12 LARGE C&I SOLUTIONS COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend ($)
Unassigned Incentive Bonus	112	$1,044,268
Linear LED	125	$574,502
Optimizing Process Cooling	15	$536,672
Interior LED	94	$126,563
BAS	54	$688,117
Screw Based LED	21	$17,602
HID LEDs	29	$76,534
LED Exit Sign	5	$1,263
Lighting Controls	3	$1,423
Window Film	2	$65,205
Exterior LED	16	$10,978
Chiller	1	$100,000
HVAC	4	$17,979
Door Gaskets	1	$120
Strip Curtains	1	$372
AC Tune-up	1	$910
Guest Room Management	1	$11,115
Total	**485**	**$3,273,623**

Sums may differ due to rounding.

13.2 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 13-4 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
Retro-commissioning	$0.04-$0.07/kWh Saved

13.2.1 PROGRAM DELIVERY CHANNELS AND EXPECTED SAVINGS

The evaluation approach for PY12 included the following activities, database review, desk reviews, site visits, participants surveys and staff interviews.

PY12 saw an 8% decrease in projects completed but saw a 47% increase in expected savings while nearly doubling the expected savings coming from non-lighting measures in PY12 compared to PY11. The program had 135 projects resulting in an expected energy savings of 25,436,680 kWh and an expected peak demand reduction of 3,455.33 kW.

TABLE 13-5 LARGE C&I SOLUTIONS EXPECTED SAVINGS SUMMARY

Count of Projects	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)
135	25,436,680	3,455.33

The table below shows the split of savings coming from custom and prescriptive projects.

TABLE 13-6 LARGE C&I SOLUTIONS SAVINGS EXPECTATIONS BY PROJECT COMPONENT

Project Component	Count	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)
Prescriptive	61	9,058,465	2,204.91
Custom	74	16,378,215	1,250.43
Total	**135**	**25,436,680**	**3,455.33**

13.2.2 TIMING OF PROJECTS

According to the tracking data, in PY12 46% of ex ante kWh savings had a project start date between September 2022 and November of 2022 with the largest single start month being October of 2022 which accounted for 20% of total program ex ante kWh. This spike in projects in Q4 is likely a result of the Lagniappe Fund bonus offered in the Fall of 2022. Figure 13-2 below outlines Ex-ante kWh and project count by the project reported start date for projects claimed in PY12.

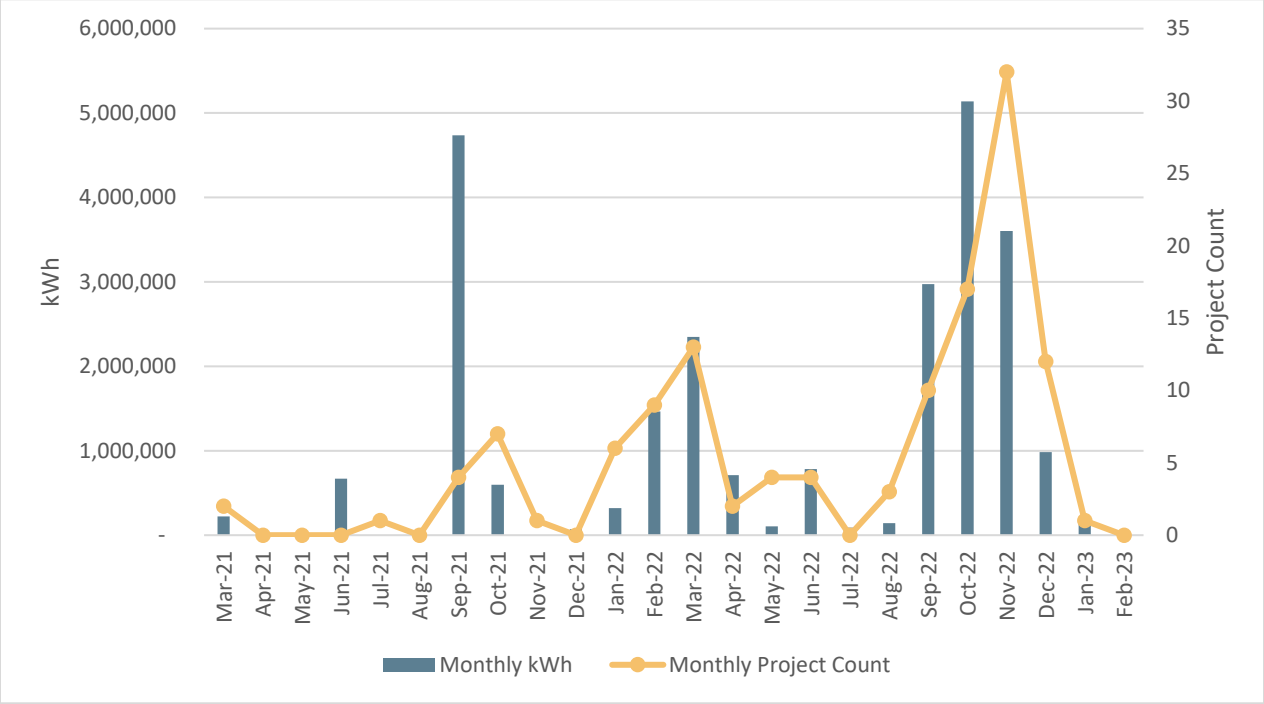


FIGURE 13-2 LARGE C&I PROGRAM PARTICIPATION BY START MONTH

The figure below summarizes the monthly program activity throughout the year by project completion date.

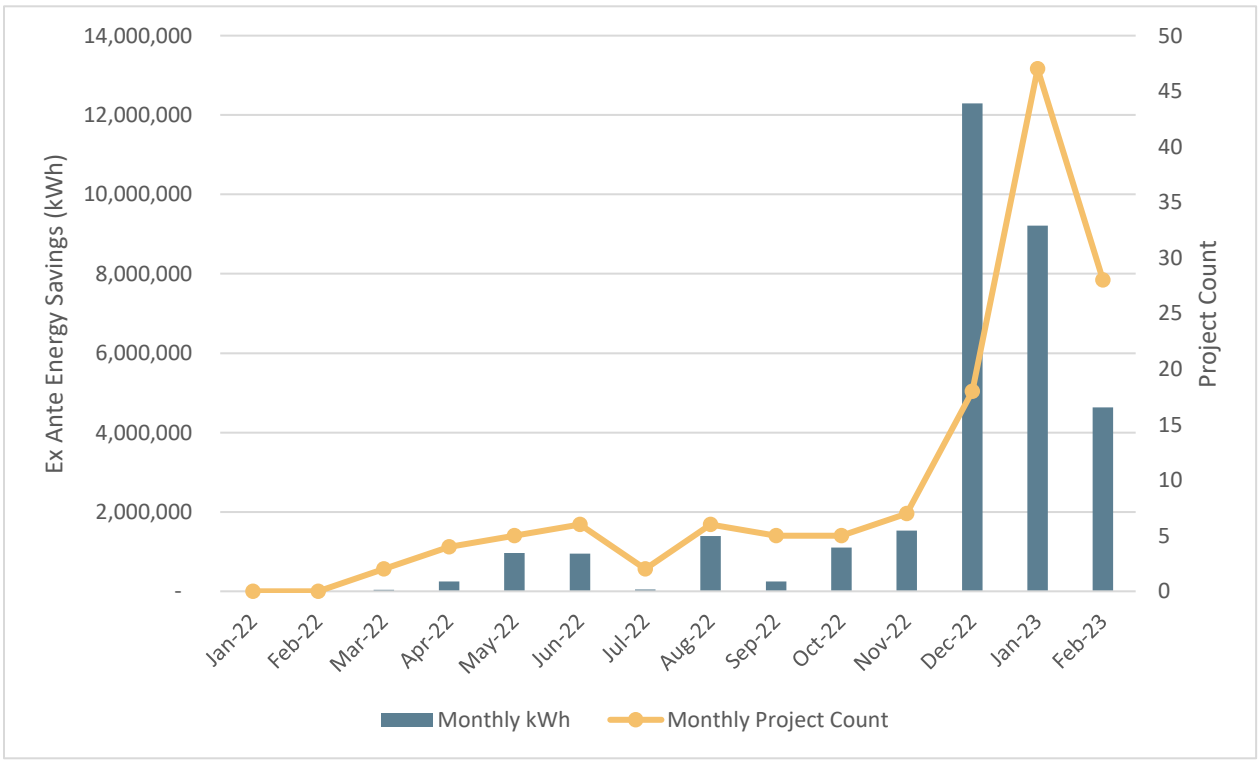


FIGURE 13-3 LARGE C&I PROGRAM PARTICIPATION BY COMPLETION MONTH

During PY12, 77% of expected savings came during the months of December of 2022, January, and February of 2023, with January of 2023 being the single largest month for projects completed (47) and expected kWh (8,211,243 kWh).

13.2.3 TRADE ALLIES

In PY12, the program saw projects completed by 36 different trade allies. The contribution to savings by Trade Ally is outlined below in Table 13-7.

TABLE 13-7 LARGE C&I TRADE ALLY CONTRIBUTION

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	15,995	1	0.1%
Trade Ally 2	70,690	1	0.3%
Trade Ally 3	746,271	1	2.9%
Trade Ally 4	683,366	10	2.7%
Trade Ally 5	4,324,677	47	17.0%
Trade Ally 6	222,502	1	0.9%
Trade Ally 7	526,221	3	2.1%
Trade Ally 8	5,701,758	4	22.4%
Trade Ally 9	3,690	1	0.0%
Trade Ally 10	2,304	1	0.0%
Trade Ally 11	28,836	1	0.1%
Trade Ally 12	42,980	3	0.2%
Trade Ally 13	3,585,041	8	14.1%
Trade Ally 14	40,784	1	0.2%
Trade Ally 15	87,685	1	0.3%
Trade Ally 16	170,194	2	0.7%
Trade Ally 17	176,981	1	0.7%
Trade Ally 18	258,408	7	1.0%
Trade Ally 19	55,531	1	0.2%
Trade Ally 20	53,850	1	0.2%
Trade Ally 21	84,005	1	0.3%
Trade Ally 22	53,322	3	0.2%
Trade Ally 23	58,354	1	0.2%
Trade Ally 24	30,340	1	0.1%
Trade Ally 25	22,760	1	0.1%
Trade Ally 26	286,415	4	1.1%
Trade Ally 27	36,678	1	0.1%
Trade Ally 28	5,792,891	13	22.8%
Trade Ally 29	212,387	1	0.8%
Trade Ally 30	14,869	1	0.1%

Trade Ally 31	958,836	7	3.8%
Trade Ally 32	229,877	1	0.9%
Trade Ally 33	265,880	1	1.0%
Trade Ally 34	397,510	1	1.6%
Trade Ally 35	3,486	1	0.0%
Trade Ally 36	191,308	1	0.8%

13.2.4 GOAL ACHIVEMENT

In PY12, the program's net energy savings obtained 98% of the kWh goal. The program's net peak demand reduction obtained 140% of the peak demand target.

TABLE 13-8 LARGE C&I PY12 SAVINGS GOALS

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
33,169,760	98%	32,655,323	4,833.95	140%	6,815.61

13.3 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 20 sampled projects; and
- Interviewing program participants and trade allies.

13.3.1 SITE VISITS

The on-site inspections were used to verify installations and to determine any changes to the operating parameters since the measures were first installed. Energy savings was estimated using proven techniques, including engineering calculations using industry standards to determine energy savings.

13.3.2 SAMPLE DESIGN

Sampling 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.

The participant population was divided into five strata. Table 13-9 summarizes the strata boundaries and sample frames for the program and Table 13-10 summarizes expected savings of both the sample and population. The achieved sampling precision was ±9.4% at 90% confidence.

TABLE 13-9 LARGE C&I PROGRAM SAMPLE DESIGN

	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Stratum 5	Totals
Strata boundaries (kWh)	< 50,000	50,001 - 200,000	200,001 - 500,000	500,001 - 1,000,000	>1,000,001	**NA**
Number of projects	44	62	14	13	2	**135**
Total kWh savings	1,065,356	5,696,881	4,371,554	8,601,566	5,507,321	**25,436,680**
Average	24,213	91,885	312,254	661,659	2,850,661	**188,420**
Standard deviation	13,997	38,348	99,488	127,459	1,410,348	**400,337**
Coefficient of variation	0.58	0.42	0.32	0.19	0.49	**2.12**
Final design sample	5	4	5	4	2	**20**

TABLE 13-10 LARGE C&I EXPECTED SAVINGS FOR SAMPLED AND NON-SAMPLED PROJECTS BY STRATUM

Strata	Sample Expected Savings	Total Expected Savings	% Savings in M&V Sample
Stratum 1	169,012	1,065,356	16%
Stratum 2	516,956	5,696,882	9%
Stratum 3	1,440,336	4,371,555	33%
Stratum 4	1,848,774	8,601,567	21%
Stratum 5	5,701,321	5,701,321	100%
Totals	**9,676,399**	**25,436,680**	**38%**

13.4 Evaluation Findings

13.4.1 GROSS IMPACT FINDINGS

13.4.1.1 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 uncertainly, 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 13-11 presents realization at the stratum level.

TABLE 13-11 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	169,012	246,172	146%
2	516,956	563,312	109%
3	1,440,336	1,417,466	98%
4	1,848,774	2,019,014	109%
5	5,701,321	8,343,180	146%
Total	**9,676,399**	**12,589,144**	**130%**

Table 13-12 shows the expected and verified energy savings for the sampled projects.

TABLE 13-12 LARGE C&I EXPECTED AND VERIFIED SAVINGS BY SAMPLED PROJECT

Project ID(s)	Facility Type	Expected kWh Savings	Verified kWh Savings	Realization Rate
CIP_674	Education: K-12	321,400	297,593	93%
CIP_634	Large Office	679,021	850,728	125%
CIP_595	Large Office	176,981	223,336	126%
CIP_592	Large Office	212,387	187,820	88%
CIP_554	Public Assembly	1,853,394	2,196,933	119%
CIP_508	Lodging (Hotel/Motel/Dorm): Room	87,685	87,685	100%
CIP_477	Food Service: Fast Food	15,995	15,995	100%
CIP_474	Large Office	41,932	164,452	392%
CIP_443	Public Assembly	581,031	688,729	119%
CIP_429	Health Care: Nursing Home	420,118	561,669	134%
CIP_423	Outdoor	14,302	14,302	100%
CIP_420	Outdoor	168,286	168,286	100%
CIP_417	Large Office	220,551	220,166	100%
CIP_415	Lodging Common Areas	22,760	22,760	100%
CIP_391	Education: College, University, Vocational, Day Care, and K-12	265,880	150,218	56%
CIP_388	Health Care: In-patient	571,763	571,763	100%
CIP_383	Food Service: Fast Food	84,005	84,005	100%
CIP_378	Education: K-12	28,836	28,663	99%
CIP_333	Education: College, University, Vocational, Day Care, and K-12	597,990	596,523	100%
CIP_331	Health Care: In-Patient	3,847,927	8,343,180	217%

13.4.1.2 Program-level Realization

Using the realization rates presented in Table 13-11 the Evaluators extrapolated results from sampled sites to non-sampled sites in developing offering-level savings estimates. Table 13-13 presents results by stratum.

TABLE 13-13 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	44	1,065,356	1,601,199	150%	123.90	279.00	225%
2	62	5,696,882	6,264,412	110%	348.72	550.00	158%
3	14	4,371,555	4,541,861	104%	829.34	1,357.00	164%
4	13	8,601,567	9,707,737	113%	1,193.95	2,040.61	171%
5	2	5,701,321	10,540,114	185%	959.42	2,589.00	270%
Total	**84**	**25,436,680**	**32,655,323**	**128%**	**3,455.33**	**6,815.61**	197%

Table 13-14 shows the verified savings across the program.

TABLE 13-14LARGE 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
28,436,680	32,655,323	128%	3,455.33	6,815.61	197%

13.4.1.3 Causes of Savings Deviations

For illustrative purposes, the Evaluators have summarized these adjustments to kWh savings in Table 13-15.

TABLE 13-15 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_634	679,021	850,728	125%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_595	176,981	223,336	126%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_592	212,387	187,820	88%	The evaluators verified a different efficient wattage than what was claimed in the ex-ante calculations.
CIP_554	1,853,394	2,196,933	119%	*Ex Post* savings were based on TRM deemed methodologies which verified a higher savings than the ex-ante estimates.
CIP_474	41,932	164,452	392%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage.
CIP_443	581,031	688,729	119%	*Ex Post* savings were based on TRM deemed methodologies which verified a higher savings than the ex-ante estimates.
CIP_429	420,118	561,669	134%	The evaluators verified a different efficient wattage than what was claimed in the ex-ante calculations.

CIP_391	265,880	150,218	56%	*Ex Ante* estimate was based on an AOH of 8760, verified savings were based on the TRM deemed AOH for this facility.
CIP_331	3,847,927	8,343,180	217%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *Ex Ante* using an average wattage

13.4.1.4 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 13-16 SUMMARY OF ARC FOR LARGE C&I SOLUTIONS

Measure	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	NPV ARCs ($)
Linear LED	$281,512	$281,512	$281,512
Optimizing Process Cooling	$0	$0	$0
Interior LED	$18,447	$18,447	$18,447
BAS	$0	$0	$0
Screw Based LED	$13,561	$12,917	$12,917
HID LED	$124,732	$118,808	$118,808
LED Exit Sign	$0	$0	$0
Lighting Control	$0	$0	$0
Window Film	$0	$0	$0
Exterior LED	$57,846	$55,098	$55,098
Chiller	$0	$0	$0
HVAC	$0	$0	$0
Door Gasket	$0	$0	$0
Strip Curtain	$0	$0	$0
AC Tune-up	$0	$0	$0
Guest Room Management	$0	$0	$0
Total	**$496,098**	**$486,782**	**$486,782**

Sums may differ due to rounding.

13.4.2 NET IMPACT FINDINGS

The net-to-gross for projects completed in the program were determined from survey responses from program participants. No survey respondents reported spillover measures.

The details of this survey can be found in the Process section following this section.

13.4.2.1 Net Savings Results

Net savings by measure can be found in Section 17.1.

13.4.3 PROCESS FINDINGS

The Evaluators conducted staff interviews as well as administered large commercial and industrial participant survey, and trade ally interviews.

13.4.3.1 Staff Interviews

The following section summarizes the findings from in-depth interviews with three program staff. These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission. The following narrative summarizes these interviews. Much of the findings for the program design and operations for commercial programs, including Large C&I, are presented in Section 12.4.3.1.

During PY12, staff continued to offer Hurricane Ida funds to help customers with recovery efforts. In PY12, these bonuses were renamed "Lagniappe Funds" and their purpose was to install certain equipment before the end of the program year. Customers were very interested in these bonuses – "customers jumped all over it…we had 100 applications in two weeks."

13.4.3.1.1.1Program Changes

Staff also noted that window film was added to their list of measure offerings for customers. Not many projects have taken advantage of this new measure yet, but program staff hope to expand on it in future program years.

Additionally, they are working to recruit more refrigeration trade allies in the hopes that they will see an increase in the number of refrigeration measures.

This year, the program did their first insulation project – insulation upgrades for a large condition space – an outcome of requests for insulation during last program year. They are hoping to add insulation to the list of eligible measures from here on out.

13.4.3.1.2 *Program Challenges*

Staff indicated that most of the challenges in the program are related to trade allies. Not only are trade allies struggling with high inflation and paying for labor and materials, but they often need to be handheld through the program application process, which takes staff time. Staff did mention one "platinum tier" trade ally that they have worked well with and have garnered a lot of savings for both the customer and the utility.

Staff have tried to create innovative and eye-catching marketing materials, while also following the guidelines set forth by the utility. However, despite these challenges, staff think their marketing efforts have improved and they have found ways to make the program simpler and more attractive to customers.

13.4.3.2 Trade Ally Interview Results

Trade ally survey results are summarized and presented in Section 12.4.3.2.

13.4.3.3 Participant Survey Results

The Evaluators conducted a survey with customers who participated in the Program to gain insight into customer satisfaction and feedback. Customers were contacted through email to complete the survey, 70 were contacted and 20 completed it. The precision of the survey is +/- 18.4% at the 10% level of confidence. The following sections summarize those responses.

TABLE 13-17 EMAIL CAMPAIGN AND RESPONSE RATE

Metric	Count
Number of customers contacted by email or phone	70
Undeliverable emails	9
Incentives paid	$500
Completed	20
Response rate	33%

13.4.3.3.1 *Program Awareness and Motivation for Participation*

Surveyed Large C&I participants learned about the program through a contractor, trade ally, vendor, or energy consultant or from a colleague or friend. Past program participation and ENO representatives were also a common source of awareness among respondents (Figure 13-4).

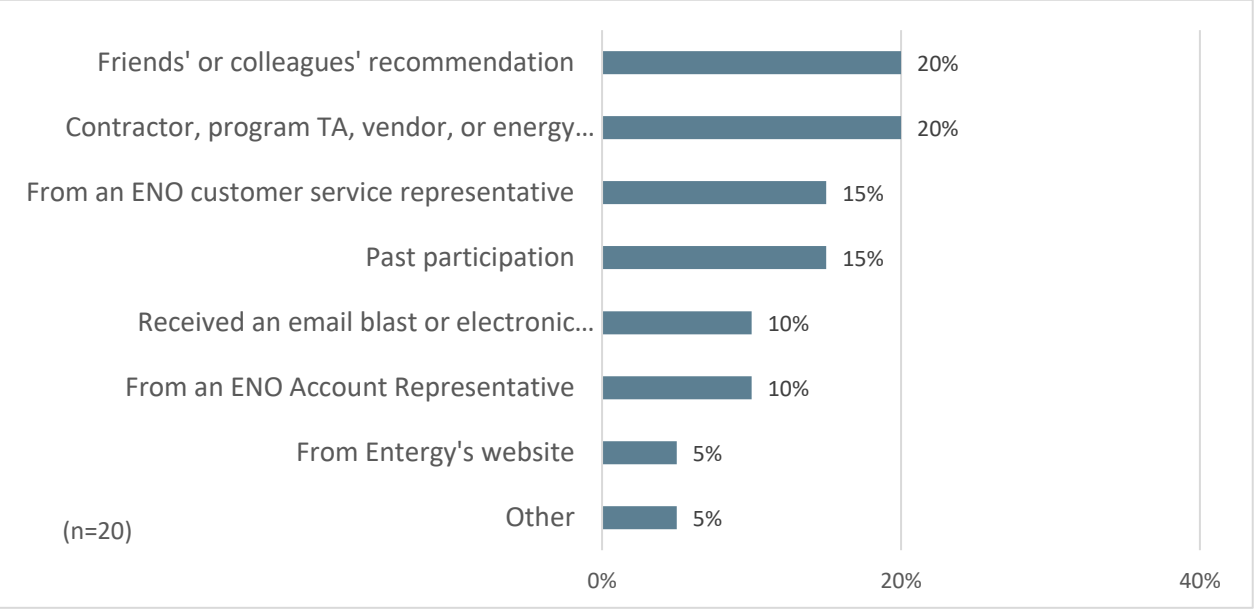


FIGURE 13-4 PROGRAM AWARENESS

Respondents were most driven to participate in order to reduce their energy costs followed by receiving the rebate and replacing their old or outdated equipment. Table 13-18 summarizes all the responses.

TABLE 13-18 MOTIVATION FOR PARTICIPATION

Response	Percentage of respondents (n = 20)
To reduce energy costs	80%
To get a rebate from the program	65%
To replace old or outdated equipment	50%
To protect the environment	45%
To reduce energy use/power outages	45%
To improve equipment performance	45%
Reduce maintenance costs	35%
To improve the product quality	30%
To update to the latest technology	30%
Comply with organizational policies	25%
To improve indoor air quality	25%
To improve health and safety	20%
Part of a planned remodel/build-out/expansion	15%
Gain more control over how the equipment	10%
Comply with codes set by regulatory agencies	10%
To solve a processing issue	5%
Other	5%

13.4.3.3.2 *Program Experience*

Sixty percent of survey respondents completed the project with a contractor who installed the program qualifying equipment, while 25% had their own staff install the equipment. Table 13-19 provides additional details about who installed the program qualifying equipment.

TABLE 13-19 WHO INSTALLED PROGRAM QUALIFYING EQUIPMENT

Response	Percentage of respondents (n = 20)
Own staff	25%
A contractor the business had worked with before	40%
A contractor registered with the Energy Smart program	20%
A new contractor that was recommended	5%
Other	5%
Don't know	5%

When respondents were first approached about the program, almost all respondents indicated that it was an easy decision to decide to participate. Two respondents had some concerns, all regarding upfront costs. However, they decided to proceed with the program after looking at the cost savings and the desire to be more energy efficient.

The project costs were about what participants expected for 70% of the 20 survey respondents (Table 13-20). Three indicated the costs were less than they were expecting, and three other respondents indicated it was more than they were expecting.

TABLE 13-20 EXPECTED PROJECTS COSTS COMPARED TO ACTUAL COSTS

Response	Percentage of respondents (n = 20)
It was less than we expected	15%
It was what we expected	70%
It was more than we expected	15%

Once the project was completed, almost all survey respondents indicated that a program representative conducted an inspection of the work that was done, while two respondents were unsure (Table 13-21).

TABLE 13-21 POST-INSTALLATION INSPECTION

Response	Percentage of respondents (n = 20)
Yes	90%
No	0%
Don't know	10%

Of the respondents who received a post-project inspection, 78% indicated that the inspector was both efficient and courteous (Figure 13-5).

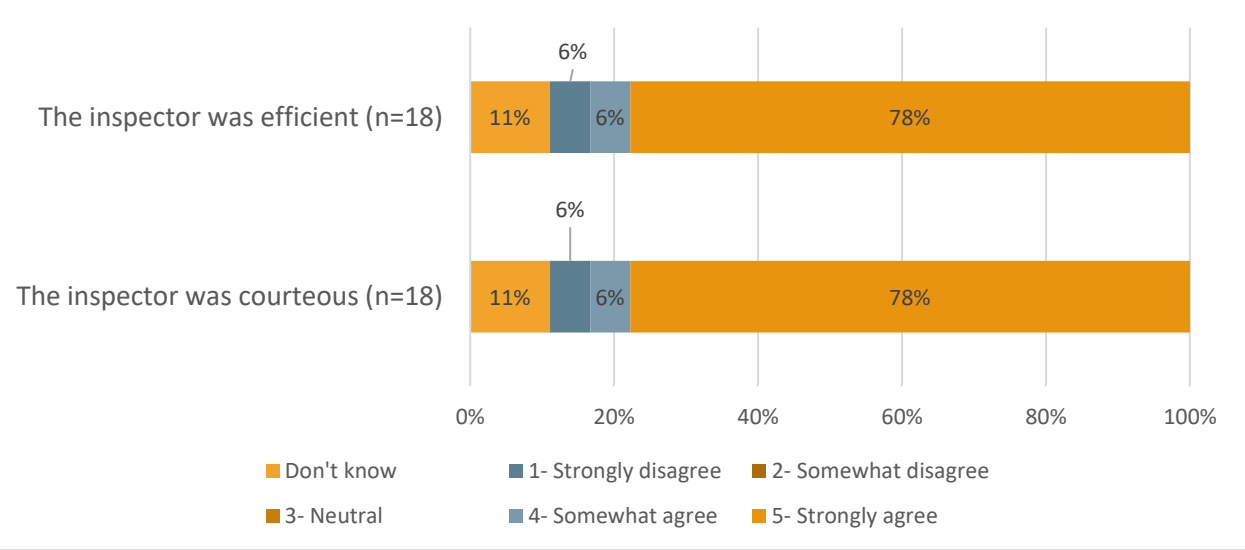


FIGURE 13-5 POST-INSPECTION EXPERIENCE

13.4.3.3.3 *Technical Services and Trade Allies*

Respondents indicated whether they received technical assistance from a program representative during their program participation. Sixty-five percent of survey respondents indicated they received assistance with their application, followed by 55% who received a facility assessment. Table 13-22 summarizes all the technical services that was received through the program.

TABLE 13-22 TECHNICAL ASSISTANCE

Response	Percentage of respondents (n = 20)
Facility assessment	55%
Calculation assistance	50%
Application assistance	65%
Other assistance	10%
Did not receive any assistance	5%
Don't know	10%

Of the 17 respondents who received some type of technical service assistance from a program representative, 53% indicated that program upgrades were recommended by the program representative while receiving that support. All nine of those respondents indicated that those recommendations were extremely influential (cited as a 5 on a 5-point scale) in their decision to complete the upgrades.

The level of interactions between the contractor/trade allies and the survey respondents, varied between each respondent. Thirteen respondents worked with a contractor or trade ally throughout the duration of the entire project, while three respondents did not work with a contractor or trade ally.

TABLE 13-23 LEVEL OF CONTRACTOR INVOLVEMENT

Response	Percentage of respondents (n = 20)
Only during the design phase of the project	10%
Only during the installation phase of the project	10%
Throughout the entire project (e.g., from design to installation)	65%
I did not work with a trade ally	15%

Respondents who worked with a contractor during their program participation, over 80% indicated they were very satisfied with their experience working with the contractor, while three respondents indicated dissatisfaction regarding various aspects of working with the contractor (Figure 13-6).

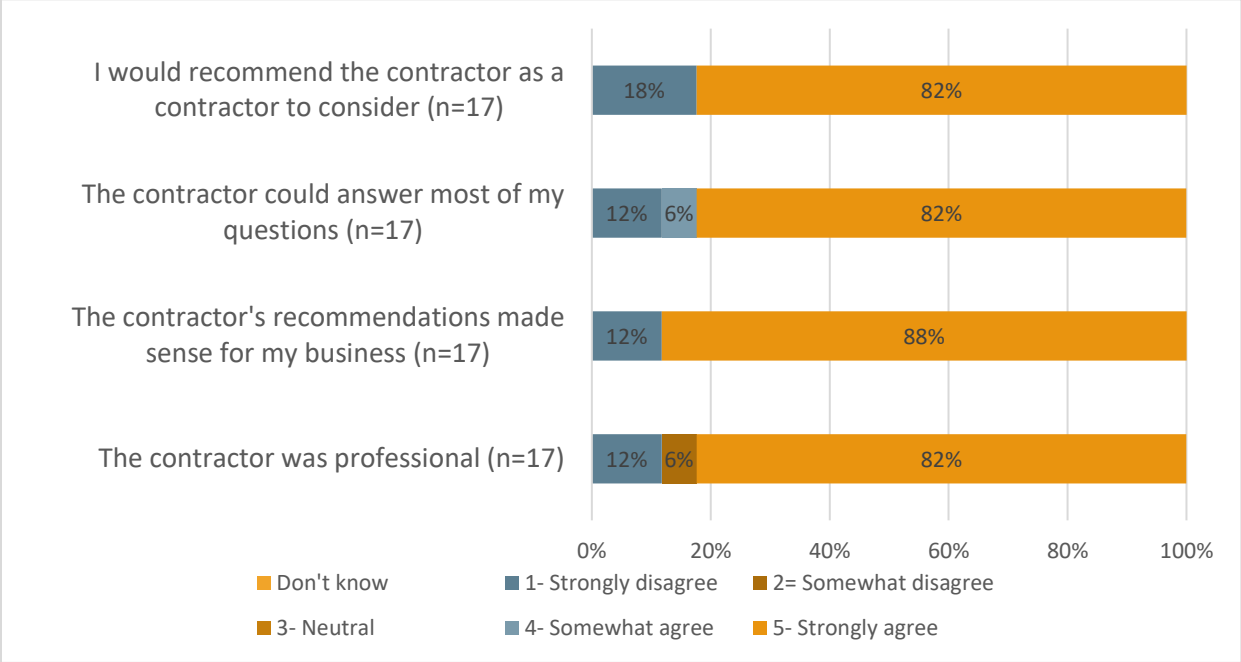


FIGURE 13-6 SATISFACTION WITH CONTRACTOR OR TRADE ALLY

13.4.3.3.4 *Additional Measures or Upgrades*

Since participating in the program, three respondents made additional upgrades or installations because of their experience with the program. Most of these additional improvements were commercial kitchen equipment upgrades (Figure 13-7).

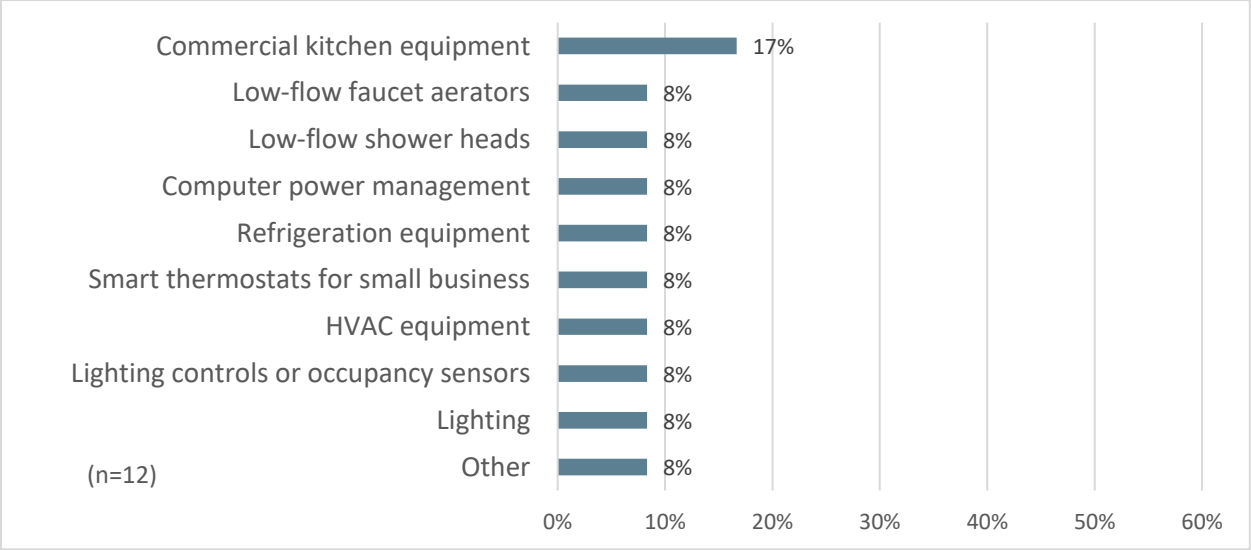


FIGURE 13-7 ADDITIONAL UPGRADES SINCE PROGRAM PARTICIPATION

However, they did not receive a rebate or incentive for those additional improvements because they either did not know if the equipment qualified for a rebate or not; or did not have the time to fill out the application paperwork.

13.4.3.3.5 *Program Satisfaction and Relationship with ENO*

Respondents reported being generally happy to some degree, with most aspects of the application process (Figure 13-8). Respondents were most satisfied with how smooth the overall application process was the ease of providing all required documentation. However, respondents were least satisfied with the easy of finding rebate forms on the program website and the ease of using the electronic worksheets.

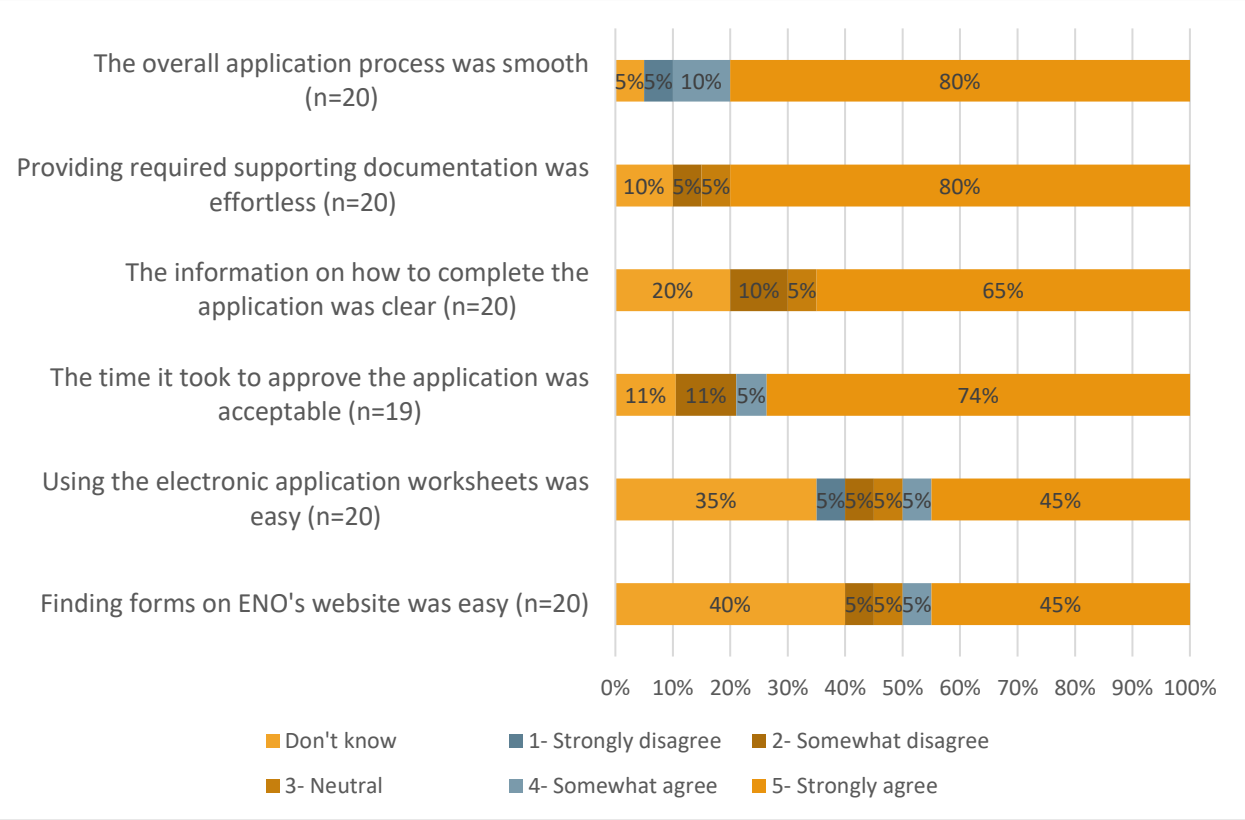


FIGURE 13-8 SATISFACTION WITH APPLICATION PROCESS

Eighty-three percent of surveyed participants were very satisfied with the program overall (Figure 13-9). Additionally, most respondents were satisfied to some degree, with various aspects of the overall program experience (Figure 13-9). Respondents were most satisfied (100%) with the energy assessment and other technical services they received (Figure 13-10). However, respondents were least satisfied with the range of qualifying equipment.

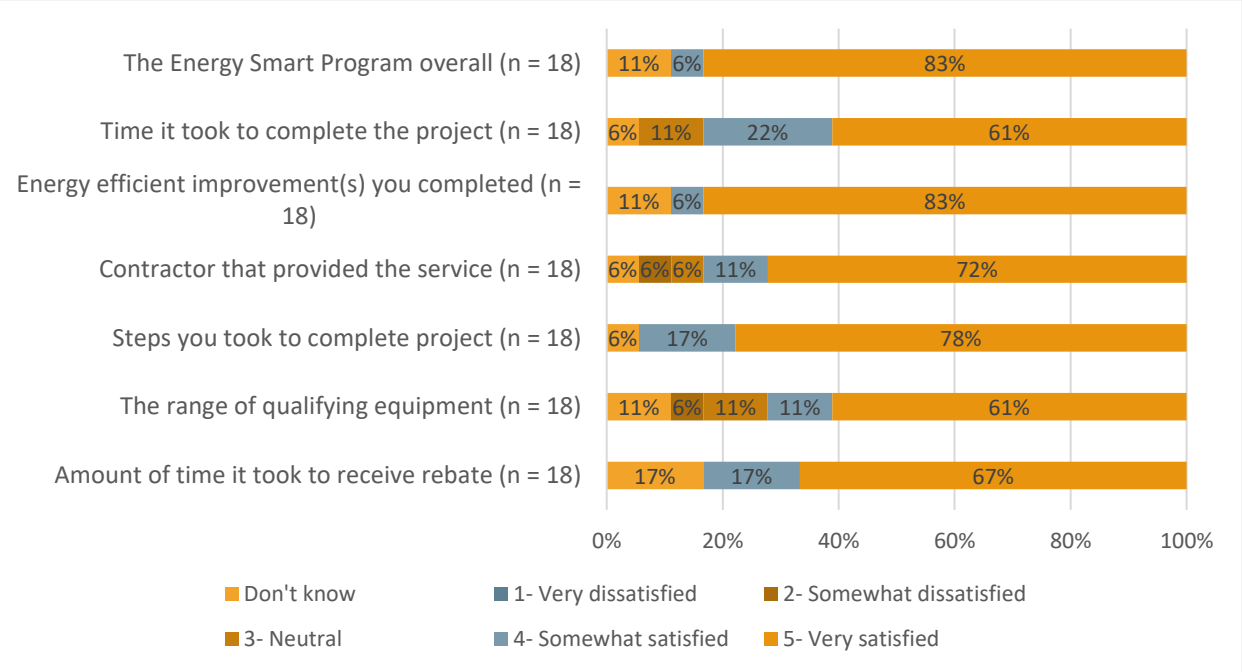


FIGURE 13-9 PROGRAM SATISFACTION

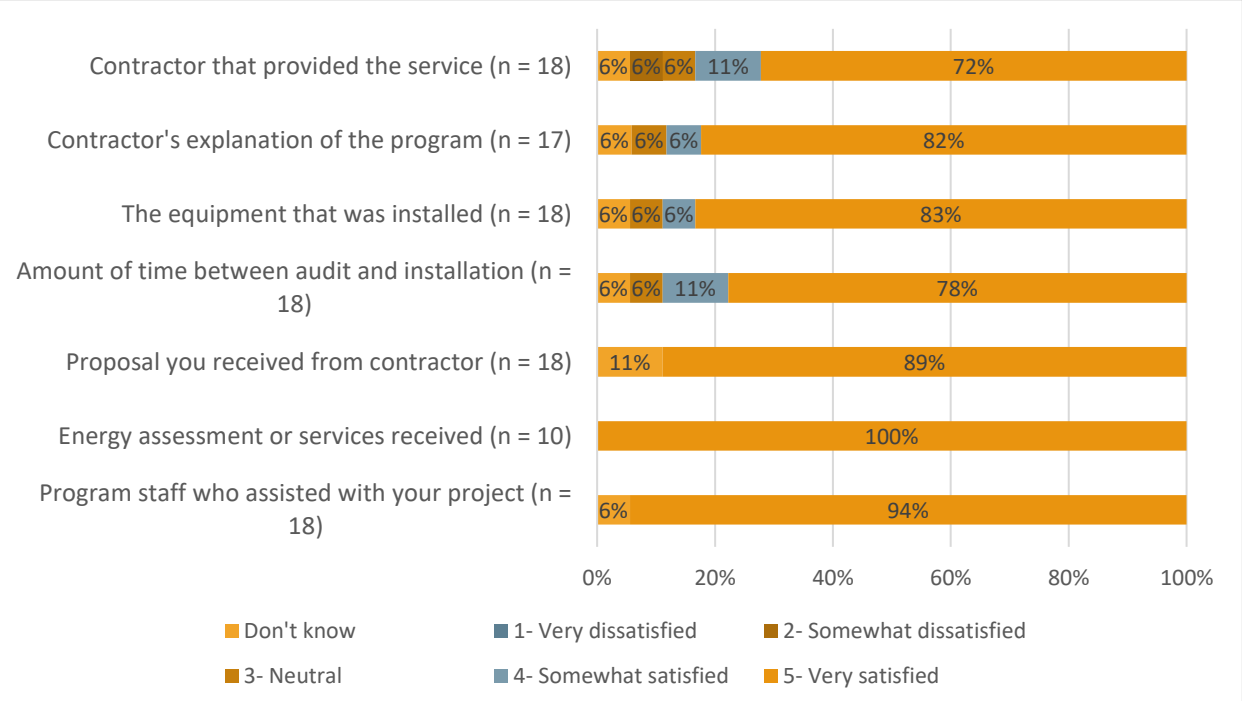


FIGURE 13-10 SATISFACTION WITH CONTRACTOR AND SERVICES PROVIDED

Seventy percent of respondents are satisfied to some degree, with ENO as their electricity provider, while 10% of respondents are very or somewhat dissatisfied with ENO (Figure 13-11).

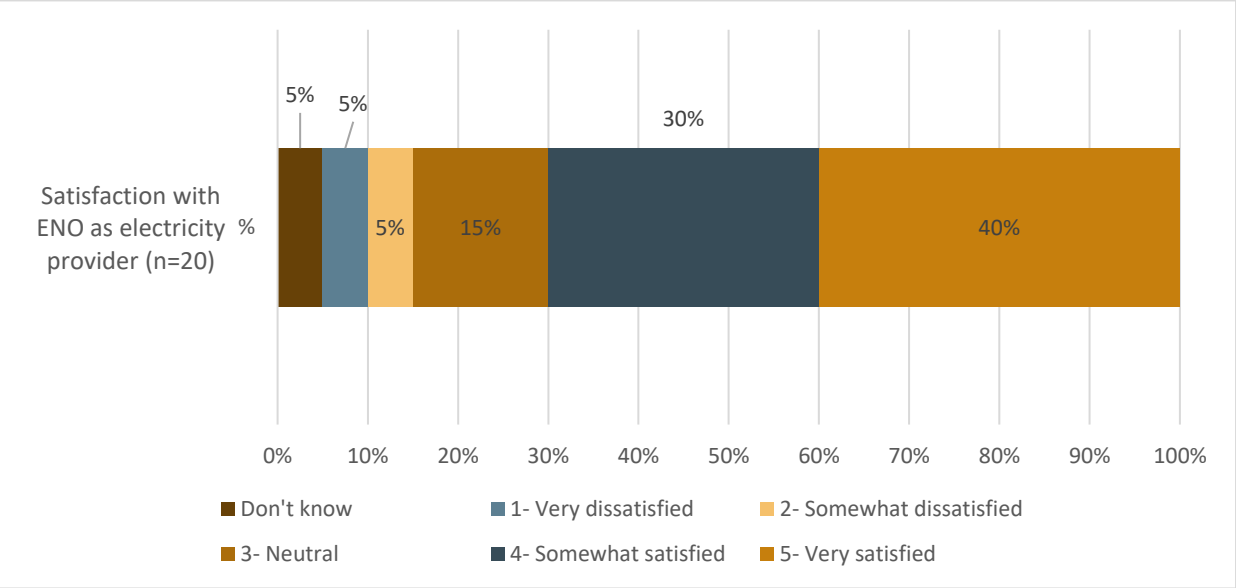


FIGURE 13-11 SATISFACTION WITH ENO

Most respondents (95%) indicated that they would recommend the Energy Smart programs to others, while 75 percent are planning to make more energy efficient improvements in the next 12 months (Figure 13-12).

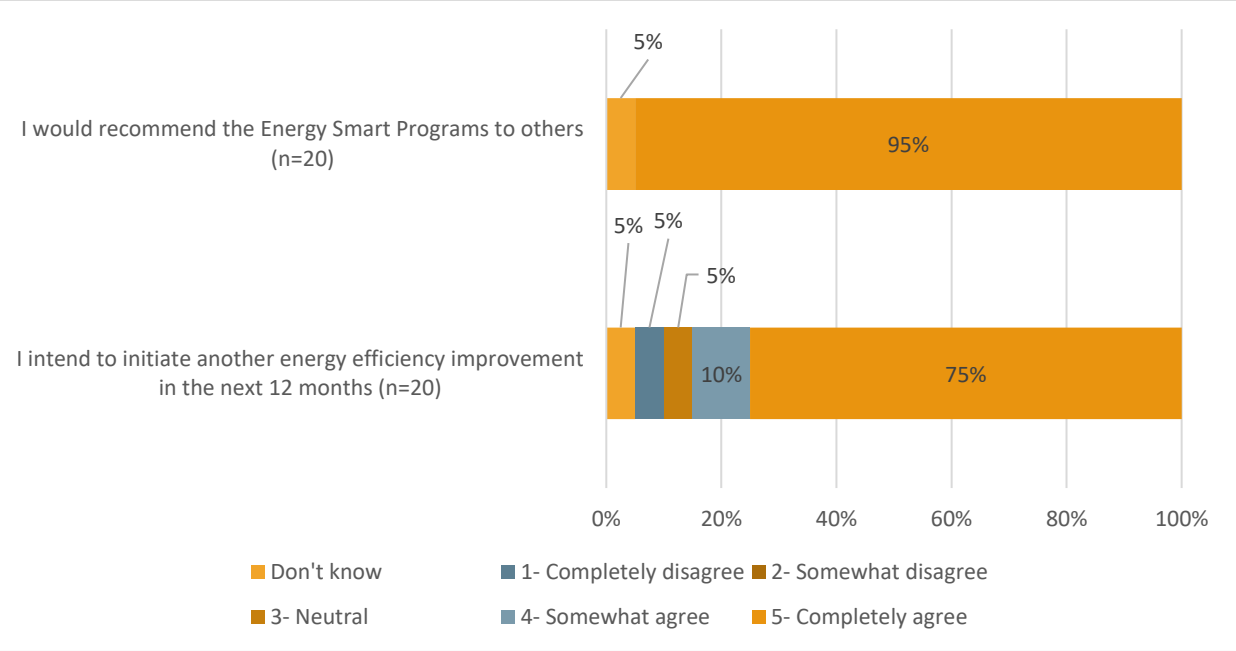


FIGURE 13-12 LIKELINESS TO RECOMMEND PROGRAM & MAKE ADDITIONAL IMPROVEMENTS

13.4.3.3.6 *Firmographics*

Forty percent of survey respondents indicated they are the facilities manager at their respective properties (Table 13-24). Some respondents identified themselves directors, electricians, engineers, or owners.

TABLE 13-24 RESPONDENT ROLE

Response	Percentage of respondents (n=20)
Facilities Manager	40%
Engineer	20%
Director	10%
Proprietor/Owner	10%
Chief Electrician	5%
Chief Financial Officer	5%
Manager	5%
President/CEO	5%

Respondents indicated that upgrades made through the program were completed in in large office spaces, followed by K – 12 schools, and lodging.

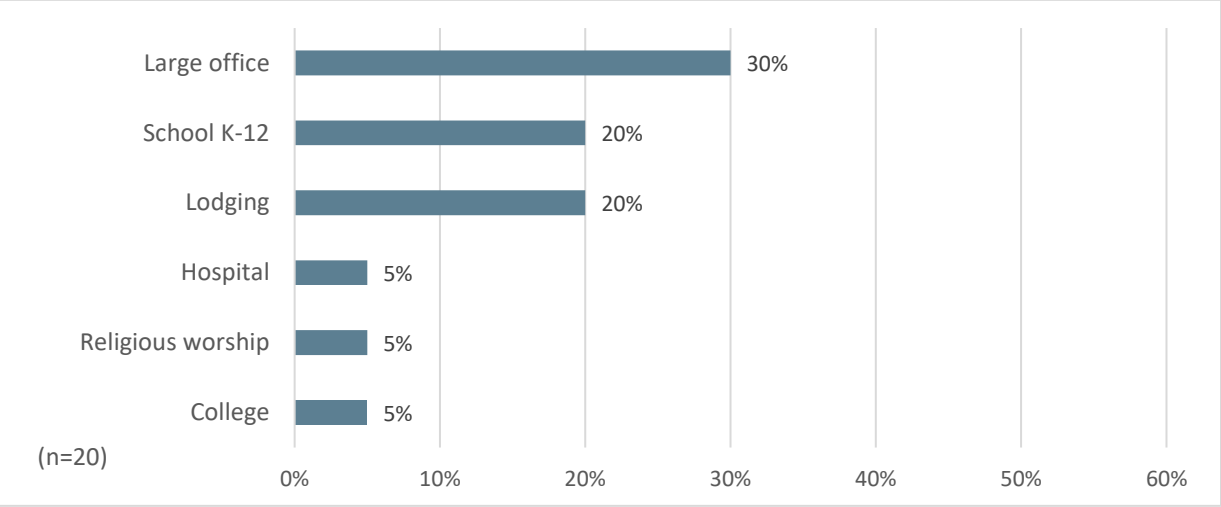


Figure 13-13 summarizes all the project locations.

FIGURE 13-13 TYPE OF BUILDING WHERE UPGRADES WERE MADE

Additionally, more than half of respondents indicated that they own and occupy the building where the program upgrades were made, while 25% indicated that they own the building but rent to someone else (see Table 13-25).

TABLE 13-25 BUILDING OWNERSHIP STATUS

Response	Percentage of respondents (n=20)
Rent	5%
Own and occupy	65%
Own and rent to someone else	25%
Don't know	5%

Respondents were asked about energy saving policies, practices, and goals in place at their respective businesses or buildings. Almost all indicated they have a person or personnel dedication for managing energy usage; three-fourths have specific policies requiring that energy usage is considered when purchasing equipment; and half have defined energy savings goals. However, less than half of respondents do not have carbon reduction goals (see Figure 13-14).

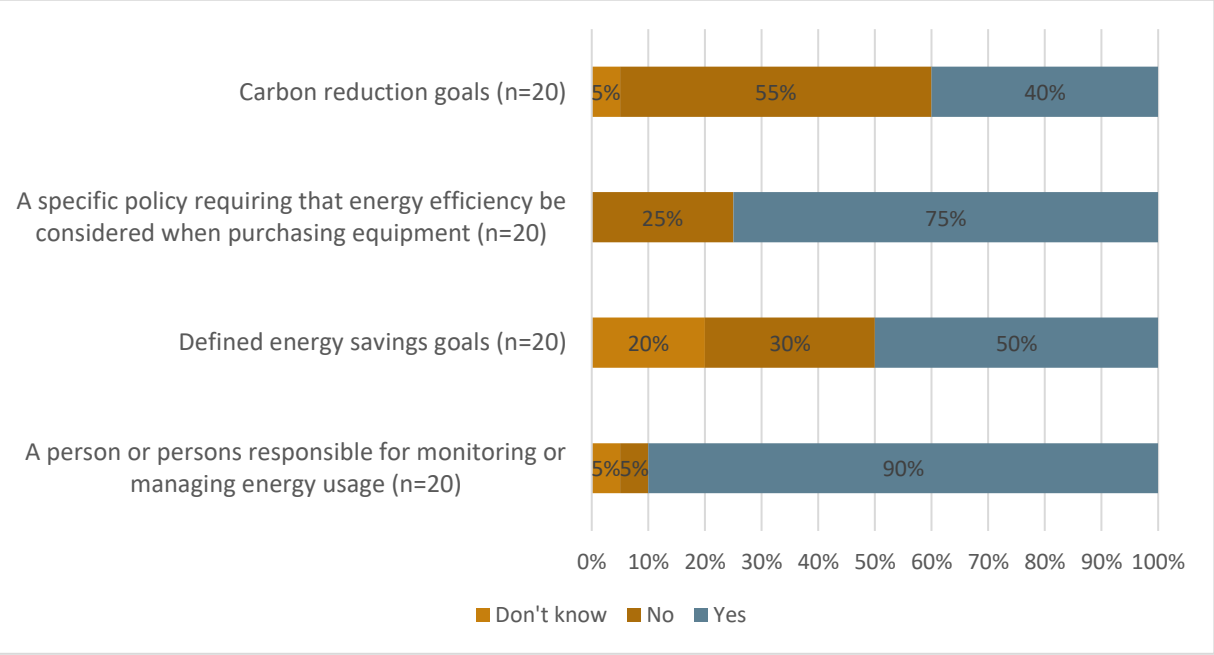


FIGURE 13-14 ENERGY POLICIES OR PROCEDURES IN PLACE

13.5 Data Tracking Review

The Evaluators reviewed the tracking data provided and found the following issues. The following parameters were missing or incomplete for the program.

- **Measure Specific Information**: The tracking data lacked pre and post measure information such as fixture codes, fixture wattages, equipment size, and equipment efficiency.

The Evaluators note that a supplemental tracking dataset was provided for this program and a few others. This data had some additional fields.

13.6 Findings and Conclusions

The following summarizes the key findings and conclusions from the evaluation.

- **Outreach efforts improved this year, but the program still had significant challenges.** Implementation staff noted being able to add more outreach staff to the program to assist customers with the application process, as well as returning to in-person engagement. In response to low participation rates, Staff brought external marketing and outreach teams to help. Common marketing tactics included door-door visits, bill inserts, digital and social media marketing, trade ally training, as well as television, radio, and newspaper ads.
- **The program application process is being streamlined.** Program staff sought to streamline the application process by eliminating the need for customers to fill it out themselves and allowing trade allies and program staff to assist in completion of required program paperwork. This move was in response to customer application process being identified as a barrier to program participation.
- **Small Business Kits were utilized as a marketing and outreach tool in PY12.** Program staff indicated they are no longer distributing the kits to anyone, but specifically distributing kits to customers who have order one from them. They indicated this may result in a higher chance of customers installing the kit items.
- **The program added refrigeration's measures and integrated stepdown bonuses.** Stepdown bonuses were integrated into the program for two reasons. Number one is to help minimize overloading the staff at the end of the year, by incentivizing more projects at the beginning of the year. This would help spread out applications and not rush process all last-minute applications at the end of the year. Additionally, program staff wanted to increase the incentive amounts.
- **Trade allies agreed that trainings are helpful.** Trade allies who were surveyed about their program experience, indicated the training they received was effective. Three respondents noted that they would like to see additional training opportunities, including trainings on the new rules and regulations.
- **All ten surveyed trade allies were satisfied with the program.** Most trade allies were satisfied with the Energy Smart Programs overall. Trade allies were least satisfied with the required paperwork needed for projects. That said, many trade allies did acknowledge that improvements have been made to the application process including the ability to combine prescriptive and custom calculator, a more user-friendly Excel sheet, and streamlining the application materials into one location. Several trade allies provided suggestions on how to improve the program. Suggestions included adding zip codes of the service territory provided, projections for the project rebate amount, and adding the DLC/ES and product part numbers attached to the application or program forms.
- **The OLM influenced customers' energy efficient product purchases.** Some survey respondents (43%) did not plan to purchase a smart thermostat before learning they could receive a free or discounted thermostat through the online marketplace, and no respondents had plans to purchase LED exit signs or low flow showerheads.
- **OLM customers were generally satisfied with the online store and the products they purchased, however room for improvement remains.** Suggestions for improvement include improving website navigation and offering customer service assistance to help with equipment usage inquiries.
- **Reducing energy use or power outages were the most popular motivating factors for participating in the program.** More than half of respondents noted that they have personnel committed to managing their business's energy usage and policies requiring energy usage be considered when purchasing equipment.

- **Customer satisfaction with trade allies is high.** Respondents who worked with a contractor (n=16 of 25) during their program participation indicated high satisfaction with their experience working with the contractor. Four respondents worked with a new contractor who was recommended to them, and three respondents worked with a contractor registered with the program.

13.7 Recommendations

The following summarizes key recommendations after completing the PY12 evaluation.

- **Continue to offer energy saving measures to small businesses through the online marketplace.** Surveyed participants were satisfied with their online marketplace purchases but did suggest improving the navigation of the website. Program staff should review website analytics and conduct period audits to ensure optimal user experience. Also, program staff could explore adding additional measures to the offering.
- **Explore ways to expedite rebate processing.** While most surveyed participants were satisfied with their experience, wait time for rebates was rated lowest among respondents. Program staff could focus on reducing the time from project completion to rebates being processed. It might be advantageous to set up performance indicators to track this to ensure customers are completely satisfied with the wait time for rebates.
- **Create targeted marketing or focus efforts to promote the availability of non-lighting measures.** Developing additional marketing or outreach efforts to increase the number of small business projects that include more non-lighting than lighting measures.
- **Continue to offer trade allies up-to-date and relevant training.** To ensure that trade allies are equipped to help small businesses, consider offering a mix of online and in-person training opportunities. These opportunities could also include hands-on workshops, webinars, and conference calls. In addition, solicit feedback from trade allies to ensure that the training is meeting their needs and that they have the necessary tools and resources to effectively promote and implement the program's non-lighting measures. Finally, program staff should consider providing incentives for trade allies who successfully complete training or who refer new small business customers to the program.
- **Cross promote Large C&I Demand Response with relevant Large C&I Solutions projects.** Large C&I Solutions has numerous customer engagements related to building commissioning or the installation and use of building automation systems (BAS). The customer engagement with their BAS as part of a retrofit rebate project presents an opportunity to make the business case for registering systems covered by their BAS for rebates associated with demand response load shedding.

14 C&I CONSTRUCTION SOLUTIONS

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 14-1 PY12 C&I CONSTRUCTION SOLUTIONS ENERGY SAVINGS (KWH)

Measure	*Ex Ante* Gross Savings (kWh)	Realization Rate (kWh)	*Ex Post* Gross Savings (kWh)	NTG	*Ex Post* Net Savings (kWh)
Interior LED	142,708	76%	108,823	95%	103,382
Exterior LED	11,334	78%	8,872	95%	8,428
Refrigeration	781	64%	502	100%	502
Dishwasher	22,867	64%	14,719	100%	14,719
Electric Griddle	758	64%	488	100%	488
HVAC	3,889	64%	2,503	100%	2,503
Showerhead	49	64%	31	100%	31
Total	**182,385**	**75%**	**135,938**	**99%**	**130,053**

TABLE 14-2 PY12 C&I CONSTRUCTION SOLUTIONS DEMAND SAVINGS (KW)

Measure	*Ex Ante* Gross Demand (kW)	Realization Rate (kW)	*Ex Post* Gross Demand (kW)	NTG	*Ex Post* Net Demand (kW)
Interior LED	35.00	94%	33	95%	31
Exterior LED	0.00	NA	0	95%	0
Refrigeration	0.09	0%	0	100%	0
Dishwasher	2.92	69%	2	100%	2
Electric Griddle	0.15	0%	0	100%	0
HVAC	1.36	74%	1	100%	1
Showerhead	2.16	93%	2	100%	2
Total	**41.67**	**91%**	**38.00**	**99%**	**36.35**

TABLE 14- C&I CONSTRUCTION SOLUTIONS LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
Interior LED	15	1,632,345	1,550,728
Exterior LED	15	133,080	126,426
Refrigeration	12	6,024	6,024
Dishwasher	12	176,628	176,628
Electric Griddle	12	5,856	5,856
HVAC	10	25,030	25,030
Showerhead	10	310	310
Total	**12**	**1,979,273**	**1,891,002**

TABLE 14-3 C&I CONSTRUCTION SOLUTIONS INCENTIVE SPEND SUMMARY

Measure	Participation (Count of Measures)	Incentive Spend ($)
Interior LED	25	$12,251.26
Exterior LED	24	$919.39
Refrigeration	1	$62.00
Dishwasher	3	$1,662.00
Electric Griddle	1	$45.00
HVAC	7	$312.00
Showerhead	1	$9.00
Total	**62**	**$15,260.65**

14.1 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

14.1.1 PROGRAM DELIVERY CHANNELS AND EXPECTED SAVINGS

The evaluation approach for PY12 included the following activities, database review, desk reviews, site visits, participants surveys and staff interviews. A total of two projects were completed in the C&I NC program in PY12. Below Figure 14-1 shows end use contribution as part of the overall expected savings.

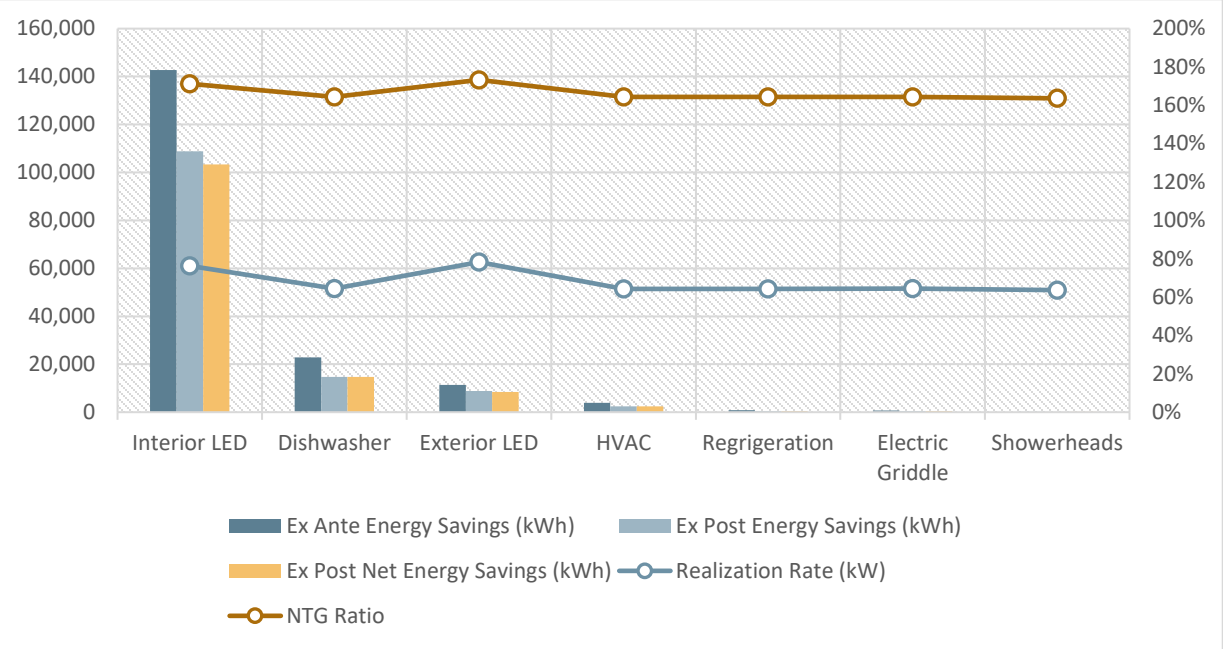


FIGURE 14-1 C&I CONSTRUCTION SOLUTIONS SAVINGS BY PROJECT TYPE

14.1.2 TIMING OF PROJECTS

According to the tracking data, in PY12, the two projects completed in the program had start months in August of 2020 and March of 2021. These two projects were completed in March of 2022 and October of 2022.

14.1.3 TRADE ALLIES

In PY12, the program saw projects completed by two trade allies. The program participation is shown below in Table 14-4.

TABLE 14-4 C&I CONSTRUCTION SOLUTIONS TRADE ALLY PARTICIPATION

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	53,545	1	29.4%
Trade Ally 2	128,840	1	70.6%

14.1.4 GOAL ACHIEVEMENT

In PY12, the program had a verified savings of 135,938 kWh and a verified peak demand reduction of 38.00 kW.

TABLE 14-5 C&I CONSTRUCTION SOLUTIONS SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
3,385,031	4%	135,938	445.06	8%	38.00

14.2 Evaluation 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 20 sampled projects; and
- Interviewing of program participants and trade allies.

14.2.1 SITE VISITS

The on-site inspections were used to verify installations and to determine any changes to the operating parameters since the measures were first installed. Energy savings was estimated using proven techniques, including engineering calculations using industry standards to determine energy savings.

14.2.2 SAMPLE DESIGN

Sampling 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.

Due to the low participation in the C&I Construction Solutions program, only one of the two projects were sampled.

14.3 Evaluation Findings

14.3.1 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. The realization rates for sites within each stratum were then applied to the non-sampled sites within their respective stratum. In PY12, there were a total of two projects completed in the program. Of these two projects, one was sampled.

TABLE 14-6 C&I CONSTRUCTION SOLUTIONS EX POST ENERGY SAVINGS (KWH)

Measure	Count of Project Components	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)
Interior LED	25	108,823	33.00
Exterior LED	24	8,872	0.00
Refrigeration	1	502	0.00
Dishwasher	3	14,719	2.00
Electric Griddle	1	488	0.00
HVAC	7	2,503	1.00
Total	**62**	**135,907**	**36.00**

FIGURE 14-2 C&I CONSTRUCTION SOLUTIONS SAMPLE RESULTS

Project ID(s)	Facility Type	*Ex Ante* Gross Energy Savings (kWh)	*Ex Post* Gross Energy Savings (kWh)	Realization Rate	Reason for variation
CIP_068	Manuf. 1st/2nd Shift	128,840	101,473	79%	The facility type that best fit was a non-refrigerated warehouse. This adjustment in facility type caused a decrease in verified savings.

14.3.1.1 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 14-7 C&I NC ARC SUMMARY

Measure	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	NPV ARCs ($)
Interior LED	$81	$77	$77
Exterior LED	$3,440	$3,268	$3,268
Refrigeration	$0	$0	$0
Commercial Dishwasher	$0	$0	$0
Electric Griddle	$0	$0	$0
HVAC	$0	$0	$0
Low flow Shower Heads	$0	$0	$0
Total	**$3,521**	**$3,345**	**$3,345**

14.3.2 NET IMPACT FINDINGS

Net savings by measure can be found in the beginning of the chapter. No survey respondents reported spillover measures.

14.3.3 PROCESS EVALUATION FINDINGS

The findings from the process evaluation are found in the subsections below.

14.3.3.1 Staff Interviews

There were three in-depth interviews with ENO and APTIM program staff aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission. The following narrative summarizes these interviews.

The incentive amounts are too low. Staff illustrated that when they meet with project personnel for a large construction project (i.e., $500 million hospital renovation/rebuild), the $5,000 incentive is not worth their time and effort to fill out the application. Additionally, the program is partnering with the Chamber of Commerce and the Development District to help raise awareness about the program.

14.3.3.2 Participant Survey Results

No C&I Construction Solutions participants participated in the online surveys. Multiple attempts were made to reach participants by phone and by email.

14.4 Data Tracking Review

The Evaluators reviewed the tracking data provided and found the following issues. The following parameters were missing or incomplete for the program.

- **Measure Specific Information**: The tracking data lacked pre and post measure information such as fixture codes, fixture wattages, equipment size, and equipment efficiency.

The Evaluators note that a supplemental tracking dataset was provided for this program and a few others. This data had some additional fields.

14.5 Findings and Conclusions

The following summarizes the key findings and conclusions from the PY12 evaluation.

- **Participation was low but projects were comprehensive.** In PY12, there were two participants in the C&I Construction Solutions program, despite the low participation, the program was able to show strong savings and can be a large contributor to future program years.

14.6 Recommendations

The following summarizes key recommendations after completing the PY12 evaluation.

- **Explore how to leverage IRA funds to increase funding available for commercial new construction projects.** The program staff should conduct research on how to maximize the available funds for commercial new construction energy efficiency projects by exploring the potential of leveraging funds from the Infrastructure Reduction Act (IRA), such as the 179D deduction.
- **Investigate additional partnerships to increase awareness of the program offering.** To raise awareness of the program, program staff should consider establishing new partnerships. One approach could be to provide training or education to commercial real estate brokers and agents, or to builders. This would help these stakeholders better understand the benefits of the program and how it can help their clients save money on energy costs. Additionally, staff could explore other partnership opportunities to reach new audiences and increase program participation

15 PUBLICLY FUNDED INSTITUTIONS

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, 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 15-1 PY12 PFI ENERGY SAVINGS (KWH)

Measure	*Ex Ante* Gross Savings (kWh)	Realization Rate (kWh)	*Ex Post* Gross Savings (kWh)	NTG	*Ex Post* Net Savings (kWh)
Incentive	0	NA	0	NA	0
Linear LED	477,975	85%	408,103	95%	388,718
HID LED	147,168	157%	230,654	95%	219,698
Interior LED	58,514	88%	51,601	100%	51,601
BAS	3,217,670	106%	3,396,396	94%	3,190,235
HVAC	41,932	145%	60,633	100%	60,560
Total	**3,943,259**	**105%**	**4,147,387**	**91%**	**3,910,812**

Sums may differ due to rounding.

TABLE 15-2 PY12 PFI DEMAND REDUCTIONS (KW)

Measure	*Ex Ante* Gross Demand (kW)	Realization Rate (kW)	*Ex Post* Gross Demand (kW)	NTG	*Ex Post* Net Demand (kW)
Linear LED	109.76	80%	88.00	95%	83.82
HID LED	8.83	79%	7.00	95%	6.67
Interior LED	12.74	79%	10.00	100%	10.00
BAS	0.00	NA	0.00	94%	0.00
HVAC	0.00	NA	0.00	100%	0.00
Incentive	**131.33**	**80%**	**105.00**	**91%**	**100.49**

Sums may differ due to rounding.

TABLE 15-3 PY12 PFI LIFETIME SAVINGS SUMMARY

Measure	EUL	*Ex Post* Gross Lifetime Energy Savings (kWh)	*Ex Post* Net Lifetime Energy Savings (kWh)
Linear LED	15	6,121,545	5,830,772
HID LED	15	3,459,810	3,295,469
Interior LED	15	774,015	774,015
BAS	15	50,945,940	47,853,521
HVAC	15	909,495	908,404
Total	**12.5**	**62,210,805**	**58,662,181**

Sums may differ due to rounding.

TABLE 15-4 PY12 PFI COUNT OF MEASURES AND INCENTIVE SPEND

Measure	Participation (Count of Measures)	Incentive Spend ($)
Unassigned Incentive Bonus	14	$106,314.00
Linear LED	6,546	$42,927.56
HID LED	103	$25,951.22
Interior LED	741	$6,632.27
BAS	16	$277,489.89
HVAC	3	$18,047.81
Total	**7,423**	**$477,362.75**

Sums may differ due to rounding.

15.2 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.

15.2.1 PROGRAM DELIVERY CHANNELS AND EXPECTED SAVINGS

The program was open and available to customers between January 1, 2022, and December 31, 2022. Project documentation showed that there were fifteen projects completed. These fifteen projects have a total expected energy savings of 3,943,259 kWh and a peak demand reduction of 131.33 kW.

TABLE 15-5 PFI SAVINGS EXPECTATIONS BY UTILITY

Project Count	Measure Count	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)
21	5	3,943,259	131.33

TABLE 15-6 PFI SAVINGS EXPECTATIONS BY MEASURE TYPE

Program Component	Count of Project Components	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)	Percent Savings (kWh)
Linear LED	14	477,975	109.76	12.12%
HID LED	9	147,168	8.83	3.73%
Interior LED	6	58,514	12.74	1.48%
BAS	3	3,217,670	0.00	81.60%
HVAC	16	41,932	0.00	1.06%
Total	**48**	**3,943,259**	**131.33**	**100.00%**

15.2.2 TIMING OF PROJECTS

According to the tracking data, in PY12 38.9% of ex ante kWh savings had a project start date in April of 2022. Figure 15-1 below outlines ex ante kWh and project count by the project reported start date for projects claimed in PY12.

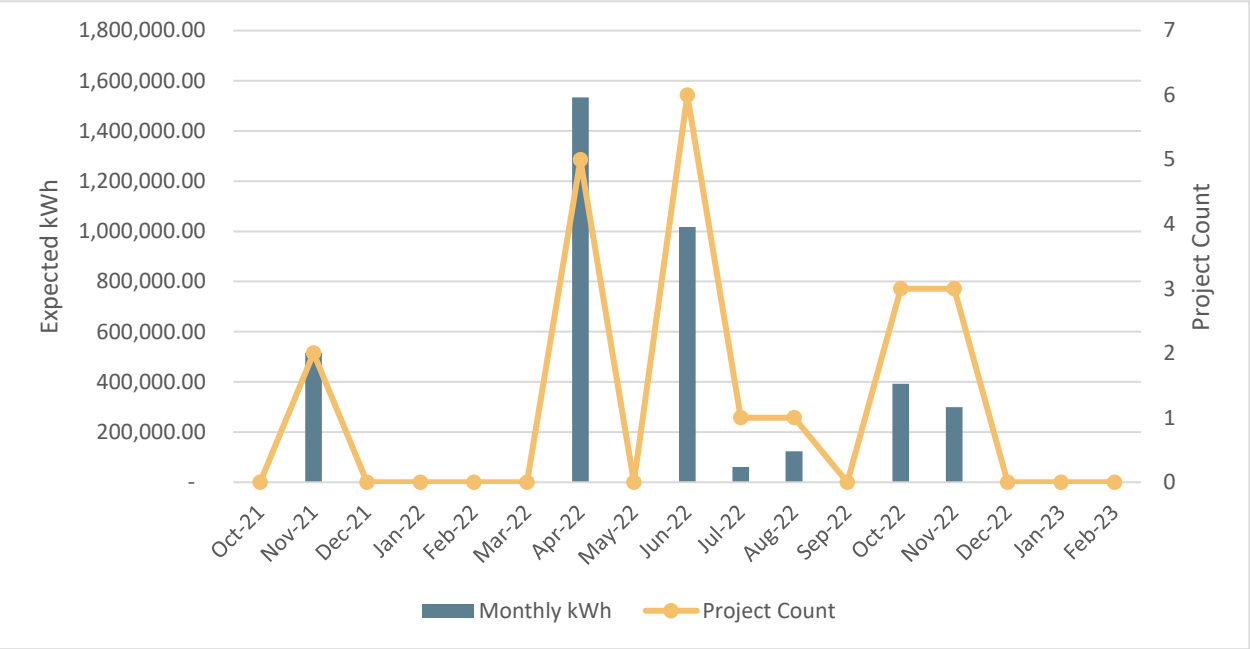


FIGURE 15-1 PFI PARTICIPATION BY PROJECT START MONTH

The program had the largest number of projects completed in July (five projects) and saw its largest expected energy reduction claimed in April (1,148,480 kWh) which was 26.1% of the total expected energy savings for the year.

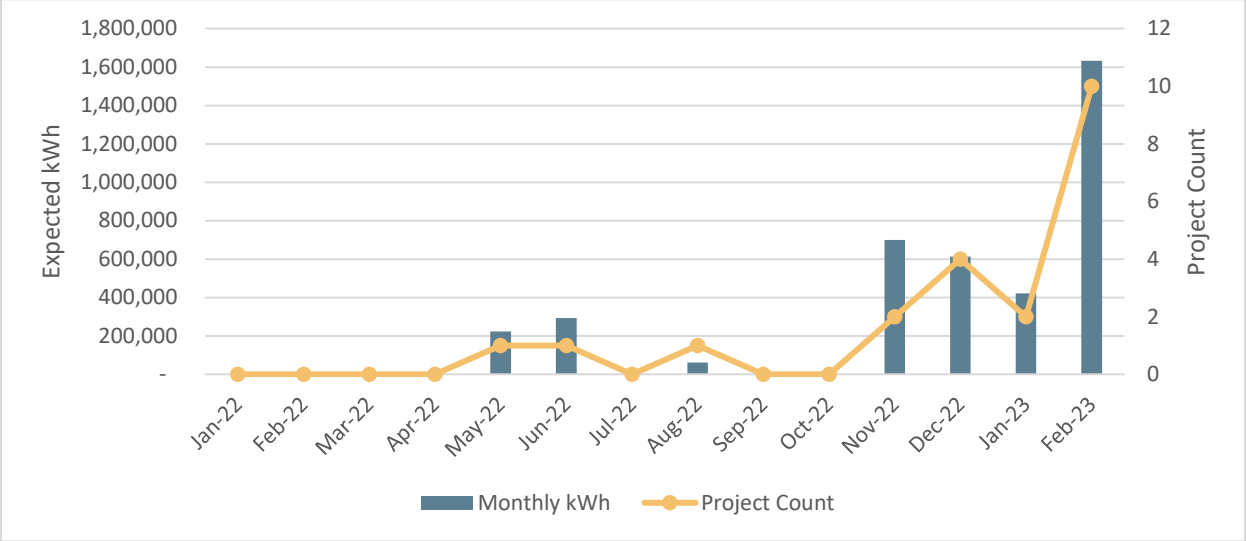


FIGURE 15-2 PFI PARTICIPATION BY PROJECT COMPLETION MONTH

15.2.3 TRADE ALLIES

The program saw six trade allies complete projects, their participation is summarized below.

TABLE 15-7 PFI TRADE ALLY PARTICIPATION

Trade Ally	Ex Ante kWh	Project Count	Ex Ante kWh %
Trade Ally 1	3,259,602	16	82.7%
Trade Ally 2	175,481	1	4.5%
Trade Ally 3	60,803	1	1.5%
Trade Ally 4	25,408	1	0.6%
Trade Ally 5	299,171	1	7.6%
Trade Ally 6	122,794	1	3.1%

15.2.4 GOAL ACHIEVEMENT

The program had a verified savings of 4,147,387 kWh and a verified peak demand reduction of 105.00 kW.

TABLE 15-8 PFI SUMMARY OF GOAL ACHIEVEMENT

Ex Post Gross Energy Savings (kWh) Goal	% to kWh Goal	*Ex Post* Gross Energy Savings (kWh)	*Ex Post* Gross Savings (kW) Target	% to kW Target	*Ex Post* Gross Savings (kW)
3,592,744	115.4	4,147,387	498.00	21.1	105.00

15.3 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.
- No On-site verifications were conducted, desk reviews of all 12 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.

15.3.1 SITE VISITS

There were no site visits in PY12.

15.3.2 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 15-9 summarizes the total participation in the PY12 PFI offering.

TABLE 15-9 PY12 PFI OFFERING PARTICIPATION AND SAMPLING SUMMARY

# Projects	Expected kWh	Expected Peak kW	Sample Size
21	3,943,259	131.33	12

The participant population was divided into four strata. Table 15-10 summarizes the strata boundaries and sample frames for the program. Table 15-10 summarizes expected savings for of both the sample and population. The achieved sampling precision was ±9.1% at 90% confidence.

TABLE 15-10 PFI OFFERING SAMPLE DESIGN

	Stratum 1	Stratum 2	Stratum3	Totals
Strata boundaries (kWh)	< 100,000	100,000 - 300,000	300,001<	
Number of projects	5	13	3	21
Total kWh savings	236,598	2,568,239	1,138,422	3,943,259
Average	47,320	197,557	379,474	187,774
Standard deviation	20,585	61,620	51,915	114,625
Coefficient of variation	0.44	0.31	0.14	0.61
Final design sample	3	7	2	12

TABLE 15-11 PFI EXPECTED SAVINGS FOR SAMPLED AND NON-SAMPLED PROJECTS BY STRATUM

Stratum	Total Expected Savings	Sampled Expected Savings
1	236,598	160,101
2	2,568,239	1,879,487
3	1,138,422	357,695
Total	**3,943,259**	**2,397,283**

15.4 Evaluation Findings

15.4.1 GROSS IMPACT FINDINGS

15.4.1.1 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. These realization rates are shown in Table 15-12 below.

TABLE 15-12 SUMMARY OF PFI KWH SAVINGS FOR PFI OFFERING BY SAMPLE STRATUM

Stratum	Sample *Ex Ante* Gross Energy Savings (kWh)	Sample *Ex Post* Gross Energy Savings (kWh)	Realization Rate
1	160,101	285,867	179%
2	1,879,487	1,794,463	95%
3	357,695	343,065	96%
Total	**2,397,283**	**2,423,395**	**101%**

The specific site level realization rates are shown in Table 15-13 below.

TABLE 15-13 PFI EXPECTED AND VERIFIED SAVINGS BY SAMPLED PROJECT

Project ID(s)	Facility Type	*Ex Ante* Gross Energy Savings (kWh)	*Ex Post* Gross Energy Savings (kWh)	Realization Rate
CIP_563	Education: College, University, Vocational, Day Care, and K-12 w/ Summer Session	299,171	244,447	82%
CIP_552	Education: K-12	191,146	210,077	110%
CIP_543	Education: K-12	175,481	175,481	100%
CIP_533	Not listed	25,408	46,801	184%
CIP_533	Education: K-12	25,408	46,801	184%
CIP_495	Education: K-12	122,794	79,341	65%
CIP_495	Education: K-12	122,794	79,341	65%
CIP_492	Outdoor	60,803	144,289	237%
CIP_464	Public Assembly	179,730	152,491	85%
CIP_411	College/University	357,695	343,065	96%
CIP_408	Education: College, University, Vocational, Day Care, and K-12 w/ Summer Session	168,388	161,225	96%
CIP_341	Education: K-12	293,546	282,144	96%
Total		**2,022,363**	**1,965,503**	**97%**

15.4.1.2 PFI Program Level Results

Using the realization rates presented in Table 15-12, the evaluators extrapolated the results from the sampled projects to non-sampled projects to determine the program level verified results.

TABLE 15-14 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	4	236,598	421,022	179%	7.20	13.00	181%
2	2	2,568,239	2,420,896	95%	124.13	92.00	73%
3	5	1,138,422	1,305,469	96%	0	0	NA
Total	**15**	**3,943,259**	**4,147,387**	**105%**	**131.33**	**105.00**	**80%**

The *ex post* gross energy savings (kWh) in PY12 are 4,147,387 kWh and 105.00 kW resulting in realization rates of 105% and 80% respectively.

15.4.1.3 PFI Causes of Savings Deviations

For illustrative purposes, the Evaluators have summarized these adjustments and others in Table 15-15.

TABLE 15-15 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_563	299,171	244,447	82%	Verified different efficient wattages than what was used in the ex-ante estimate.
CIP_552	191,146	210,077	110%	The realization rate is off due to differences in calculated run hours. The evaluated adjusted the TMY3 dates to allow for all data points be considered a singular year to avoid a disproportionate number of weekdays to weekends.
CIP_533	25,408	46,801	184%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *ex ante* using an average wattage.
CIP_533	25,408	46,801	184%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *ex ante* using an average wattage.
CIP_495	122,794	79,341	65%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *ex ante* using an average wattage. The evaluators also verified a higher efficient wattage.
CIP_495	122,794	79,341	65%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *ex ante* using an average wattage.
CIP_492	60,803	144,289	237%	Realization rate is off due to *Ex Post* using actual baseline fixture wattages and *ex ante* using an average wattage.
CIP_464	179,730	152,491	85%	The ex-ante estimate assumed heating hours were all hours that the cooling system was not on, the ex-post analysis used the given balance points to account for a dead band period.

15.4.2 NET IMPACT

The net-to-gross for projects completed in the PFI program were determined from survey responses from program participants. The details of this survey can be found in the Process section following this section.

Net impacts can be found in Section 16.1 Summary. No survey respondents reported spillover measures.

15.4.2.1 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 15-16 SUMMARY OF ARC FOR PFI

Measure	*Ex Post* Gross ARCs ($)	*Ex Post* Net ARCs ($)	NPV ARCs ($)
Linear LED	$21,275	$20,264	$20,264
HID LED	$13,844	$13,187	$13,187
Interior LED	$2,408	$2,408	$2,408
BAS	$0	$0	$0
HVAC	$0	$0	$0
Total	**$37,527**	**$35,859**	**$35,859**

Sums may differ due to rounding.

15.4.3 PROCESS FINDINGS

The Evaluators conducted staff interviews as well as administered a participant survey and trade ally interviews.

15.4.3.1 Staff Interviews

The following section summarizes the key findings from in-depth interviews with ENO and APTIM program staff. These in-depth interviews aimed to learn more about program design and operations, and the successes and challenges experienced during 2022 (PY12). Interviews lasted approximately 60 minutes and were conducted using the Microsoft Teams platform. The evaluators recorded all interviews with participant permission.

15.4.3.1.1 *Program Description*

The Publicly Funded Institutions (PFI) program provides financial incentives and technical services to encourage the participation of publicly funded customers. The program 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. Rates for both facility demand groups are provided and are summarized below in the table below.

TABLE 15-17 PFI SUMMARY OF PROGRAM INCENTIVES

Measure	Incentive	
Facility Demand	**Small (<100 kW)**	**Large (>100 kW)**
Prescriptive	$ per unit	$ per unit
Custom Lighting	$0.12 per kWh Saved	$0.10 per kWh Saved
Custom Non-Lighting	$0.12 per kWh Saved	$0.12 per kWh Saved

15.4.3.1.2 *Program Changes*

There were no reported changes to this program.

15.4.3.1.3 *Program Challenges*

The PFI program struggled more in PY12 than in previous years. Staff noted that their program partner has had more difficulties recruiting and maintaining projects. Despite these barriers, staff continue to pursue projects.

15.4.3.1.4 *Program Activity*

The PY12 program was open and available to customers between January 1, 2022, and December 31, 2022. Project documentation showed that during PY12, there were fifteen projects completed. These fifteen projects have a total expected energy savings of 3,943,259 kWh and a peak demand reduction of 131.33 kW.

TABLE 15-18 PFI SAVINGS EXPECTATIONS BY UTILITY

Project Count	Measure Count	*Ex Ante* Gross Energy Savings (kWh)	*Ex Ante* Gross Demand Reductions (kW)
21	5	3,943,259	131.33

15.5 Data Tracking Review

The Evaluators reviewed the tracking data provided and found the following issues. The following parameters were missing or incomplete for the program.

- **Measure Specific Information**: The tracking data lacked pre and post measure information such as fixture codes, fixture wattages, equipment size, and equipment efficiency.
- **Facility Conditioning Type**: The tracking data lacked information on the heating and cooling systems of the participating facilities. Without information on the heating fuel type, the evaluators are unable to calculate Therm savings in lighting retrofit projects.

The Evaluators note that a supplemental tracking dataset was provided for this program and a few others. This data had some additional fields. However, the Evaluators noted that there were few inconsistencies with total program kWh savings, total kW reductions, and total project counts. Since the two did not align, it was difficult to know which was the best and final to utilize in the Evaluation.

15.6 Key Findings and Conclusions

Key findings for the PFI are found below.

- **Program participation was a challenge for PFI in PY12.** Program staff noted they have had difficulties recruiting and maintaining projects this year due to many publicly funded customers being hesitant to get on board with the energy smart program.

15.7 Recommendations

There were no recommendations to the PFI in PY12.

16 APPENDIX A: COMMERCIAL SITE REPORTS

Project Number CIP 527

Program Small Commercial and Industrial Solutions

Project Background

The participant is a church that received incentives for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed.

- (152) 15W linear LED lamps replacing lamps (152) Linear Fluorescent 4-foot 2-lamp T8 fixtures.
- (4) U-bend LED lamps replacing the lamps in (4) U-bend Fluorescent T8 fixtures.
- (30) 9W A-19 screw in LED lamps replacing (30) 75W incandescent lamps.
- (43) 9W A-19 LED lamps replacing (43) recessed BR30 incandescent lamps.
- (7) 9W A-19 screw in LED lamps replacing (7) 60W compact fluorescent lamps.
- (43) 20W linear LED lamps replacing lamps in (43) 8-foot 1-lamp linear fluorescent T8 fixtures.

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Religious Gathering	3174	.5	0.9	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows.

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F41LL to LED015-FIXT	152	N/A	7,135	N/A
FU1LL to LED015-FIXT	4		188	
I75/1 to LED009-FIXT	30		5,468	
I75/1 to LED009-FIXT	43		7,837	
CF60/1-SCRW to LED009-FIXT	7		986	
I75/1 to LED0020-FIXT	43		5,818	
Total	279	21,823	27,432	126%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F41LL to LED015-FIXT	152	N/A	1.6	N/A
FU1LL to LED015-FIXT	4		0.0	
I75/1 to LED009-FIXT	30		1.3	
I75/1 to LED009-FIXT	43		1.8	
CF60/1-SCRW to LED009-FIXT	7		0.2	
I75/1 to LED0020-FIXT	43		1.3	
Total	279	4.65	6.32	136%

Results

The kWh and kW reduction realization rates for project CIP-527 are 126% and 136%, respectively. ADM was unable to determine the ex-ante calculation methods so the reasons for the high realization rates are undetermined.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	27,432	6.3	126%	136%

Project Number CIP-521

Program Small C&I Solutions

Project Background

The participant is a church that received incentives from ENO for retrofitting an energy efficient solid door freezer. The Evaluators verified that the following had been installed:

- (1) 21.36 CF solid door freezer

Calculation Parameters

Savings calculations were performed using the savings methodology described in section D.4.3 Solid Door Refrigerators and Freezers of the New Orleans TRM 5.0. For reference, this methodology is presented in table A of this report. Deemed savings parameters applicable to this site are shown below:

Table A. Savings Parameters

Size Range (Cubic Ft)	Efficiency Level	Demand (kW/unit)
15-30	Baseline	.6
15-30	Energy Star	.5

The following equations were used to calculate energy savings from the retrofit:

$$kWh = Maximum\ daily\ energy\ consumption\ baseline - Maximum\ daily\ energy\ consumption\ post\ retrofit$$

$$kW = Baseline\ Demand - Post\ Retrofit\ Demand$$

Where:

Maximum Daily Energy Consumption Baseline=.04*Volume+1.38

Maximum Daily Energy Consumption Post Retrofit=.037*Volume+2.2

Savings Calculations

Table B. Solid Door Freezer Retrofit kWh Savings Calculations

Measure	Volume (Cubic Feet)	Expected kWh Savings	Realized kWh Savings	Realization Rate
Energy Star	21.4	2175	2531	116%

Table C. Solid Door Freezer Retrofit kW Reduction Calculations

Measure	Size Range	Expected kW Savings	Realized kW Savings	Realization Rate
Energy Star	15-30	0.0	0.1	41%

Results

The kWh and kW realization rates for project CIP-521 are 41% and 116%. Expected calculations used deemed values for kWh and kW savings that did not coincide with section D.4.3 Solid Door Refrigerators and Freezers Louisiana TRM 5.0.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
Energy Star Solid Door Freezer	2531	0.1	116%	41%

Project Number CIP 495

Program Publicly funded Institutions

Project Background

The participant is a public school that received incentives for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (2400) 4' linear LED fixtures (2400) 4' Fluorescent T8/T12

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Religious Gathering	3174	.5	0.9	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows.

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F41ILU/T2-R to LED011-FIXT	2400	122,794	79,341	65%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F41ILU/T2-R to LED011-FIXT	2400	30.1	17.6	59%

Results

The kWh and kW realization rates for project CIP-495 are 65% and 59%, respectively. The realization rates were low because Ex Ante calculations used average wattage values and Ex Post calculations used site-specific values.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	27,432	6.3	126%	136%

Project Number CIP 494

Program Small Commercial and Industrial Solutions

Project Background

The participant is a sit-down restaurant that received incentives from ENO for retrofitting energy efficient refrigeration equipment. The Evaluators verified that the following had been installed:

- (1) High efficiency Freezer
- (1) High efficiency Refrigerator

Calculation Parameters

The Evaluators confirmed installation of (1) high efficiency freezer and (1) high efficiency refrigerator. Savings for the measures were calculated using prescriptive savings values listed in Section D.4.3 of the New Orleans TRM version 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings

Prescriptive Measure	Baseline kWh/unit	As-built kWh/unit	Per-Unit kWh Savings
High Efficiency Freezer – 15-30 cu ft	4,884	4,015	869
High Efficiency Refrigerator – 15-30 cu ft	1,840	1,208	632

Table B. Prescriptive kW Reduction

Prescriptive Measure	Baseline kW/unit	As-built kW/unit	Per-Unit kW Savings
High Efficiency Freezer – 15-30 cu ft	0.56	0.458	0.102
High Efficiency Refrigerator – 15-30 cu ft	0.21	0.138	0.072

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows.

Table C. kWh Savings Calculations

Prescriptive Measure	Case Type	Volume (cubic feet)	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
High Efficiency Freezer	Freezer	21.4	2,177	869	40%
High Efficiency Refrigerator	Cooler	19.1	781	632	81%
Total			2,957	1,501	51%

Table D. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Case Type	Volume (cubic feet)	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
High Efficiency Freezer	Freezer	21.4	0.3	0.102	41%
High Efficiency Refrigerator	Cooler	19.1	0.1	0.072	82%
Total			0.3	0.174	51%

Results

The kWh and kW reduction realization rates for project CIP-494 are 51% and 52%, respectively. The realization rate is low because the ex-ante savings were calculated using an average of TRM deemed values and the ex-post savings were calculated using the 15-30 sq ft deemed savings.

Table E. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
High Efficiency Refrigerated Coolers and Freezers	1,501	0.2	51%	51%

Project Number CIP 487

Program Publicly funded Institutions

Project Background

The participant is a city government that received incentives for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (60) 2' linear LED fixtures replacing (60) 2' Fluorescent T8/T12
- (8000) 4' linear LED fixtures replacing (8000) 4' Fluorescent T8/T12
- (300) LED screw-ins replacing (300) Metal Halide lamps
- (300) U-Tube LED fixtures replacing (300) U-Tube Fluorescent T8/T12
- (600) LED screw-ins replacing (600) Compact Fluorescent Ballast Lamps

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEFE	IEFD
Education: K-12	2333	0.5	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kWh Savings	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F21SS to LED008-FIXT	60	96	4,056	5,736	141%
F41ILU/T2-R to LED014-FIXT	8000	56	809,778	449,865	56%
H100/1 to LED010-FIXT	300	506	151,825	151,829	100%
FU1ILU to LED013-FIXT	300	90	32,062	26,992	84%
CFG13/1-L to LED005-FIXT	600	45	26,991	26,992	100%
Totals			1,024,713	661,414	65%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kW Reduction	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F21SS to LED008-FIXT	60	0.0	0.6	0.9	154%
F41ILU/T2-R to LED014-FIXT	8000	0.0	137.4	73.9	54%
H100/1 to LED010-FIXT	300	.08	24.6	25.0	102%
FU1ILU to LED013-FIXT	300	.01	5.3	4.4	83%
CFG13/1-L to LED005-FIXT	600	.01	4.4	4.4	102%
Totals			172.3	108.7	63%

Results

The kWh and kW realization rates for project CIP-487 are 65% and 63%, respectively. The realization rates were low because Ex Ante calculations used average wattage values and Ex Post calculations used site-specific values.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
Totals	661,414	108.7	65%	63%

Project Number CIP 485

Program Small Commercial and Industrial Solutions

Project Background

The participant is a sit-down restaurant that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (27) 4' linear LED fixtures replacing (27) Linear Fluorescent T8/T12

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEFE	IEFD
Food Service: Sit-Down Restaurant	4731	0.8	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kWh Savings	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F41ILU/T2-R to LED011-FIXT	27	67	2,994	1,810	60%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kW Reduction	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F41ILU/T2-R to LED011-FIXT	27	0.0	.6	.3	59%

Results

The kWh and kW reduction realization rates for project CIP-485 are 60% and 59%, respectively. The realization rates were low because Ex Ante calculations used average wattage values and Ex Post calculations used site-specific values.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
F41ILU/T2-R to LED011-FIXT	1,810	.3	60%	59%

Project Number CIP 484

Program Small Commercial and Industrial Solutions

Project Background

The participant is a sit-down restaurant that received incentives for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (32) 4' linear LED fixtures replacing (32) Linear Fluorescent T8/T12

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Food Service: Sit-Down Restaurant	4731	0.8	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kWh Savings	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F41ILU/T2-R to LED011-FIXT	32	67	3,548	2,145	60%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kW Reduction	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F41ILU/T2-R to LED011-FIXT	32	0.0	0.7	0.4	58%

Results

The kWh and kW reduction realization rates for project CIP-484 are 60% and 58%, respectively. The realization rates were low because Ex Ante calculations used average wattage values and Ex Post calculations used site-specific values.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
F41ILU/T2-R to LED011-FIXT	2,145	0.4	60%	58%

Project Number CIP 482

Program Small Commercial and Industrial Solutions

Project Background

The participant is a sit-down restaurant that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (57) 4' linear LED fixtures replacing (57) Linear Fluorescent T8/T12

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEFE	IEFD
Food Service: Sit-Down Restaurant	4731	0.8	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kWh Savings	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F41ILU/T2-R to LED011-FIXT	27	67	2,994	1,810	60%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Per-Unit kW Reduction	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F41ILU/T2-R to LED011-FIXT	27	0.0	.6	.3	59%

Results

The kWh and kW reduction realization rates for project CIP-482 are 60% and 59%, respectively. The realization rates were low because Ex Ante calculations used average wattage values and Ex Post calculations used site-specific values.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
F41ILU/T2-R to LED011-FIXT	1,810	.3	60%	59%

Project Number CIP 464

Program Publicly funded Institutions

Project Background

The participant is a city government that received incentives from ENO for installing a new building automation control system (BAS). The Evaluators verified that the following had been implemented:

- New BAS system

Schedule reduced from 24/7 to: M-F, 9AM to 9PM, Sat-Sun: 9AM to 2PM

Calculation Parameters

The Evaluators confirmed installation of the BAS listed in the project application. The BAS serves the buildings single HVAC zone that is currently scheduled on 24/7. Savings for the measure were calculated using a custom temperature-bin analysis that relied on TMY3 weather data and equipment specifications. The specific values used in calculating savings for this site are presented in the table below.

Table A. Schedule Change Enabled by BAS

Systems	Baseline Schedule	Proposed Schedule
HVAC Zone 1	24/7	M-F: 9AM – 9PM Sa-Su: 9AM – 2PM

Table B. Annual Hours Change Enabled by BAS

Systems	Baseline Annual Hours	Proposed Annual Hours	Saved Annual Hours
Weekdays	6,264	3,132	1,408
Weekends	2,496	520	3,132
Total	8,760	3,652	4,540

Savings Calculations

Using values from the table above, the Evaluators calculated BAS savings as follows.

Table C. kWh Savings Per Zone

Prescriptive Measure	Baseline kWh	Proposed kWh	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
HVAC Zone 1	247,695	95,204	179,730	152,491	85%
Total		179,730	152,491		85%

Results

The kWh realization rate for project CIP-464 is 85%. The realization rate is low because of assumptions made for the savings calculations. The system still runs during peak cooling load hours so the kW savings is negligible.

The *ex ante* heating hours were calculated as every hour that the cooling system wasn't on. This seems unlikely so ADMs analysis calculated heating hours based on the heating setpoint which allowed a dead-band temperature range. This effectively reduced the total run hours and therefore reduced the realized savings.

Additionally, the ex-ante documentation states that weekend hours are different from the rest of the week at the facility, however, the ex-ante approach simplified the schedule by using the average daily hours. This approach effectively shaved some shoulder hours and assumed higher weekend hours.

Another minor difference in calculation methods is how the TMY3 weather data was formatted. The *ex ante* used raw TMY data that includes multiple years in the single year of compiled weather data. This confused which days were weekdays and weekends which skewed the data.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
BAS	152,491	-	85%	-%
Totals	152,491	-	85%	-%

Project Number CIP 595

Program Large Commercial and Industrial Solutions

Project Background

The participant is a community center that received incentives for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (329) 12W LED lamps replacing (125) Linear Fluorescent 4-foot 3-lamp T8 fixtures.
- (548) 12W LED lamps replacing (236) Linear Fluorescent 4-foot 4-lamp
- (14) 12W LED lamps replacing (14) 65W Halogen lamps.
- (23) 10W LED lamps replacing (23) 20W Halogen lamps
- (7) 9W LED lamps replacing (7) 60W Halogen lamps
- (48) 12W LED lamps replacing (48) 60W Halogen lamps
- (202) 12W LED lamps replacing (101) Linear Fluorescent 4-foot 2-lamp T8 fixtures
- (47) 9W LED lamps replacing (47) 2-lamp 26W Compact Fluorescent lamps.
- (34) 16W LED lamps replacing (16) Linear Fluorescent 4-foot 2-lamp T8 fixtures.
- (3) 9W Led lamps replacing (3) 13W Compact Fluorescent lamps
- (19) 10W LED lamps replacing (19) 60W Halogen fixtures
- (11) 9W LED lamps replacing (11)13W Compact Fluorescent lamps.
- (3) 12W LED lamps replacing (3)13W Compact Fluorescent lamps.
- (66) 12W LED lamps replacing (66) 2-lamp 26W Compact Fluorescent lamps
- (2) 9W LED lamps replacing (1) Linear Fluorescent 4-foot 2-lamp T8 fixture
- (12) 10W LED lamps replacing (12) 50W Halogen lamps
- (10) 12W LED lamps replacing (10) 75W Halogen lamps
- (10) 33W LED lamps replacing (10) 150W Halogen lamps
- (8) 23W LED lamps replacing (8) 40W Compact Fluorescent lamps
- (4) 10W LED lamps replacing (4) 65W Halogen lamps
- 12W LED lamp replacing (1) Linear Fluorescent 4-foot 1-lamp T8 fixture
- (8) 10W LED lamps replacing (8) 90W Halogen lamps
- (20) 15W LED lamps replacing (20) 90W Halogen lamps
- (5) 9W LED lamps replacing (5) 13W Compact Fluorescent lamps
- 145W LED lamps replacing (2) 400W Metal Halide lamps
- (6) 45W LED lamps replacing (6) 250W Halogen lamps
- (48) 12W LED lamps replacing (48) Linear Fluorescent 4-foot 2-lamp T8 fixture
- (23) 12W LED lamps replacing (23) 26W Halogen lamps
- (9) 12W LED lamps replacing (9) 13W Compact Fluorescent lamps
- (6) 13W LED lamps replacing (6) U-Tube Fluorescent T9 lamps
- (96) 9W LED lamps replacing (96) Linear Fluorescent 2-foot 1-lamp T8 fixtures

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Office	5159	0.8	0.9	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F43ILL to LED012-fixt	329	27595	29969	109%
F44ILL to LED012-fixt	548	44720	89120	199%
H65/1 to LED012-fixt	14	3691	3330	90%
H20/1 to LED010-fixt	23	1136	1032	91%
H60/1 to LED009-fixt	7	1508	1602	106%
H60/1 to LED012-fixt	48	12084	10341	86%
F42ILL to LED012-fixt	202	15386	15413	100%
CFM26/2-L to LED009-fixt	47	8227	8860	108%
F42ILL to LED016-fixt	34	2289	1724	75%
CFT13/1-L to LED009-fixt	3	40	81	200%
H60/1 to LED010-fixt	19	4607	4264	93%
CFQ13/1 to LED009-fixt	11	341	395	116%
CFQ13/1 to LED012-fixt	3	108	67	63%
CFM26/2-L to LED012-fixt	66	11553	11553	100%
F42ILL to LED009-fixt	2	180	180	100%
H50/1 to LED010-fixt	12	2047	2154	105%
H75/1 to LED012-fixt	10	2828	2828	100%
H150/1 to LED033-fixt	10	5251	5251	100%
CFT40/1 to LED023-fixt	8	826	826	100%
H65/1 to LED010-fixt	4	987	987	100%
F41ILL to LED012-fixt	1	85	85	100%
H90/1 to LED010-fixt	8	2801	2873	103%
H90/1 to LED015-fixt	20	6733	6733	100%
CFT13/1 to LED009-fixt	5	180	180	100%
MH400/1 to LED145-fixt	2	2617	2661	102%
H250/1 to led045-fixt	6	5312	5312	100%
F42LE to LED012-FIXT	48	5399	12711	235%
H26/1 to LED012-FIXT	23	1811	1445	80%

CFQ13/1-L to LED012-FIXT	9	51	121	239%
FU2ILL to LED013-FIXT	6	641	1239	193%
F22SS to LED009-FIXT	96	5948	6894	116%
Total		176,981	223,336	126%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Savings	Realized kW Savings	kW Realization Rate
F43ILL to LED012-fixt	329	5.7	6.2	109%
F44ILL to LED012-fixt	548	8.7	18.3	212%
H65/1 to LED012-fixt	14	0.7	0.7	101%
H20/1 to LED010-fixt	23	0.2	0.2	91%
H60/1 to LED009-fixt	7	0.3	0.3	106%
H60/1 to LED012-fixt	48	2.1	2.1	101%
F42ILL to LED012-fixt	202	3.2	3.2	100%
CFM26/2-L to LED009-fixt	47	1.7	1.8	108%
F42ILL to LED016-fixt	34	0.5	0.4	75%
CFT13/1-L to LED009-fixt	3	0.0	0.0	200%
H60/1 to LED010-fixt	19	0.9	0.9	102%
CFQ13/1 to LED009-fixt	11	0.1	0.1	116%
CFQ13/1 to LED012-fixt	3	0.0	0.0	62%
CFM26/2-L to LED012-fixt	66	2.4	2.4	100%
F42ILL to LED009-fixt	2	0.0	0.0	100%
H50/1 to LED010-fixt	12	0.4	0.4	105%
H75/1 to LED012-fixt	10	0.6	0.6	100%
H150/1 to LED033-fixt	10	1.1	1.1	100%
CFT40/1 to LED023-fixt	8	0.2	0.2	100%
H65/1 to LED010-fixt	4	0.2	0.2	100%
F41ILL to LED012-fixt	1	0.0	0.0	100%
H90/1 to LED010-fixt	8	0.6	0.6	103%
H90/1 to LED015-fixt	20	1.4	1.4	100%
CFT13/1 to LED009-fixt	5	0.0	0.0	100%
MH400/1 to LED145-fixt	2	0.0	0.0	100%
H250/1 to led045-fixt	6	0.0	0.0	100%
F42LE to LED012-FIXT	48	0.9	2.6	286%
H26/1 to LED012-FIXT	23	0.3	0.30	102%
CFQ13/1-L to LED012-FIXT	9	0.0	0.0	308%
FU2ILL to LED013-FIXT	6	0.1	0.3	239%
F22SS to LED009-FIXT	96	0.9	1.4	158%
Total		33.1	44.3	134%

Results

The kWh and kW reduction realization rates for project CIP-595 are 126% and 134%, respectively. No fixture codes or models were provided for prescriptive lighting measures. There were deviations between reported wattages per model and the specification wattages which resulted in high realization rates.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	2323,336	44.34	126%	134%

Project Number CIP 575

Program Small Commercial and Industrial Solutions

Project Background

The participant is a school that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (1178) 17W LED lamps replacing (1178) Linear Fluorescent 4-foot 2-lamp T8 fixtures
- (472) 10W LED lamps replacing (472) Linear Fluorescent 4-foot 2-lamp T8 fixtures
- (2)13W LED lamps replacing (2) Linear Fluorescent 4-foot 2-lamp T8 fixtures
- (6) 9W LED lamps replacing (6) 75W Halogen lamps
- (18) 13W LED lamps replacing (18) Fluorescent U-tube T8 lamps
- (12) 15W LED lamps replacing (12) 75W Halogen lamps
- 26W LED lamps replacing (1) 75W Halogen lamps
- (20) 12W LED lamp replacing (20) 75W Halogen lamp
- (20) 22W LED lamps replacing (20) 25W Incandescent lamps

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Education: K-12	2333	0.5	0.9	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F42LE to LED017-FIXT	1178	37315	129114	346%
F42LE to LED010-FIXT	472	21077	58439	277%
F42LE to LED013-FIXT	2	77	235	305%
H75/1 to LED009-FIXT	6	810	804	99%
FU2LL to LED013-FIXT	18	694	1717	247%
H75/1 to LED015-FIXT	12	1462	1461	100%
H75/1 to LED026-FIXT	1	100	99	100%
H75/1 to LED012-FIXT	20	2578	2557	99%
EI25/1 to LED022-FIXT	20	4268	122	3%
Total		68,380	194,550	285%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F42LE to LED017-FIXT	1178	10.7	35.9	335%
F42LE to LED010-FIXT	472	6.0	16.2	268%
F42LE to LED013-FIXT	2	0.0	0.1	296%
H75/1 to LED009-FIXT	6	0.2	0.2	101%
FU2LL to LED013-FIXT	18	0.2	0.5	244%
H75/1 to LED015-FIXT	12	0.4	0.4	102%
H75/1 to LED026-FIXT	1	0.0	0.0	101%
H75/1 to LED012-FIXT	20	0.7	0.7	101%
EI25/1 to LED022-FIXT	20	0.7	0.0	5%
Total		19.0	54.1	285%

Results

The kWh and kW reduction realization rates for project CIP-575 are 285% and 285%, respectively. The client used average baseline wattages rather than actual baseline fixture wattages, resulting in high realization rates.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	194,550	54.1	285%	285%

Project Number CIP 568

Program Small Commercial and Industrial Solutions

Project Background

The participant is a school that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (56) 20W LED - Non-Int. Ballast replacing (56) 4' 2-Lamp T8
- 40W LED - Non-Int. Ballast replacing (1) 100W 1-Lamp Halogen
- 14W LED - Non-Int. Ballast replacing (1) 100W 1-Lamp Halogen
- 100W LED - Non-Int. Ballast replacing (2) 400W Metal Halide
- 120W LED - Non-Int. Ballast replacing (1) 150W Metal Halide
- (56) 10W LED - Non-Int. Ballast replacing (56) 4' 2-Lamp T8
- (563) 10W LED - Non-Int. Ballast replacing (563) 4' 3-Lamp T8
- (32) 22W LED - Non-Int. Ballast replacing (32) 1-Lamp 25W incandescent Exit
- (152) 18W LED - Non-Int. Ballast replacing (152) 4' 3-Lamp T8
- (78) 18W LED - Non-Int. Ballast replacing (78) 4' 2-Lamp T8
- (148) 0W LED Non-Int. Ballast replacing (148) 4' 3-Lamp T8
- (5) 11.5W LED- Non-Int. Ballast replacing (5) 100W 1-Lamp Halogen
- (13) 15W LED - Non-Int. Ballast replacing (13) 8' 2-Lamp T8
- (6) 13W LED - Non-Int. Ballast replacing (6) 2-Lamp T8 RLO U-Tube
- (62) 13W LED - Non-Int. Ballast replacing (62) 4' 3-Lamp T8

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Exterior	4319	0.0	1.0	1.0
Education: K-12	2333	0.5	0.9	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows.

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F42LE to LED020-FIXT	56	1419	6030	425%
H100/1 to LED040-FIXT	1	259	259	100%
H100/1 to LED014-FIXT	1	371	371	100%
MH400/1 to LED100-FIXT	2	2946	3049	104%
MH150/1 to LED120-FIXT	1	229	272	119%
F42LE to LED010-FIXT	56	2501	6933	277%
F43LE to LED010-FIXT	563	25140	114273	455%
EI25/1 to LED022-FIXT	32	6828	195	3%
F43LE to LED018-FIXT	152	4319	28383	657%
F42LE to LED018-FIXT	78	2216	8391	379%
F43LE to LED00-FIXT	148	9613	33044	344%
H100/1 to LED011.5-FIXT	5	898	898	100%
F82ILL to LED015-FIXT	13	1161	2507	216%
FU2LL-R to LED013-FIXT	6	183	499	273%
F43LE to LED013-FIXT	62	2391	12207	511%
Total	60474		217312	359%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F42LE to LED020-FIXT	56	0.4	1.6	412%
H100/1 to LED040-FIXT	1	0.0	0.0	100%
H100/1 to LED014-FIXT	1	0.0	0.0	100%
MH400/1 to LED100-FIXT	2	0.0	0.0	100%
MH150/1 to LED120-FIXT	1	0.0	0.0	100%
F42LE to LED010-FIXT	56	0.7	1.9	268%
F43LE to LED010-FIXT	563	7.2	31.8	440%
EI25/1 to LED022-FIXT	32	1.1	0.1	5%
F43LE to LED018-FIXT	152	1.2	7.9	636%
F42LE to LED018-FIXT	78	0.6	2.3	367%
F43LE to LED00-FIXT	148	2.8	9.2	333%
H100/1 to LED011.5-FIXT	5	0.2	0.2	101%
F82ILL to LED015-FIXT	13	0.3	0.7	215%
FU2LL-R to LED013-FIXT	6	0.1	0.1	269%
F43LE to LED013-FIXT	62	0.7	3.4	494%
Total	15.3		59.2	386%

Results

The kWh and kW reduction realization rates for project CIP-568 are 359% and 386%, respectively.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	217,312	59.2	359%	386%

Project Number CIP 562

Program Small Commercial and Industrial Solutions

Project Background

The participant is a bakery that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (96) 12W LED - Non-Int. Ballast replacing (56) 4' 4-Lamp T8
- (20) 10W LED - Non-Int. Ballast replacing (20) 40W Halogen Lamps

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Food Service: Sit-Down Restaurant	4731	0.8	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows.

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F42LE to LED020-FIXT	96	9,901	49,505	500%
H100/1 to LED040-FIXT	20	3,139	3,094	98%
Total		13,041	52,599	403%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F44ILL to LED012-FIXT	96	1.9	9.3	483%
H40/1 to LED010-FIXT	20	0.0	0.6	-
Total		1.9	9.2	514%

Results

The kWh and kW reduction realization rates for project CIP-562 are 403% and 514%, respectively. The client's hidden columns for their energy savings calculations did not autofill, resulting in a high realization rate.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	52,599	9.9	403%	514%

Project Number CIP-518

Program Small C&I Solutions

Project Background

The participant is a food mart that received incentives from ENO for replacing door gaskets on a walk-in cooler. The Evaluators verified that the following had been installed:

- 19.4 linear feet of door gasket on a walk-in cooler.

Calculation Parameters

Savings calculations were performed using the savings methodology described in section 3.5.7 Door Gaskets for Walk-in and Reach-in Coolers and Freezers of the Arkansas TRM 9.0. Deemed savings parameters applicable to this site are shown below.

Table A. Savings Parameters

Refrigerator	Energy Savings (kWh/ft)	Demand Savings (kWh/ft)
Education: College/University	Gas	4,368
Education: College/University	Gas	3,577
Exterior	(none)	4,319

Savings Calculations

Table B. Gasket Replacement kWh Savings Calculations

Refrigerator Type	Door Quantity	Linear Feet Installed	Expected kWh Savings	Realized kWh Savings	Realization Rate
Cooler	1	19.4	247	292	118%

Table C. Gasket Replacement kW Reduction Calculations

Refrigerator Type	Door Quantity	Linear Feet Installed	Expected kW Savings	Realized kW Savings	Realization Rate
Cooler	1	19.4	0.0	0.0	118%

Results

The kWh and kW realization rates for project CIP-518 are 118%. The client claimed 16.5 linear feet of door gasket were installed rather than 19.4, resulting in a high realization rate.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
Cooler	292	0.0	118%	118%

Project Number CIP 245

Program Small Commercial and Industrial Solutions

Project Background

The participant is a real estate office that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (136) 12W LED- Non-Int. Ballast fixtures replacing (34) 4' 4-Lamp T8 Fixtures
- (29) 12W LED- Non-Int. Ballast fixtures replacing (12) 4' 4-Lamp T8 Fixtures

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Office	5159	0.8	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings
F42LE to LED020-FIXT	136	-	9767
H100/1 to LED040-FIXT	12	-	4470
Total		22,766	14,237

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Reduction	Realized kW Reduction
F42LE to LED020-FIXT	136	-	2.0
H100/1 to LED040-FIXT	12	-	0.9
Total		3.2	2.9

Results

The kWh and kW reduction realization rates for project CIP-245 are 63% and 93%, respectively.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	14,237	2.9	63%	93%

Project Number CIP 533

Program Publicly Funded Institutions

Project Background

The participant is an arts training center that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (112) 11W LED- Non-Int. Ballast fixtures replacing (112) 4' 3-Lamp T8 Fixtures
- (190) 11W LED- Non-Int. Ballast fixtures replacing (190) 4' 2-Lamp T8 Fixtures
- (140) 11W LED- Non-Int. Ballast fixtures replacing (140) 4' 4-Lamp T8 Fixtures

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Education: K-12	2333	0.5	0.9	1.2

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings
F43LL to LED049-FIXT	112	10,002	10,002
F42ILL to LED011-FIXT	190	15,406	8,099
F44ILL to LED011-FIXT	140		28,700
Total		25,408	46,801

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Savings	Realized kW Savings
F43LL to LED049-FIXT	112	2.8	2.8
F42ILL to LED011-FIXT	190	4.4	2.3
F44ILL to LED011-FIXT	140		8.0
Total		7.2	13.0

Results

The kWh and kW reduction realization rates for project CIP-533 are 184% and 181%, respectively. The client reported the retrofitted fixtures as 11W whereas the DLC reported wattage was 9W, resulting in high realization rates.

Table C. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	25,408	13.0	184%	181%

Project Number CIP 592

Program Large Commercial and Industrial Solutions

Project Background

The participant is a secondhand clothing store that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (916) 46W LED- Non-Int. Ballast fixtures replacing (916) 4' 3-Lamp T8 HLO fixtures
- (408) 15W LED- Non-Int. Ballast fixtures replacing (130) 4' 3-Lamp T8 HLO fixtures

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6, which are based on the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Retail: Freestanding	3515	0.9	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

$$\mathrm{kWh_{savings}} = \Sigma\left(\left\{\mathrm{N_{fixt}} * \frac{\mathrm{W_{fixt}}}{1000}\right\}_{\mathrm{pre}} - \left\{\mathrm{N_{fixt}} * \frac{\mathrm{W_{fixt}}}{1000}\right\}_{\mathrm{post}}\right) * \mathrm{AOH} * \mathrm{IEF_E}$$

$$\mathrm{kW_{savings}} = \Sigma\left(\left\{\mathrm{N_{fixt}} * \frac{\mathrm{W_{fixt}}}{1000}\right\}_{\mathrm{pre}} - \left\{\mathrm{N_{fixt}} * \frac{\mathrm{W_{fixt}}}{1000}\right\}_{\mathrm{post}}\right) * \mathrm{CF} * \mathrm{IEF_D}$$

Where:

$\mathrm{N_{fixt}} =$ Number of fixtures
$\mathrm{W_{fixt}} =$ Rated fixture wattage
$\mathrm{CF} =$ Peak demand coincidence factor
$\mathrm{AOH} =$ Annual operating hours of specified building type
$\mathrm{IEF_E} =$ Interactive effects factor for energy savings
$\mathrm{IEF_D} =$ Interactive effects factor for demand savings

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F43ILL-H to LED046-FIXT	916	189514	164947	87%
F43ILL-H to LED015-FIXT	408	22873	22873	100%
Total		212,387	187,820	88.4%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Savings	Realized kW Savings	kW Realization Rate
F43ILL-H to LED046-FIXT	916	53.4	46.5	87%
F43ILL-H to LED015-FIXT	408	6.4	6.4	100%
Total		59.9	52.9	84.4%

Results

The kWh and kW reduction realization rates for project CIP-592 are 88.4%. There were deviations between reported wattages per model and the invoice wattages, which resulted in low realization rates.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	187,820	52.9	88.4%%	88.4%%

Project Number CIP 391

Program Large Commercial and Industrial Solutions

Project Background

The participant is an educational building that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (4544) 19W LED- Non-Int. Ballast fixtures replacing (4544) 4' 1-Lamp T12 Fluorescent Ballast fixtures.

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.1. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Education: K-12	2333	0.5	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F41EL to LED019-FIXT	4544	262880	150218	57%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Savings	Realized kW Savings	kW Realization Rate
F41EL to LED019-FIXT	4544	52.9	33.3	63%

Results

The kWh and kW reduction realization rates for project CIP-391 are 57% and 63%, respectively. The reported wattage and hours of operation used in ex-ante calculations were higher than verified fixture wattage and deemed AOH from the New Orleans TRM 5.0, resulting in low realization rates.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	150,218	33.3	57%	63%

Project Number CIP-068

Program Commercial & Industrial Construction Solutions

Project Background

The participant is a storage facility that received incentives from ENO Solutions for installing energy efficient lighting in a new construction project. The Evaluators verified that the following had been installed:

- (24) 218W LED fixtures on the interior; and
- (23) 60W LED fixtures on the exterior.

M&V Methodology

The evaluators confirmed installation of all fixtures listed in the project application. Savings for the lighting measures were calculated using stipulated deemed values by space type for hours of use, along with a stipulated peak Coincident Factor (CF), Interactive effects factor for energy (IEFE) and Interactive effects factor for demand (IEFD) determined using local weather data and peak parameters, using section D.6 Lighting Efficiency of the Louisiana TRM 5.0. The deemed values used in calculating savings are presented in the table below.

Table A. Deemed Savings Parameters

Building Type	Heating Type	Annual Hours	LPD (W/ft2)	IEFE	IEFD	CF
Non-Warehouse Storage	Gas	2417	1.4	1	1	0.8
Exterior	None	4319	5	1	1	0

Savings Calculations

Using deemed values from the table above, the evaluators calculated lighting savings as follows:

$$\text{Annual kWh Savings} = \left(\left(\text{SF} * \frac{\text{LPD}}{1000}\right) - \Sigma\left(\left[\text{N}_{\text{fixt}} * \frac{\text{W}_{\text{fixt}}}{1000}\right]_{\text{post}}\right)\right) * \text{AOH} * \text{IEF}_{\text{E}}$$

$$\text{Annual kW Savings} = \left(\left(\text{SF} * \frac{\text{LPD}}{1000}\right) - \Sigma\left(\left[\text{N}_{\text{fixt}} * \frac{\text{W}_{\text{fixt}}}{1000}\right]_{\text{post}}\right)\right) * \text{CF} * \text{IEF}_{\text{D}}$$

Table B. Parameters for kWh Savings Calculation of Lighting Retrofit Measures

AOH	Annual Operating Hours of Installed Fixtures
SF	Total affected square footage of facility
CF	Peak demand coincidence factor
IEF_D	Heating/Cooling Demand Interactive Effects Factor
IEF_E	Heating/Cooling Energy Interactive Effects Factor
LPD	Maximum allowable power density by building type

Table C. New Construction Lighting kWh Savings Calculations

Measure	Area		Fixture		Annual Operating Hours	IEF_E	Expected kWh Savings	Realized kWh Savings	Realization Rate
	SF	LPD	N	W					
Workshop	30458	1.4	24	202	2417	1	128,840	91,323	79%
Exterior	746	5	23	60	4319	1		10,150	
Total							128,840	101,473	79%

Table D. New Construction Lighting kW Reduction Calculations

Measure	Area		Fixture		Annual Operating Hours	IEF_D	Expected kWh Savings	Realized kWh Savings	Realization Rate
	SF	LPD	N	W					
Workshop	30458	1.4	24	202	2417	1	29.1	29.1	100%
Exterior	746	5	23	60	4319	1		0	
Total							29.1	29.1	100%

Results

The kWh realization rate for Project CIP-068 is 79% and the kW realization rate is 100%.

Table E. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
Total	101,473	29.1	79%	100%

Project Number CIP 563

Program Publicly Funded Institutions

Project Background

The participant is an educational building that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (3118) 15W LED- Non-Int. Ballast fixtures replacing (3188) 4' Linear Fluorescent T8/T12 fixtures
- (570) 15W LED- Non-Int. Ballast fixtures replacing (570) T8/T12 U-Tube Fluorescent fixtures.

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section D.6 of the New Orleans TRM 5.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEF_E	IEF_D
Education: College/ University	3577	0.7	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

$$kWh_{savings} = \Sigma\left(\left\{N_{fixt} * \frac{W_{fixt}}{1000}\right\}_{pre} - \left\{N_{fixt} * \frac{W_{fixt}}{1000}\right\}_{post}\right) * AOH * IEF_E$$

$$kW_{savings} = \Sigma\left(\left\{N_{fixt} * \frac{W_{fixt}}{1000}\right\}_{pre} - \left\{N_{fixt} * \frac{W_{fixt}}{1000}\right\}_{post}\right) * CF * IEF_D$$

Where:

N_fixt=Number of fixtures

W_fixt=Rated fixture wattage

CF=Peak demand coincidence factor

AOH=Annual operating hours of specified building type

IEF_E=Interactive effects factor for energy savings

IEF_D=Interactive effects factor for demand savings

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
32W-FIXT to LED046-FIXT	3688	299,171	244,447	82%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Savings	Realized kW Savings	kW Realization Rate
32W-FIXT to LED046-FIXT	3688	65.5	51.9	79%

Results

The kWh and kW reduction realization rates for project CIP-563 are 82% and 79%, respectively. There were deviations between reported wattages per model and the verified wattages, which resulted in low realization rates.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	244,447	51.9	82%	79%

Project Number CIP 523

Program Small Commercial and Industrial Solutions

Project Background

The participant is a wine wholesaler that received incentives from ENO for retrofitting energy efficient lighting. The Evaluators verified that the following had been installed:

- (1320) 14W LED - Non-Int. Ballast replacing (1320) 4' 2-Lamp T8 fixtures
- (30) 14W LED - Non-Int. Ballast replacing (30) 4' 2-Lamp T8 fixtures
- (24) 14W LED - Non-Int. Ballast replacing (24) 4' 2-Lamp T8 fixtures

Calculation Parameters

The Evaluators confirmed installation of all fixtures listed in the project application. Savings for the measures were calculated using prescriptive savings values listed in Section 10.2.2, which are based on the New Orleans TRM 3.0. The specific values used in calculating savings for this site are presented in the table below.

Table A. Prescriptive Savings Parameters

Facility or Space Type	AOH	CF	IEFE	IEFD
Retail: Freestanding	3515	0.9	1.1	1.2

Savings Calculations

Using values from the table above, the Evaluators calculated lighting savings as follows:

Table B. Lighting Retrofit kWh Savings Calculations

Prescriptive Measure	Measure Quantity	Expected kWh Savings	Realized kWh Savings	kWh Realization Rate
F42ILL to LED014-FIXT	1320	91035	222525	244%
F82LHL to LED042-FIXT	30	5059	13563	268%
F31ILL to LED012-FIXT	24	1287	1287	100%
Total		97,382	237,375	244%

Table C. Lighting Retrofit kW Reduction Calculations

Prescriptive Measure	Measure Quantity	Expected kW Reduction	Realized kW Reduction	kW Realization Rate
F42ILL to LED014-FIXT	1320	26.5	62.7	237%
F82LHL to LED042-FIXT	30	1.4	3.8	267%
F31ILL to LED012-FIXT	24	0.4	0.4	100%
Total		28.3	66.9	237%

Results

The kWh and kW reduction realization rates for project CIP-523 are 244% and 237%, respectively. The client reported different wattages in their summary calculations than the actual wattages, resulting in a high realization rate.

Table D. Verified Gross Savings & Realization Rates

Measure	Verified			
	kWh Savings	kW Savings	kWh Realization Rate	kW Realization Rate
LED Lighting Retrofits	237,375	66.9	244%	237%

17 APPENDIX B: COST-EFFECTIVENESS METHODS

17.1 Summary

The Evaluators estimated the cost-effectiveness for the overall energy efficiency and demand response portfolio of programs, based on PY12 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 PY12 portfolio.

TABLE 17-1 PY12 COST-EFFECTIVENESS RESULTS

Program	TRC	UCT	RIM	PCT	SCT
HPwES	1.10	1.03	0.36	4.40	1.47
RLA	3.64	3.13	0.41	9.06	4.50
MF Solutions	1.61	1.52	0.40	5.10	2.13
IQW	1.29	1.31	0.55	2.85	1.83
A/C Solutions	1.40	1.49	0.45	4.54	1.86
SK&E	0.47	0.41	0.21	5.23	0.56
AR&R	0.14	0.15	0.11	1.47	0.20
Behavioral	0.47	0.47	0.19	8.74	0.47
Rewards	0.00	0.00	0.00	1.00	0.00
C&I NC	0.62	0.71	0.32	3.72	0.82
Small C&I Solutions	1.00	1.50	0.40	2.70	1.31
Large C&I Solutions	1.28	1.99	0.38	3.69	1.65
PFI	1.36	1.51	0.32	6.20	1.78
TRM Development	0.00	0.00	0.00	0.00	0.00
Total	**1.39**	**1.71**	**0.39**	**4.18**	**1.80**

Sums may differ due to rounding.

17.2 Methods

The California Standard Practice Model was used as a guideline for the calculations, along with guidance from the ENO TRM V5.0, 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)[18], 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.

[18] The UCT is also referred to as the Program Administrator Cost Test (PACT).

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.[19]

TABLE 17-2 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)?
	▪ 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

[19] https://www.epa.gov/energy/understanding-cost-effectiveness-energy-efficiency-programs

perspective of the participants, utilities, and non-participants. The scope of the benefit and cost components included in each test are summarized in the table below.[20]

TABLE 17-3 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

17.2.1 LINE LOSSES

The Evaluators used the line losses provided by ENO for the PY12 evaluation.

17.2.2 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 V8.2.

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 PY11 to PY12 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 PY12 cost-effectiveness analysis.

[20] *Ibid*.

TABLE 17-4 ECONOMIC INPUTS FOR COST EFFECTIVENESS ANALYSIS

Discount Rates	
Utility (TRC)	7.09%
Utility (UCT)	7.09%
Utility (RIM)	7.09%
Societal (SCT)	3.00%
Participant (PCT)	10.00%
Line Losses	
Line Losses (demand)	7.29%
Line Losses (energy)	7.29%
Escalation rate	1.90%
Avoided Costs	
Avoided Energy ($/kWh)	$0.027
Avoided Demand ($/kW)	$1.456

17.3 Findings

The tables below outline the results for each test, for both the programs and the portfolio as a whole.

TABLE 17-5 PY12 COST-EFFECTIVENESS RESULTS BY PROGRAM

Program	TRC	UCT	RIM	PCT	SCT
HPwES	1.10	1.03	0.36	4.40	1.47
RLA	3.64	3.13	0.41	9.06	4.50
MF Solutions	1.61	1.52	0.40	5.10	2.13
IQW	1.29	1.31	0.55	2.85	1.83
A/C Solutions	1.40	1.49	0.45	4.54	1.86
SK&E	0.47	0.41	0.21	5.23	0.56
AR&R	0.14	0.15	0.11	1.47	0.20
Behavioral	0.47	0.47	0.19	8.74	0.47
Rewards	0.00	0.00	0.00	1.00	0.00
C&I NC	0.62	0.71	0.32	3.72	0.82
Small C&I Solutions	1.00	1.50	0.40	2.70	1.31
Large C&I Solutions	1.28	1.99	0.38	3.69	1.65
PFI	1.36	1.51	0.32	6.20	1.78
TRM Development	0.00	0.00	0.00	0.00	0.00
Total	**1.39**	**1.71**	**0.39**	**4.18**	**1.80**

Sums may differ due to rounding.

TABLE 17-6 PY12 COST-EFFECTIVENESS BENEFITS BY PROGRAM

Program	TRC Benefits	UCT Benefits	RIM Benefits	PCT Benefits	SCT Benefits
HPwES	$882,188	$850,565	$850,565	$1,772,506	$1,177,222
RLA	$6,404,739	$5,435,465	$5,435,465	$12,106,107	$7,918,851
MF Solutions	$1,256,746	$1,216,943	$1,216,943	$2,507,633	$1,659,174
IQW	$2,923,809	$2,879,095	$2,879,095	$3,967,653	$4,148,013
A/C Solutions	$742,422	$742,422	$742,422	$1,235,208	$987,187
SK&E	$248,934	$216,395	$216,395	$567,029	$298,969
AR&R	$53,746	$53,746	$53,746	$242,328	$73,870
Behavioral	$150,897	$150,897	$150,897	$528,777	$150,897
Rewards	$0	$0	$0	$5,240	$0
C&I NC	$75,950	$72,605	$72,605	$128,051	$99,930
Small C&I Solutions	$2,851,806	$2,679,933	$2,679,933	$5,345,163	$3,729,159
Large C&I Solutions	$12,867,413	$12,380,632	$12,380,632	$26,342,318	$16,662,003
PFI	$1,618,261	$1,582,402	$1,582,402	$3,867,099	$2,119,223
TRM Development	$0	$0	$0	$0	$0
Total	**$30,076,911**	**$28,261,099**	**$28,261,099**	**$58,615,114**	**$39,024,499**

Sums may differ due to rounding.

TABLE 17-7 PY12 COST-EFFECTIVENESS COSTS BY PROGRAM

Program	TRC Costs	UCT Costs	RIM Costs	PCT Costs	SCT Costs
HPwES	$801,087	$829,459	$2,366,276	$402,497	$801,087
RLA	$1,758,603	$1,737,152	$13,254,175	$1,336,826	$1,758,603
MF Solutions	$778,531	$798,460	$3,074,422	$491,282	$778,531
IQW	$2,262,370	$2,201,042	$5,259,323	$1,392,245	$2,262,370
A/C Solutions	$529,721	$499,582	$1,648,068	$272,025	$529,721
SK&E	$533,426	$533,426	$1,025,774	$108,325	$533,426
AR&R	$373,523	$358,181	$469,151	$164,292	$373,523
Behavioral	$320,035	$320,035	$788,296	$60,515	$320,035
Rewards	$5,240	$5,240	$5,240	$5,240	$5,240
C&I NC	$121,639	$102,454	$229,958	$34,446	$121,639
Small C&I Solutions	$2,854,315	$1,784,511	$6,758,138	$1,978,875	$2,854,315
Large C&I Solutions	$10,084,389	$6,219,369	$32,274,938	$7,138,643	$10,084,389
PFI	$1,191,956	$1,045,395	$4,967,799	$623,924	$1,191,956
TRM Development	$67,608	$67,608	$67,608	$0	$67,608
Total	**$21,682,443**	**$16,501,914**	**$72,189,165**	**$14,009,136**	**$21,682,443**

Sums may differ due to rounding.

TABLE 17-8 PY12 COST-EFFECTIVENESS NET BENEFITS BY PROGRAM

Program	TRC Net Benefits	UCT Net Benefits	RIM Net Benefits	PCT Net Benefits	PCT Net Benefits
HPwES	$81,101	$21,105	-$1,515,711	$1,370,009	$774,724
RLA	$4,646,136	$3,698,313	-$7,818,710	$10,769,281	$6,582,025
MF Solutions	$478,215	$418,483	-$1,857,479	$2,016,351	$1,167,893
IQW	$661,439	$678,053	-$2,380,228	$2,575,408	$2,755,768
A/C Solutions	$212,701	$242,840	-$905,646	$963,183	$715,162
SK&E	-$284,492	-$317,030	-$809,378	$458,704	$190,644
AR&R	-$319,777	-$304,435	-$415,405	$78,036	-$90,422
Behavioral	-$169,137	-$169,137	-$637,399	$468,262	$90,382
Rewards	-$5,240	-$5,240	-$5,240	$0	-$5,240
C&I NC	-$45,689	-$29,850	-$157,353	$93,605	$65,484
Small C&I Solutions	-$2,509	$895,421	-$4,078,205	$3,366,288	$1,750,283
Large C&I Solutions	$2,783,024	$6,161,262	-$19,894,306	$19,203,675	$9,523,360
PFI	$426,304	$537,007	-$3,385,397	$3,243,175	$1,495,299
TRM Development	-$67,608	-$67,608	-$67,608	$0	$0
Total	**$8,394,468**	**$11,759,186**	**-$43,928,066**	**$44,605,978**	**$25,015,363**

Sums may differ due to rounding.

18 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.

18.1 Validity Testing

The tables below detail the average daily energy consumption differences and statistical significance between each cohort's treatment and control groups for each of the 12 months in the pre-period, relative to each cohort's intervention date prior to propensity score matching activities.

TABLE 18-1 PY12 NEIGHBOR COMPARE – ADM VALIDITY TESTING RESULTS

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
Mar 2020	26.62	26.46	0.16	0.8095	-
Apr 2020	26.58	26.44	0.14	0.6503	-
May 2020	23.23	22.83	0.40	0.1282	-
Jun 2020	28.36	28.01	0.35	0.2650	-
Jul 2020	37.64	37.26	0.38	0.3498	-
Aug 2020	41.05	40.58	0.47	0.2505	-
Sep 2020	41.91	41.51	0.40	0.3536	-
Oct 2020	35.69	35.36	0.33	0.3867	-
Nov 2020	25.80	25.66	0.14	0.6209	-
Dec 2020	21.72	21.54	0.18	0.4569	-
Jan 2020	30.43	30.28	0.15	0.7102	-
Feb 2021	33.13	32.72	0.41	0.3457	-

TABLE 18-2 PY12 NEIGHBOR COMPARE – NEW VALIDITY TESTING RESULTS

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
Oct 2019	37.25	37.54	-0.29	0.6987	-
Nov 2019	37.63	37.48	0.15	0.7788	-
Dec 2019	40.89	40.56	0.32	0.5870	-
Jan 2020	40.65	40.66	-0.01	0.9859	-
Feb 2020	36.98	36.89	0.09	0.8735	-
Mar 2020	38.54	38.95	-0.40	0.4022	-
Apr 2020	33.94	33.64	0.30	0.4769	-
May 2020	43.14	42.92	0.22	0.6551	-
Jun 2020	54.90	54.46	0.44	0.4453	-
Jul 2020	59.31	58.95	0.36	0.5378	-
Aug 2020	60.59	59.93	0.66	0.2724	-
Sep 2020	48.44	48.08	0.36	0.4962	-

TABLE 18-3 PY12 NEIGHBOR COMPARE – ORIGINAL VALIDITY TESTING RESULTS

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
Jun 2019	53.74	52.20	1.54	0.9311	-
Jul 2019	48.82	49.05	-0.23	0.8069	-
Aug 2019	46.93	47.25	-0.32	0.6953	-
Sep 2019	48.01	48.21	-0.20	0.8108	-
Oct 2019	33.69	33.94	-0.25	0.7113	-
Nov 2019	30.98	30.45	0.53	0.4379	-
Dec 2019	32.23	31.84	0.39	0.5969	-
Jan 2020	32.67	32.16	0.50	0.4928	-
Feb 2020	30.87	30.05	0.82	0.2312	-
Mar 2020	29.42	29.40	0.02	0.9740	-
Apr 2020	26.86	27.38	-0.51	0.3139	-
May 2020	32.43	33.09	-0.66	0.2913	-

TABLE 18-4 PY12 NEIGHBOR COMPARE – PRINT VALIDITY TESTING RESULTS

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
Oct 2019	31.07	30.72	0.35	0.7348	-
Nov 2019	32.19	32.32	-0.13	0.8790	-
Dec 2019	36.42	35.23	1.19	0.2261	-
Jan 2020	34.15	33.91	0.24	0.7900	-
Feb 2020	30.71	31.17	-0.46	0.5923	-
Mar 2020	31.56	31.59	-0.03	0.9694	-
Apr 2020	28.10	28.14	-0.04	0.9492	-
May 2020	36.89	37.07	-0.18	0.8256	-
Jun 2020	47.76	47.95	-0.20	0.8480	-
Jul 2020	50.91	50.67	0.24	0.8073	-
Aug 2020	52.46	52.75	-0.28	0.7864	-
Sep 2020	40.00	39.58	0.43	0.6349	-

TABLE 18-5 PY12 SELF COMPARE – NEW VALIDITY TESTING RESULTS

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
Oct 2019	33.43	35.10	-1.67	0.2464	-
Nov 2019	33.66	34.39	-0.73	0.5490	-
Dec 2019	36.96	37.27	-0.31	0.8139	-
Jan 2020	35.31	36.78	-1.47	0.2591	-
Feb 2020	32.35	32.57	-0.22	0.8535	-
Mar 2020	34.73	34.99	-0.25	0.8093	-
Apr 2020	30.52	30.80	-0.28	0.7633	-
May 2020	39.80	40.42	-0.61	0.5902	-
Jun 2020	50.32	50.97	-0.65	0.6325	-
Jul 2020	52.94	53.94	-1.00	0.4435	-
Aug 2020	55.03	55.72	-0.70	0.6118	-
Sep 2020	42.30	43.67	-1.37	0.2603	-

TABLE 18-6 PY12 SELF COMPARE – ORIGINAL VALIDITY TESTING RESULTS

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
Jun 2019	48.64	78.67	-30.03	0.0075	*
Jul 2019	38.64	38.80	-0.16	0.9131	-
Aug 2019	37.50	38.35	-0.85	0.4694	-
Sep 2019	37.87	38.96	-1.09	0.3717	-
Oct 2019	26.06	26.95	-0.89	0.3067	-
Nov 2019	24.45	25.15	-0.70	0.4836	-
Dec 2019	26.33	27.30	-0.96	0.3969	-
Jan 2020	25.35	26.57	-1.22	0.2476	-
Feb 2020	24.35	24.62	-0.27	0.7961	-
Mar 2020	22.83	23.80	-0.96	0.2324	-
Apr 2020	20.62	20.02	0.60	0.3571	-
May 2020	25.38	25.11	0.27	0.7382	-

The Evaluators conducted propensity score matching for the self compare cohorts. All cohorts passed validity testing. The results of propensity score matching are summarized in the next section of this report.

18.2 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 18-7 PY12 NEIGHBOR COMPARE – ADM PPR MODEL ESTIMATES

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
(Intercept)	5.3282	5.1054	5.5509	39.3433	0.0000
trmt	0.1183	0.0188	0.2179	1.9547	0.0506
month2	-0.0867	-0.4216	0.2481	-0.4261	0.6701
month3	2.1032	1.8052	2.4011	11.6115	0.0000
month4	0.8267	0.5234	1.1300	4.4835	0.0000
month5	3.5471	3.2405	3.8538	19.0276	0.0000
month6	3.3156	2.9948	3.6364	17.0022	0.0000
month7	1.5272	1.2095	1.8449	7.9071	0.0000
month8	0.2658	-0.0524	0.5840	1.3738	0.1695
month9	0.7727	0.4583	1.0871	4.0422	0.0001
month10	-0.9463	-1.2560	-0.6366	-5.0256	<0.0001
month11	-0.1307	-0.4373	0.1759	-0.7010	0.4833
month12	0.9508	0.6489	1.2527	5.1798	0.0000
daily_usage_pre	0.9225	0.9179	0.9272	326.4985	0.0000
month2:daily_usage_pre	-0.1023	-0.1099	-0.0947	-22.2470	<0.0001
month3:daily_usage_pre	-0.3491	-0.3568	-0.3414	-74.5763	<0.0001
month4:daily_usage_pre	-0.1609	-0.1695	-0.1523	-30.7912	<0.0001
month5:daily_usage_pre	-0.0021	-0.0098	0.0056	-0.4570	0.6476
month6:daily_usage_pre	0.0168	0.0098	0.0238	3.9603	0.0001
month7:daily_usage_pre	-0.1140	-0.1205	-0.1074	-28.4477	<0.0001
month8:daily_usage_pre	-0.1700	-0.1766	-0.1634	-42.5243	<0.0001
month9:daily_usage_pre	-0.1214	-0.1285	-0.1144	-28.4630	<0.0001
month10:daily_usage_pre	-0.1678	-0.1762	-0.1594	-32.8912	<0.0001
month11:daily_usage_pre	0.0107	0.0015	0.0200	1.9021	0.0572
month12:daily_usage_pre	-0.1911	-0.1982	-0.1840	-44.3535	<0.0001
Adjusted R-Squared	**0.6929**				

TABLE 18-8 PY12 NEIGHBOR COMPARE – NEW PPR MODEL ESTIMATES

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
(Intercept)	12.1727	11.8833	12.4620	69.1959	0.0000
trmt	-0.3048	-0.4582	-0.1514	-3.2685	<0.0001
month2	-1.8579	-2.2328	-1.4829	-8.1504	<0.0001
month3	-2.2173	-2.5828	-1.8518	-9.9788	<0.0001
month4	-4.7450	-5.1213	-4.3686	-20.7392	<0.0001
month5	-0.6038	-0.9908	-0.2167	-2.5658	<0.0001
month6	-0.2418	-0.6527	0.1691	-0.9680	0.3330
month7	-4.5002	-4.9126	-4.0878	-17.9487	<0.0001
month8	-5.4017	-5.8138	-4.9896	-21.5605	<0.0001
month9	-3.8851	-4.2792	-3.4911	-16.2183	<0.0001
month10	-3.4478	-3.8584	-3.0373	-13.8144	<0.0001
month11	0.0011	-0.3603	0.3625	0.0048	0.9961
month12	0.9922	0.6260	1.3584	4.4571	0.0000
daily_usage_pre	0.8177	0.8128	0.8226	273.2280	0.0000
month2:daily_usage_pre	-0.1147	-0.1224	-0.1070	-24.5274	<0.0001
month3:daily_usage_pre	-0.3302	-0.3377	-0.3227	-72.8307	<0.0001
month4:daily_usage_pre	-0.0326	-0.0409	-0.0242	-6.4176	<0.0001
month5:daily_usage_pre	0.0803	0.0728	0.0879	17.4993	0.0000
month6:daily_usage_pre	0.0983	0.0912	0.1055	22.7005	0.0000
month7:daily_usage_pre	-0.0068	-0.0137	0.0000	-1.6338	<0.0001
month8:daily_usage_pre	-0.0697	-0.0765	-0.0629	-16.8497	<0.0001
month9:daily_usage_pre	-0.0097	-0.0169	-0.0024	-2.1971	<0.0001
month10:daily_usage_pre	-0.1740	-0.1826	-0.1654	-33.2646	<0.0001
month11:daily_usage_pre	-0.2685	-0.2758	-0.2612	-60.5425	<0.0001
month12:daily_usage_pre	-0.2529	-0.2599	-0.2459	-59.3946	<0.0001
Adjusted R-Squared	**0.6579**				

TABLE 18-9 PY12 NEIGHBOR COMPARE – ORIGINAL PPR MODEL ESTIMATES

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
(Intercept)	10.0977	9.7066	10.4888	42.4651	0.0000
trmt	0.0171	-0.1934	0.2276	0.1336	0.8937
month2	-1.7908	-2.2967	-1.2850	-5.8234	<0.0001
month3	-2.2786	-2.7652	-1.7920	-7.7024	<0.0001
month4	-4.3548	-4.8605	-3.8492	-14.1655	<0.0001
month5	-1.3018	-1.8120	-0.7916	-4.1968	<0.0001
month6	-0.9680	-1.5455	-0.3905	-2.7572	<0.0001
month7	4.4261	3.9004	4.9518	13.8491	0.0000
month8	1.0330	0.5121	1.5539	3.2617	0.0011
month9	0.3534	-0.1708	0.8776	1.1090	0.2674
month10	-0.1735	-0.6751	0.3281	-0.5691	0.5693
month11	-0.2837	-0.7734	0.2061	-0.9528	0.3407
month12	-0.1583	-0.6502	0.3336	-0.5294	0.5966
daily_usage_pre	0.8735	0.8654	0.8816	177.4216	0.0000
month2:daily_usage_pre	-0.0622	-0.0746	-0.0497	-8.2082	<0.0001
month3:daily_usage_pre	-0.2902	-0.3026	-0.2777	-38.3074	<0.0001
month4:daily_usage_pre	-0.0977	-0.1115	-0.0838	-11.6308	<0.0001
month5:daily_usage_pre	0.0222	0.0096	0.0347	2.9070	0.0036
month6:daily_usage_pre	0.0503	0.0375	0.0630	6.4828	0.0000
month7:daily_usage_pre	-0.2855	-0.2961	-0.2749	-44.3965	<0.0001
month8:daily_usage_pre	-0.2692	-0.2799	-0.2585	-41.4139	<0.0001
month9:daily_usage_pre	-0.3293	-0.3400	-0.3187	-50.9418	<0.0001
month10:daily_usage_pre	-0.3946	-0.4065	-0.3827	-54.6244	<0.0001
month11:daily_usage_pre	-0.2932	-0.3052	-0.2812	-40.3153	<0.0001
month12:daily_usage_pre	-0.2350	-0.2467	-0.2234	-33.2334	<0.0001
Adjusted R-Squared	**0.5917**				

TABLE 18-10 PY12 NEIGHBOR COMPARE – PRINT PPR MODEL ESTIMATES

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
(Intercept)	7.9509	7.4247	8.4771	24.8534	0.0000
trmt	-0.8316	-1.0645	-0.5986	-5.8714	<0.0001
month2	-1.0907	-1.8311	-0.3503	-2.4232	<0.0001
month3	-0.7603	-1.4571	-0.0635	-1.7947	<0.0001
month4	-2.2816	-3.0063	-1.5570	-5.1792	<0.0001
month5	0.0499	-0.6946	0.7944	0.1102	0.9122
month6	0.4705	-0.3169	1.2579	0.9828	0.3257
month7	-2.8968	-3.6794	-2.1143	-6.0891	<0.0001
month8	-3.1340	-3.9196	-2.3483	-6.5612	<0.0001
month9	-0.5142	-1.2570	0.2285	-1.1388	0.2548
month10	-0.7507	-1.5089	0.0075	-1.6286	0.1034
month11	0.7206	0.0144	1.4269	1.6783	0.0933
month12	2.5919	1.8732	3.3106	5.9320	0.0000
daily_usage_pre	0.9420	0.9310	0.9530	140.7757	0.0000
month2:daily_usage_pre	-0.1535	-0.1712	-0.1358	-14.2412	<0.0001
month3:daily_usage_pre	-0.3670	-0.3837	-0.3503	-36.1744	<0.0001
month4:daily_usage_pre	-0.1078	-0.1264	-0.0891	-9.5241	<0.0001
month5:daily_usage_pre	0.0146	-0.0020	0.0313	1.4502	0.1470
month6:daily_usage_pre	0.0253	0.0098	0.0408	2.6788	0.0074
month7:daily_usage_pre	-0.0956	-0.1106	-0.0807	-10.5468	<0.0001
month8:daily_usage_pre	-0.1806	-0.1955	-0.1658	-20.0086	<0.0001
month9:daily_usage_pre	-0.1267	-0.1426	-0.1108	-13.1314	<0.0001
month10:daily_usage_pre	-0.2824	-0.3008	-0.2640	-25.2558	<0.0001
month11:daily_usage_pre	-0.3319	-0.3482	-0.3155	-33.3791	<0.0001
month12:daily_usage_pre	-0.3649	-0.3802	-0.3496	-39.2805	<0.0001
Adjusted R-Squared	**0.7119**				

TABLE 18-11 PY12 SELF COMPARE – NEW PPR MODEL ESTIMATES

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
(Intercept)	9.1125	8.3421	9.8828	19.4573	0.0000
trmt	-0.2918	-0.6271	0.0434	-1.4318	0.1522
month2	-2.3427	-3.4310	-1.2543	-3.5406	<0.0001
month3	-1.1069	-2.1306	-0.0832	-1.7787	<0.0001
month4	-2.0071	-3.0629	-0.9513	-3.1269	<0.0001
month5	-0.2540	-1.3462	0.8381	-0.3826	0.7020
month6	0.2187	-0.9320	1.3693	0.3126	0.7546
month7	-3.5199	-4.6672	-2.3725	-5.0463	<0.0001
month8	-3.9269	-5.0717	-2.7821	-5.6422	<0.0001
month9	-1.5989	-2.6901	-0.5077	-2.4102	<0.0001
month10	-0.6698	-1.7734	0.4338	-0.9984	0.3181
month11	1.1841	0.1556	2.2125	1.8938	0.0583
month12	1.6069	0.5508	2.6630	2.5028	0.0123
daily_usage_pre	0.9070	0.8914	0.9226	95.4270	0.0000
month2:daily_usage_pre	-0.1056	-0.1308	-0.0804	-6.8964	<0.0001
month3:daily_usage_pre	-0.3658	-0.3889	-0.3427	-26.0193	<0.0001
month4:daily_usage_pre	-0.0848	-0.1102	-0.0593	-5.4842	<0.0001
month5:daily_usage_pre	0.0444	0.0213	0.0676	3.1568	0.0016
month6:daily_usage_pre	0.0438	0.0221	0.0656	3.3101	0.0009
month7:daily_usage_pre	-0.0637	-0.0849	-0.0426	-4.9645	<0.0001
month8:daily_usage_pre	-0.1388	-0.1597	-0.1180	-10.9555	<0.0001
month9:daily_usage_pre	-0.0835	-0.1058	-0.0612	-6.1574	<0.0001
month10:daily_usage_pre	-0.2733	-0.2984	-0.2482	-17.9173	<0.0001
month11:daily_usage_pre	-0.3314	-0.3542	-0.3085	-23.8488	<0.0001
month12:daily_usage_pre	-0.3153	-0.3374	-0.2932	-23.4802	<0.0001
Adjusted R-Squared	**0.6811**				

TABLE 18-12 PY12 SELF COMPARE – NEW PPR MODEL ESTIMATES

Variable	Coefficient	90% CI Lower	90% CI Upper	t-statistic	P-value
(Intercept)	7.1830	6.3786	7.9874	14.6886	0.0000
trmt	-0.4784	-0.8295	-0.1273	-2.2414	<0.0001
month2	-0.1136	-1.2641	1.0369	-0.1624	0.8710
month3	-0.4938	-1.6024	0.6149	-0.7326	0.4638
month4	-0.0241	-1.1681	1.1199	-0.0347	0.9723
month5	1.6061	0.4583	2.7539	2.3017	0.0214
month6	1.7982	0.4410	3.1554	2.1793	0.0293
month7	6.0038	4.8192	7.1885	8.3367	0.0000
month8	2.6403	1.4875	3.7931	3.7675	0.0002
month9	2.9127	1.7631	4.0623	4.1676	0.0000
month10	2.0665	0.9474	3.1856	3.0375	0.0024
month11	0.7237	-0.3786	1.8260	1.0800	0.2802
month12	2.8828	1.7848	3.9807	4.3188	0.0000
daily_usage_pre	0.9822	0.9597	1.0047	71.7300	0.0000
month2:daily_usage_pre	-0.1361	-0.1712	-0.1010	-6.3789	<0.0001
month3:daily_usage_pre	-0.3505	-0.3873	-0.3138	-15.6803	<0.0001
month4:daily_usage_pre	-0.2149	-0.2560	-0.1738	-8.5971	<0.0001
month5:daily_usage_pre	-0.0658	-0.1019	-0.0298	-3.0023	<0.0001
month6:daily_usage_pre	-0.0668	-0.1044	-0.0293	-2.9277	<0.0001
month7:daily_usage_pre	-0.3950	-0.4248	-0.3653	-21.8418	<0.0001
month8:daily_usage_pre	-0.3676	-0.3972	-0.3381	-20.4517	<0.0001
month9:daily_usage_pre	-0.4553	-0.4846	-0.4259	-25.5079	<0.0001
month10:daily_usage_pre	-0.4910	-0.5246	-0.4573	-23.9894	<0.0001
month11:daily_usage_pre	-0.3646	-0.3986	-0.3307	-17.6706	<0.0001
month12:daily_usage_pre	-0.3940	-0.4258	-0.3623	-20.4258	<0.0001
Adjusted R-Squared	**0.5476**				