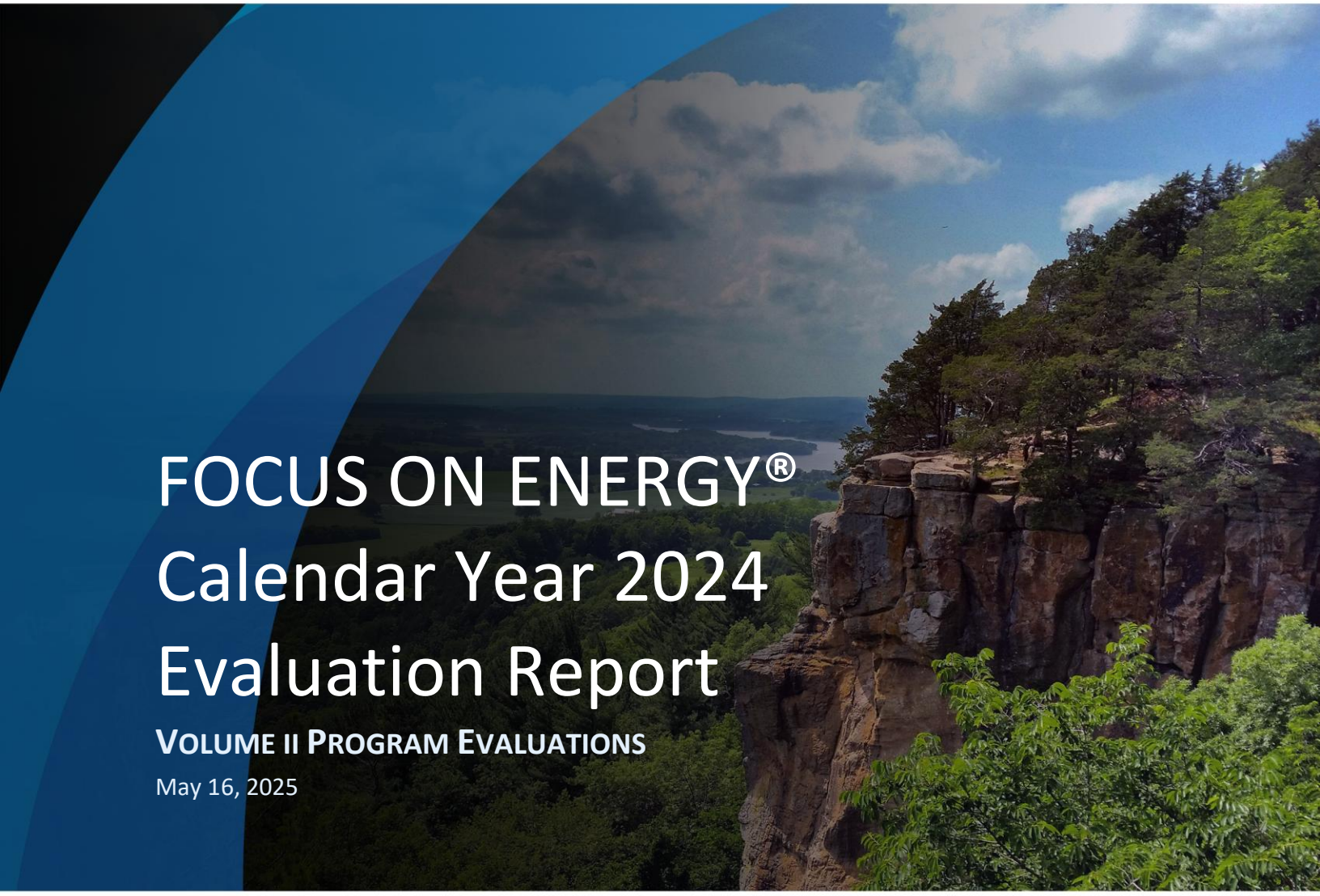
CADMUS



FOCUS ON ENERGY® Calendar Year 2024 Evaluation Report

VOLUME II PROGRAM EVALUATIONS

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Acronyms

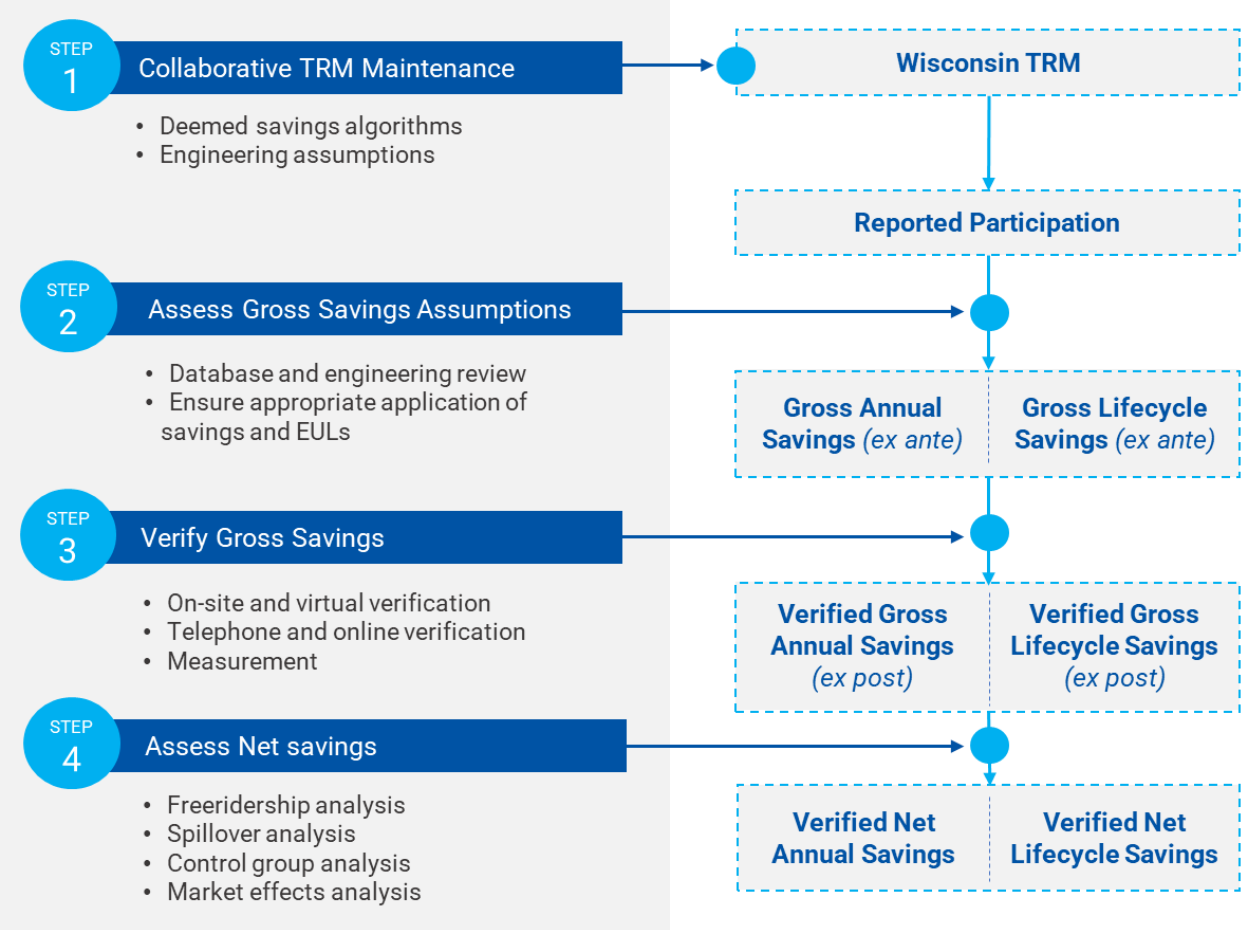
Acronym	Term
AC	Air conditioner
ACH	Air changes per hour
ACS	American Community Survey
AFUE	Annual fuel utilization efficiency
AHRI	Air-Conditioning, Heating, & Refrigeration Institute
BPC	Building performance consultant
BPI	Building Performance Institute
C&I	Commercial and Industrial
CBO	Community-based organization
CY	Calendar year
DC	Direct current
DHW	Domestic hot water
DIY	Do-it-yourself
DSM	Demand-side management
ECM	Electronically commutated motor
EDA/EDR	Energy Design Assistance/Energy Design Review
eEDA	Express Energy Design Assistance
EUL	Expected useful life
EV	Electric vehicle
GPM	Gallons per minute
HERS	Home Energy Rating System
HSPF	Heating seasonal performance factor
HVAC	Heating, ventilation, and air conditioning
IRA	Inflation Reduction Act
ISR	In-service rate
kW	Kilowatt
kWh	Kilowatt hour
LED	Light-emitting diode
LP	Liquefied petroleum
LPD	Lighting power density
MMBtu	Million British thermal units
MMID	Master measure identifier
NEB	Non-energy benefit
NEO	Net Energy Optimizer
NPS	Net promoter score
NTG	Net-to-gross
O&M	Operations and maintenance
OEI	Office of Energy Innovation
PAI	Project assessment incentive
PEM	Practical Energy Management
PEP	Product and equipment performance
PRISM	PRInceton Scorekeeping Method
PSC	Public Service Commission of Wisconsin
PV	Photovoltaic
RESNET	Residential Energy Services Network
RFP	Request for proposal
ROI	Return on investment
SBTi	Science-Based Targets Initiative
SEER	Seasonal energy efficiency rating
SIM	System Information Modeling
SIP	Structural insulated panel
SPECTRUM	Statewide Program for Energy Customer Tracking, Resource Utilization, and Data Management
T&D	Transmission and distribution
TRC	Total resource cost test
TRM	Technical reference manual
UDC	Uniform dwelling code
UEF	Uniform energy factor
ULT	Ultra low temperature (freezer)

1. Introduction

Volume II of the Focus on Energy calendar year (CY) 2024 evaluation report presents offering-specific evaluation findings and details about the evaluation approaches and results for the residential, nonresidential, and cross-cutting offerings. This introduction presents additional information on the overall roles and responsibilities of the evaluation team as well as descriptions of standard evaluation practices and approaches the team used across multiple offering evaluations.[1]

The diagram presented here as Figure 1 in Volume II, and as Figure 2 in Volume I, is a useful summary of the steps involved in the calculation of net savings from the gross savings recorded in the offering tracking databases. In addition to these steps, there are many planning and coordination activities that are a part of the evaluation process. Following this introduction, Volume II presents offering-specific evaluation findings and greater details about evaluation approaches and results.

Figure 1. Evaluation Steps to Determine CY 2024 Gross and Net Savings



[1] The evaluation team comprises Cadmus and Apex Analytics.

To accomplish evaluation steps 1 through 3, the evaluation team coordinates with staff from the Public Service Commission of Wisconsin (PSC), the program administrator, and program implementers to assess the measures expected to be installed across offerings in future years. To determine priorities for additional research, the evaluation team also reviews the deemed savings or algorithms contained in the technical reference manual (TRM) and entered into the Statewide Program for Energy Customer Tracking, Resource Utilization, and Data Management (SPECTRUM), the offering tracking database.

The evaluation team prioritizes measures for evaluation, measurement, and verification that demonstrate the highest priority by meeting one or more of the following criteria:

- New to the offerings
- Expected to contribute an increasing share of savings
- Experienced technical or other market changes (such as increased energy codes or standards)
- There is significant uncertainty around the savings calculation (independent measurement of key assumptions is dated)

The team then applies the findings from these activities to the savings calculations summarized in the evaluation report, which ultimately end up in the TRM.

Wisconsin Focus on Energy Technical Reference Manual

The Wisconsin Focus on Energy TRM is a document managed collaboratively by the program administrator, program implementers, evaluation team, and PSC staff. The information contained in the TRM presents the consensus calculations of the electric and gas energy savings and the electric demand reductions achieved from installing the energy efficiency and renewable energy technologies supported by Focus on Energy offerings. The TRM is publicly available on the Focus on Energy website.[2]

The values presented in the TRM fall into one of two categories:

- **Deemed savings.** Specific per-unit savings (or demand reduction) the program administrator, program implementers, evaluation team, and the PSC have accepted as reliable because the measures, and the uses for these measures, are consistent and sound research supports the savings achieved.
- **Savings algorithms.** The equations used for calculating savings (or demand reductions) are based upon project- and measure-specific details. The TRM also makes these calculations transparent by identifying and justifying all relevant formulas, variables, and assumptions.

The TRM is also a reference guide for how an offering's stakeholders classify measures in SPECTRUM, the offerings' tracking database. The evaluation team revises the document annually to account for any changes to the offerings and technologies.

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[2] Public Service Commission of Wisconsin. January 2024. Wisconsin *Focus on Energy 2024 Technical Reference Manual.* Prepared by Cadmus. https://assets.focusonenergy.com/production/inline-files/Focus-on-Energy-2024-TRM.pdf

Work Papers

Implementers prepare work papers to present the savings assumptions for new measures or, when appropriate, revisions to the savings calculations for existing measures. They submit these work papers to the administrator, who forwards them to the evaluation team and the PSC for review, comment, and approval. Once a work paper receives final approval from the PSC, the evaluation team incorporates the work paper into the next iteration of the TRM.

Standard Evaluation Methods

The evaluation team uses several standard methods across evaluation cycles to assess the impact of Focus on Energy offerings: tracking database review, project audits, and site inspections. This introduction details each of these methods. The individual chapters that follow specify when the evaluation team applied these (or other methods) during the current or previous evaluation cycles.

Tracking Database Review

For each offering, the evaluation team reviews the tracking database, SPECTRUM, for completeness and quality of data. The review includes the following activities:

- Download and review data for projects completed during the offering year (January 1 to December 31 for each calendar year, based on the "payment approved date" in SPECTRUM)
- Check offering totals against offering status reports generated by SPECTRUM
- Verify the presence and completeness of key data fields (savings, incentives, quantities, etc.)
- Check for duplicate entries
- Re-assign adjustment measures to original application identifications (where possible) using supplemental tracking databases from the program administrator

Project Audits (Engineering Desk Review)

The evaluation team reviews SPECTRUM for complete and accurate key project documentation, including the following information:

- Project applications
- Savings workbooks
- Savings calculations performed by participants or third-party contractors (if applicable)
- Energy audits or feasibility studies
- Customer metered data
- Customer billing data (monthly utility bills)
- Invoices for equipment or contracting services
- Other documentation submitted to Focus on Energy

Site Inspections

For nonresidential projects selected for evaluation, the evaluation team conducts virtual or on-site inspections to verify the presence of equipment at a project site. For virtual site visits, inspectors conduct video calls with participant facility staff during which inspectors receive a virtual tour of the project, along with video or photographic information to verify nameplate data and any necessary operating parameters. The inspectors may supplement these video conversations with additional options, such as allowing the customer to upload photographs and videos. The inspectors also work closely with the customer to ensure the process is streamlined and conducted efficiently to minimize the burden on the customer.

For on-site inspections, evaluation team inspectors verify the presence of equipment at a project site and collect data through a variety of methods, such as installing data loggers or taking spot measurements of power usage. Inspectors may also gather data by reviewing daily operations and maintenance logs, gathering operations data from central energy management systems, and reviewing historical trend data. Inspectors may also ask customers to initiate trends during a site visit to collect real-time energy consumption data and then follow up with the customer several weeks later to obtain the results.

2. RESIDENTIAL PROGRAMS

This section presents the evaluation results for CY 2024 for these residential programs and their offerings by chapter.

Direct to Customer Program

- Online Marketplace offering
- Packs offering

Multifamily Program

- Multifamily offering
- Energy Design Assistance/Energy Design Review offering

Residential New Construction Program

- Residential New Construction offering
- New Manufactured Homes Pilot

Trade Ally Solutions Program

- Heating and Cooling offering
- Insulation and Air Sealing offering
- Tribal offering

3. Direct to Customer Program

In CY 2024, Focus on Energy's Direct to Customer Program provided two energy-saving opportunities targeted at residential utility customers. These two offerings, described below, provided customers with reduced-cost or free energy-efficient products:

- **Online Marketplace** offers discounted efficient products through an online store.
- The **Packs** offering provides free packs of efficient products to residential customers.

APTIM administers the Direct to Customer Program, and TechniArt, the implementer, conducts the program's day-to-day operations. Additional details about the Direct to Customer Program offerings can be found in the *Process Evaluation* section of this chapter.

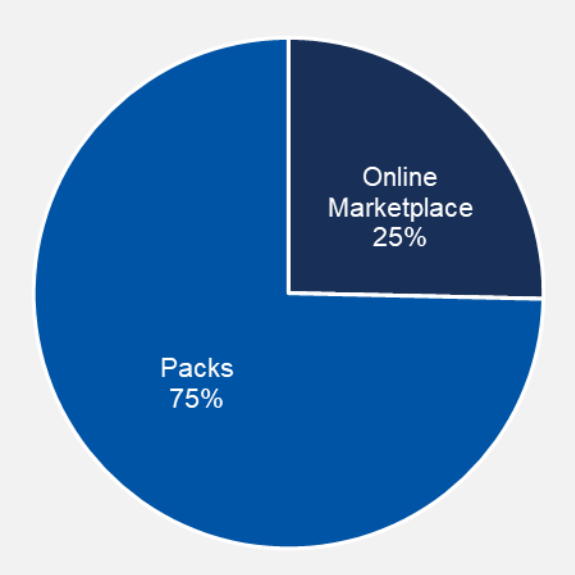
Table 1 summarizes the CY 2024 impacts for the total Direct to Customer Program.

Table 1. CY 2024 Direct to Customer Program Summary

Item	Units	CY 2024
Incentive Spending	$	$6,313,026
Participation	Number of Participants	139,989
Verified Gross Lifecycle Savings	kWh	155,227,864
	kW	676
	therms	32,574,855
Verified Gross Lifecycle Realization Rate	% (MMBtu)	125%
Annual Net-to-Gross (NTG) Ratio	% (MMBtu)	80%
Net Annual Savings	kWh	12,785,947
	kW	550
	therms	2,406,403
Net Lifecycle Savings	MMBtu	3,016,498
Cost-Effectiveness	Total Resource Cost (TRC) Test: Benefit/Cost Ratio	2.30

Figure 2 shows the proportion of verified gross lifecycle MMBtu savings by offering. In CY 2024, the Packs offering accounted for the largest share of savings (75%) in the Direct to Customer Program.

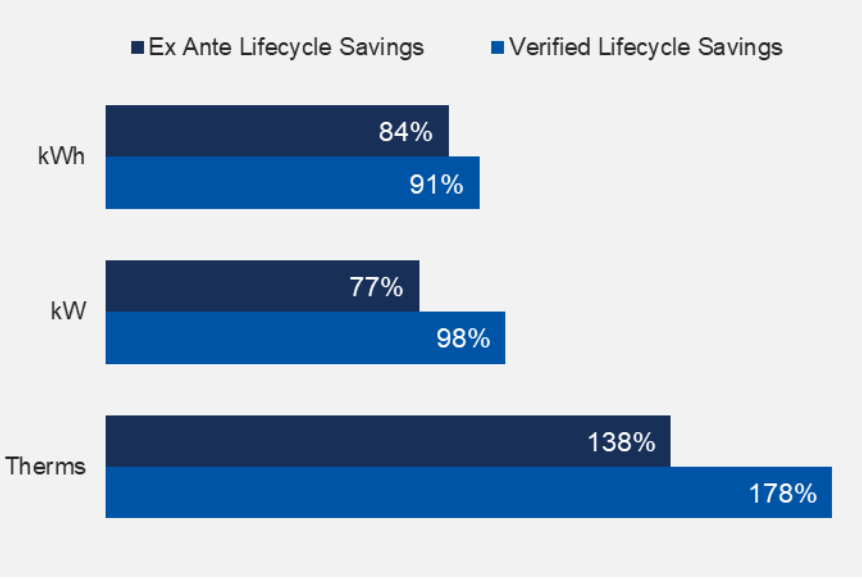
Figure 2. Allocation of CY 2024 Direct to Customer Program Gross Lifecycle Savings by Offering



3.1. Achievement Against Goals

Figure 3 shows the percentage of gross lifecycle savings goals achieved by the Direct to Customer Program in CY 2024. The total program did not achieve its kWh goal, fell slightly short of its kW goal, and exceeded its therms goal in CY 2024.

Figure 3. CY 2024 Direct to Customer Program Achievement of Gross Lifecycle Savings Goals



100% *ex ante* gross lifecycle savings reflects the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

3.2. Impact Evaluation

This section presents the findings for CY 2024 impact evaluation at the program level, followed by a discussion of each offering.

Impact Evaluation Methodology

Table 2 lists the CY 2024 impact evaluation activities for the Direct to Customer Program. Additional details about these activities and the associated findings can be found in the offering-specific discussions below, as well as Appendix H. Net Savings Analysis in Volume III. To calculate gross verified savings, the evaluation team relied on the 2024 TRM, CY 2024 Online Marketplace and Packs participant surveys, and previous evaluation results.

Table 2. CY 2024 Direct to Customer Impact Evaluation Activities and Sample Sizes

Activity	Online Marketplace	Packs
Tracking Database Review	Census	Census
Participant Survey, Online Marketplace	600	N/A
Participant Survey, Focus on Comfort Pack	N/A	169
Participant Survey, Focus on Baths Pack	N/A	156
Participant Survey, Focus on Showers Pack	N/A	184

Verified Gross Savings Results for the Direct to Customer Program

Table 3 lists the first-year and lifecycle realization rates for CY 2024 by offering, and Table 4 lists verified first-year and lifecycle savings. Overall, the program achieved a first-year evaluated realization rate of 115%, weighted by total (MMBtu) energy savings. Detailed findings for each offering, including factors affecting the realization rates, are discussed in the next section.

Table 3. CY 2024 Direct to Customer First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Online Marketplace	103%	162%	105%	104%	103%	105%	105%
Packs	102%	126%	121%	119%	116%	136%	134%
Total	**102%**	**128%**	**117%**	**115%**	**109%**	**128%**	**125%**

Table 4. CY 2024 Direct to Customer First-Year and Total Lifecycle Verified Gross Savings

Offering	Verified First-Year Savings				Verified Lifecycle Gross Savings		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Online Marketplace	8,810,010	54	700,563	100,116	80,749,583	6,846,386	960,156
Packs	6,315,605	622	2,341,164	255,665	74,478,281	25,728,469	2,826,967
Total	**15,125,614**	**676**	**3,041,726**	**355,781**	**155,227,864**	**32,574,855**	**3,787,123**

Online Marketplace: Verified Gross Savings Results

The evaluation team relied on the 2024 TRM, recently approved work papers, and results of the CY 2024 Online Marketplace participant survey to assess savings from measures sold through the Online Marketplace in CY 2024. Using actual CY 2024 participation data, the team developed weighted average unit savings that reflect the distribution of single-family and multifamily participation. Table 5 shows the *ex ante* and verified savings for the offering. The offering achieved a lifecycle MMBtu realization rate of 105%.

Table 5. CY 2024 Online Marketplace *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
First-Year Gross Savings	8,588,950	33	669,523	8,810,010	54	700,563
Lifecycle Gross Savings	78,169,952	33	6,503,305	80,749,583	54	6,846,386

Tracking Database Review

The evaluation team reviewed the tracking database of all measures sold through the Online Marketplace and found the data were generally clean and in good order.

In-Service Rates

To account for measures installed and in use by participants, the evaluation team applied in-service rates (ISRs) to gross savings. The team applied ISRs from the CY 2024 Online Marketplace participant survey for all measures except the domestic hot water (DHW) temperature turndown card, which had low participation. For this measure, the team applied the ISR from the CY 2024 Packs survey.

Table 6 shows the *ex ante* and verified lifetime ISRs used in the CY 2024 impact evaluation, along with the sources for the verified ISRs.

Table 6. CY 2024 Online Marketplace ISRs by Measure

Measure Name	*Ex Ante* ISR	Verified ISR	Verified ISR Source
Advanced Power Strip, Tier 1	93%	86%	2024 Online Marketplace Participant Survey
Advanced Power Strip, Tier 2	70%	86%	2024 Online Marketplace Participant Survey
Showerhead	77%	83%	2024 Online Marketplace Participant Survey
ShowerStart	78%	80%	2024 Online Marketplace Participant Survey
Faucet Aerator	82%	75%	2024 Online Marketplace Participant Survey
Insulation, DHW Pipe, Pack-based	35%	83%	2024 Online Marketplace Participant Survey
DHW, Temperature Turndown, Pack-based	16%	36%	2024 Packs Participant Survey
Room Air Cleaner	100%	100%	2024 Online Marketplace Participant Survey
Weatherstripping, Door Sweep	50%	66%	2024 Online Marketplace Participant Survey
Weatherstripping, Door	50%	43%	2024 Online Marketplace Participant Survey
Weatherstripping, Window	50%	47%	2024 Online Marketplace Participant Survey
Outlet Gaskets	50%	55%	2024 Online Marketplace Participant Survey
Deluxe Window Film	50%	71%	2024 Online Marketplace Participant Survey
Smart thermostat	100%	100%	Deemed savings account for the ISR

Smart Thermostats

The Online Marketplace reported savings for four smart thermostat measures in CY 2024. For one of these measures (MMID 10052), *ex ante* applied deemed savings from the 2024 TRM, which aligned with the evaluation team's approach and resulted in realization rates of 100%. The other three smart thermostat measures (MMIDs 5255, 5257, and 5259) were legacy smart thermostat MMIDs that were eliminated in the 2024 TRM but were still used for measures ordered in late CY 2023 but treated as CY 2024 participants. For these measures, the evaluation team applied 2022 smart thermostat billing analysis results, which serve as the basis for smart thermostat savings in the 2024 TRM. *Ex ante* applied deemed savings from the 2023 TRM, which did not reflect the 2022 billing analysis. As a result, these three smart thermostat measures had realization rates either below or above 100% due to discrepancies between the two savings sources. Table 7 lists first-year measure-level realization rates for the CY 2024 smart thermostat measures.

Table 7. CY 2024 Smart Thermostat First-Year Realization Rates

Measure Name, MMID	First-Year Realization Rate			
	kWh	kW	therms	MMBtu
Smart Thermostat, Existing Air-Source Heat Pump, 5255	90%	N/A	N/A	68%
Smart Thermostat, Existing Natural Gas Boiler, 5257	231%	N/A	82%	90%
Smart Thermostat, Existing Natural Gas Furnace, 5259	103%	N/A	116%	111%
Smart Thermostat, Gas and Electric, 10052	100%	N/A	100%	100%
Total	**101%**	**N/A**	**103%**	**102%**

In CY 2024, the administrator identified a fraudulent case involving a customer who purchased large quantities of smart thermostats in CY 2023 and CY 2024. To address this, the administrator and the evaluation team zeroed out *ex ante* and verified savings for all thermostats purchased by the customer in CY 2023 and CY 2024. The CY 2023 thermostats received negative savings in CY 2024, which will balance savings when they are rolled up at the end of the quadrennium.

Aeration and Showerhead Measures

Ex ante savings for aerators, showerheads, and thermostatic shutoff valves applied deemed savings from the 2022, 2023, and 2024 TRMs. Specifically, for measures that were ordered in late CY 2023 but treated as CY 2024 participants, *ex ante* applied deemed savings from the 2022 TRM to aerators, showerheads, and thermostatic shutoff valves with showerheads. For thermostatic shutoff valves without showerheads, *ex ante* applied deemed savings from the 2023 TRM. The evaluation team applied savings from only the 2024 TRM and ISRs from the 2024 Online Marketplace participant survey, which resulted in realization rates that deviated above and below 100%. Table 8 lists first-year measure-level realization rates for the CY 2024 aerator, showerhead, and thermostatic shutoff valve measures.

Table 8. CY 2024 Aeration and Showerhead First-Year Realization Rates

Measure Name, MMID	First-Year Realization Rate			
	kWh	kW	therms	MMBtu
Faucet Aerator, Bathroom, 1.0 GPM, 4909	95%	95%	91%	92%
Faucet Aerator, Kitchen, 1.5 GPM, 4910	91%	92%	91%	91%
Showerhead, Handheld, 1.5 GPM, 5043	108%	144%	108%	108%
Showerhead, Upgraded, 1.5 GPM, 4911	108%	106%	108%	108%
Thermostatic Shutoff Valve with 1.5 GPM Showerhead, 5186	110%	109%	95%	97%
Thermostatic Shutoff Valve, 5184	92%	92%	94%	94%

Weatherization Measures

In CY 2023, Focus on Energy added four new measures to the Online Marketplace: deluxe window film, outlet gaskets, window weatherstripping, and door weatherstripping. In CY 2024, the evaluation team continued to follow the guidance in work paper W0309 to assess these measures, using the same methodology as in CY 2023; however, the evaluation team applied ISRs from the 2024 participation survey. *Ex ante* applied deemed savings from work paper W0309, which includes an assumed ISR of 50%. The difference in ISRs from evaluated and *ex ante* savings resulted in realization rates that deviated from 100%. Table 9 lists first-year measure-level realization rates for the CY 2024 weatherization measures.

Table 9. CY 2024 Weatherization First-Year Realization Rates

Measure Name, MMID	First-Year Realization Rate			
	kWh	kW	therms	MMBtu
Deluxe Window Film, 5572	143%	N/A	143%	143%
Outlet Gaskets, 5573	110%	N/A	110%	110%
Weather Stripping, Door Sweep, 5567	131%	N/A	131%	131%
Weather Stripping, Door, 5568	86%	N/A	86%	86%
Weather Stripping, Window, 5570	93%	N/A	93%	93%
Total	**103%**	**N/A**	**103%**	**103%**

Packs: Verified Gross Savings Results

The evaluation team applied deemed savings from the 2024 TRM and ISRs from the CY 2020 and CY 2024 participant surveys to measures rebated through the Packs offering. Using actual CY 2024 participation data, the team developed weighted average unit savings that reflect the distribution of single-family and multifamily participation. Table 10 shows the *ex ante* and verified savings for the offering.

Table 10. CY 2024 Packs *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
First-Year Gross Savings	6,199,516	496	1,930,222	6,315,605	622	2,341,164
Lifecycle Gross Savings	64,384,161	496	18,851,837	74,478,281	622	25,728,469

Tracking Database Review

The evaluation team conducted a database review of all measures distributed through the Packs offering in CY 2024. The team generally found the tracking data to be clean and in good order.

Carryover Packs

For CY 2024, Focus on Energy reconfigured measures in the Packs offering to better align with customer interests. Specifically, the offering removed faucet aerators from all packs and reduced the number of night-lights in each pack from two to one. This resulted in 13,680 packs evaluated in CY 2024 that were carryover configurations from CY 2023 with MMIDs 5539, 5540, 5541, and 5542. For these packs, *ex ante* applied deemed savings from the 2023 work paper W0311. For verified savings, the evaluation team updated savings for pack measures at the measure level according to the 2024 TRM and ISRs based on the CY 2024 participant survey. Differences between *ex ante* and verified savings sources caused realization rates to deviate slightly above and below 100%. Table 11 lists first-year realization rates for the CY 2024 packs that were carryover configurations from CY 2023.

Table 11. CY 2024 Carryover Packs First-Year Realization Rates

Pack Name, MMID	First-Year Realization Rate			
	kWh	kW	therms	MMBtu
Advanced Power Strip Pack, 5539	97%	94%	99%	99%
Fixed Showerhead Pack, 5540	108%	121%	108%	108%
Handheld Showerhead Pack, 5541	102%	122%	100%	101%
Weatherization Pack, 5542	104%	N/A	104%	104%
Total	**105%**	**125%**	**104%**	**104%**

New Packs

Focus on Energy added new MMIDs in CY 2024 that reflect the new pack configurations. The team based the verified savings for the new MMID measures on the 2024 TRM and work paper W0309, which was approved in CY 2023. Table 12 lists the sources the team used to calculate verified savings for new MMIDs in the Packs offering.

Table 12. CY 2024 Packs Measure Verified Savings Sources

New MMID	Pack Name	Verified Savings Source	Verified ISR Source
10057	Fixed Showerhead Pack	2024 TRM	2024 Packs Participant Survey
10058	Handheld Showerhead Pack	2024 TRM	2024 Packs Participant Survey
10059	Weatherization Packs	CY 2023 Work paper	2024 Packs Participant Survey

For these updated iterations of the Focus on Showers pack (fixed showerhead) and Focus on Baths (handheld showerhead) pack, *ex ante* applied deemed savings from the 2024 work paper W0311. For verified savings, the evaluation team updated savings at the measure level according to the 2024 TRM and ISRs based on the CY 2024 participant survey. Differences between *ex ante* and verified savings sources caused realization rates to deviate below 100% for kWh and therms.

For the Focus on Comfort (weatherization) pack, *ex ante* savings applied per unit savings from the 2024 W0311 work paper instead of applying savings for the quantity of measures in the pack. The evaluation team applied savings from the 2024 TRM for the quantities of measures in the new pack configuration and updated ISRs based on the CY 2024 participant survey. This difference caused realization rates to be significantly higher than 100% for kWh and therms. The Focus on Comfort packs accounted for 15% and 59% of verified gross kWh and therms savings, respectively, which drove the overall offering's realization rates significantly higher than 100%. Table 13 lists first-year realization rates for the packs with new configurations in CY 2024.

Table 13. CY 2024 New Packs First-Year Realization Rates

Measure Details	First-Year Realization Rate			
	kWh	kW	therms	MMBtu
Fixed Showerhead Pack, 10057	99%	126%	98%	98%
Handheld Showerhead Pack, 10058	93%	126%	90%	91%
Weatherization Pack, 10059	144%	121%	148%	147%
Total	**101%**	**126%**	**124%**	**122%**

In-Service Rates

The evaluation team surveyed CY 2024 Packs participants across the Focus on Comfort, Focus on Baths, and Focus on Showers packs to assess measure-level installation rates for each pack. Table 14 shows the results of this analysis. Although ISRs vary across measures, most of the verified ISRs are higher than the ISR that was used to calculate *ex ante* savings.

Table 14. CY 2024 Pack ISRs by Measure

Pack	Measure Name	*Ex Ante* ISR	Verified ISR
Focus on Showers	Insulation, DHW Pipe, Pack-based	35%	50%
	Upgraded Showerhead, 1.5 GPM, Pack-based	72%	70%
	DHW, Temperature Turndown, Pack-based	16%	20%
Focus on Baths	Insulation, DHW Pipe, Pack-based	35%	53%
	Handheld Showerhead, 1.5 GPM, Pack-based	73%	59%
	DHW, Temperature Turndown, Pack-based	16%	21%
Focus on Comfort	Door Sweep	50%	53%
	Door Weatherstripping	50%	47%
	Outlet Gasket	50%	42%
	Switch Gasket	50%	42%
	Window Film Insulation	50%	59%
	DHW, Temperature Turndown, Pack-based	16%	18%

In general, ISR updates did not significantly affect kWh and therms realization rates. However, the increased ISRs for pipe insulation and DHW temperature turndown cards led to high kW realization rates for packs relative to their kWh and therms realization rates. These measures contributed more to overall pack kW savings than to overall kWh or therms savings, meaning the increased ISRs had a greater impact on the kW realization rates.

Verified Net Savings Results for Direct to Customer Program

For the CY 2024 evaluation, the team used participant surveys to assess net savings for the Online Marketplace and Packs offerings. The survey questions for self-reported NTG values allowed the evaluation team to calculate measure-level freeridership (measures that would have been purchased without the offering's influence) and offering-level spillover (offering-induced energy-saving actions).

To calculate the measures' final NTG ratios, the evaluation team combined self-reported freeridership and spillover results using the following equation. A complete summary of the team's self-report NTG analysis and findings can be found in Appendix H. Net Savings Analysis in Volume III.

$$NTG = 1 - Freeridership + Participant\ Spillover$$

Table 15 and Table 16 show CY 2024 freeridership and spillover results for the Online Marketplace and Packs offerings, respectively.

Table 15. CY 2024 Online Marketplace Freeridership and Spillover Results by Measure

Offering	Measure	Freeridership	Spillover	NTG (1 – Freeridership + Spillover)
Online Marketplace	Advanced Power Strip	21%	1%	80%
	Showerhead	18%	1%	83%
	ShowerStart	6%	1%	95%
	Faucet Aerator	25%	1%	76%
	Insulation, DHW Pipe, Pack-based	16%	1%	85%
	Room Air Cleaner	25%	1%	76%
	Weatherstripping, Door Sweep	22%	1%	79%
	Weatherstripping, Door	14%	1%	87%
	Weatherstripping, Window	17%	1%	84%
	Outlet Gaskets	13%	1%	88%
	Deluxe Window Film	21%	1%	80%
	Smart thermostat	13%	1%	88%

Table 16. CY 2024 Packs Freeridership and Spillover Results by Measure

Offering	Measure	Freeridership	Spillover	NTG (1 – Freeridership + Spillover)
Packs	Door Sweep	20%	2%	82%
	Door Weatherstripping	26%	2%	76%
	Outlet Gasket	9%	2%	93%
	Switch Gasket	8%	2%	94%
	Window Film Insulation	41%	2%	61%
	Insulation, DHW Pipe, Pack-based	23%	2%	79%
	DHW, Temperature Turndown, Pack-based	31%	2%	71%
	Handheld Showerhead, 1.5 GPM, Pack-based	15%	2%	87%
	Upgraded Showerhead, 1.5 GPM, Pack-based	22%	2%	80%

Table 17 shows the weighted average NTG ratio by offering as well as the total first-year gross and net savings. The evaluation team calculated an overall NTG estimate of 80% for the program in CY 2024.

Table 17. CY 2024 Direct to Customer First-Year Net Savings and NTG

Offering	First-Year Gross Verified Savings (MMBtu)	First-Year Net Savings (MMBtu)	NTG Ratio
Online Marketplace	100,116	87,307	87%
Packs	255,665	196,959	77%
Total	**355,781**	**284,266**	**80%**

3.3. Process Evaluation

Focus on Energy made minimal adjustments to the Direct to Customer Program offerings in CY 2024, with the most significant change being the reconfiguration of measures in the Packs offering to better align with customer interests. Additionally, in September CY 2024, the Online Marketplace and Packs websites were merged into one new platform to promote more cross-participation between the two offerings. The evaluation team conducted a process evaluation for the Direct to Customer Program in CY 2024, focusing primarily on participant experiences with the different packs, online marketplace measures, and customer satisfaction across the whole program.

Process Evaluation Methodology

Table 18 lists the data collection activities and sample sizes for the Direct to Customer Program process evaluation. Descriptions of process evaluation activities and discussions of findings are provided below.

Table 18. CY 2024 Direct to Customer Process Evaluation Activities and Sample Sizes

Activity	Online Marketplace	Packs	Total
Implementation Plan Review and Program Staff Interviews	✓	✓	**N/A**
Participant Survey	600	509	**1,109**
Website Redesign Participant Survey	430	564	**994**
Customer Satisfaction Survey	1,449	1,564	**3,013**

Implementation Plan Review and Program Staff Interviews

The evaluation team reviewed the implementation plan and conducted program staff interviews for the Direct to Customer Program to understand how it operated in CY 2024. The implementer developed the implementation plan to document programmatic details, such as eligible measures, targeted participants, and delivery channels, and to illustrate how the program design generates short- and long-term energy-saving impacts. The team conducted staff interviews to explore areas of research interest, identify any program changes since the beginning of the year, and address any gaps in our team's understanding of program details.

Participant Surveys

During October and November 2024, the evaluation team contacted a random sample of Direct to Customer participants who ordered one of the Focus on Energy Packs or purchased measures from the

Online Marketplace between January 1 and August 30, 2024. The survey asked participants about their awareness of Focus on Energy, motivation for participating, measure satisfaction, measure installation, and energy-saving actions and habits. The team also used the responses from this survey to conduct an ISR and NTG analysis of Direct to Customer measures as a part of the impact evaluation.

Additionally, in spring 2025, the evaluation team conducted a supplemental survey of Packs and Online Marketplace participants to gauge their experience with the redesigned website. Online Marketplace and Packs participants who engaged with the website after its launch on September 11, 2024, and before the end of CY 2024 were included in the sample. The survey asked participants questions about their awareness of the changes to the website, whether its design encouraged them to explore both offerings, whether they ordered products from both and which packs or online store measures they ordered, and about their overall satisfaction with different aspects of the website.

Ongoing Customer Satisfaction Surveys

Throughout CY 2024, the administrator emailed Direct to Customer participants links to the web-based satisfaction surveys. There were two objectives for these satisfaction surveys:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help to facilitate timely follow-up with customers to clarify and address service concerns

Using contact information stored in SPECTRUM, the administrator ran web-based satisfaction surveys throughout the year for CY 2024 participants. The survey covered several topics, including overall satisfaction, satisfaction with program staff and trade allies, and the likelihood of recommending Focus on Energy.

Design and Delivery

This section describes the design and delivery of the Online Marketplace and Packs offerings in CY 2024.

Online Marketplace Offering

The Online Marketplace is an online shopping platform where residential customers can purchase energy-efficient products at a discounted price. Many measures available through the Online Marketplace did not change between CY 2023 and CY 2024. In CY 2024, incentives for weatherization and water-saving products increased. These measures are the same as those included in the new Focus on Comfort pack and allow for the individual purchase of products found in packs. The implementer maintained the Online Marketplace platform in CY 2024 and fulfilled and delivered Online Marketplace orders within 15 days of the time of purchase. Table 19 shows the energy efficiency products and instant rebates that were available through the Online Marketplace during CY 2024.

Table 19. CY 2024 Online Marketplace Products and Instant Rebate

Measure	Instant Rebate
Smart thermostats	$50
Advanced Power Strips	Tier 1: $13
Low-Flow Showerheads	$2-$20, varies by model
Faucet Aerators	$1.50-$3, varies by model
Air Purifier	$15-$25, varies by model
Door Weatherstripping	$8
Door Sweep	$5
Pipe Insulation Wrap	$8
Switch/Outlet Gaskets	$0.25
Water Temperature Gauge	$0.25
Window Film Insulation	$1
Window V-seal Weatherstripping	$2.66

Packs Offering

Through the Packs offering, single-family and multifamily customers can order free packs containing an assortment of energy-efficient measures. In CY 2024, the implementer removed faucet aerators from all packs based on past evaluation research that found aerators had low ISRs and redistributed funds to support measures that customers utilized more. Like aerators, the program also reduced the number of night-lights in each pack from two to one based on past evaluation findings that customers were more likely to use only one night-light instead of installing both. Similar to the last half of CY 2023, the program did not claim savings for night-light measures in CY 2024.

In CY 2024, customers could request a free pack through Focus on Energy's online web portal or call center. TechniArt processed and shipped pack orders within four to six weeks of receipt of the request.

Table 20 shows the number of measures in the three energy-saving packs delivered in CY 2024.

Table 20. CY 2024 Packs Offering Contents by Pack Type

Measure	Focus on Comfort	Focus on Showers	Focus on Baths
60W Equivalent A19 LEDs[a]	2	2	
Switch and Outlet Gaskets	10		
Dusk-to-Dawn LED Night-Lights[a]	1	1	1
Self-Adhesive Door Sweep	1		
17-foot Rolls of Door Weatherstripping	2		
Window Film Insulation Kit	1		
Hot Water Temperature Card	1	1	1
High-Efficiency Showerhead		1	
High-Efficiency Handheld-Showerhead			1
15-foot Pipe Insulation Wrap		1	1

[a] Savings for LEDs were discontinued after June 30, 2023, in accordance with the U.S. Department of Energy's ruling that all general service lamps must meet a 45 lumens per watt threshold by June 30, 2023. This ruling essentially made LEDs the new energy-saving baseline for lighting starting August 1, 2023. The program continued to distribute LEDs through the Packs offering in CY 2024 to promote customer satisfaction; however, the program did not claim savings for those measures.

Marketing and Outreach

Throughout CY 2024, the implementer continued to promote pack types seasonally to highlight the packs' unique features and benefits. The implementer also sought to supply utilities with fresh content to engage customers. Table 21 highlights Packs promotions throughout CY 2024.

Table 21. CY 2024 Packs Promotions

Seasonal Theme	Pack Focus	Summary	Date Range
Plug those Leaks	Focus on Comfort	With messaging centered around improving home warmth without adjusting the thermostat, the implementer promoted weatherization and the Focus on Comfort Pack by creating new content to help customers identify drafts and use Pack items to seal them.	Jan-Feb
Spring Cleaning/Mud Season	Focus on Baths	Recognizing that spring brings more outdoor activities—and more mud—the implementer leveraged this seasonal shift to promote the Focus on Baths pack, emphasizing how keeping kids and pets clean efficiently helps maintain a tidy home while conserving water.	Apr
Refresh and Relax	Focus on Showers	To promote the Focus on Shower Pack, the implementer highlighted the need to cool off and clean up after active summer outings, appealing to adventurous individuals, families, and couples.	Jul
Sweater Weather	Focus on Comfort	To promote the Weatherization Pack, the implementer emphasized the joys of winter—sports, family gatherings, and holidays—while showcasing the benefits of a warm, comfortable home.	Oct

Multiple promotions were available through the Online Marketplace in CY 2024 to promote specific measures. Table 22 lists the targeted measures, promotion summary, and timing of the promotion. The implementer also took peak sales activity into account, highlighted best-selling items (such as smart thermostats), and replicated successful promotions from CY 2023. Weatherization was also encouraged in the fall to prepare for colder weather, alongside partnering with utilities and cooperatives.

Table 22. CY 2024 Online Marketplace Promotions

Campaign	Promotion Timing
Bath Push	Feb 19 – Mar 3
Earth Month – Smart Thermostats	Apr 8 – Apr 28
Water-Saving Devices	May 13 – Jun 2
Weatherization	June
Smart Thermostats	Jun 17 – Jul 14
Rural & Muni/Public Power	Sep 30 – Nov 3
Smart Thermostat Promotion for Energy Efficiency Awareness Month	Sep 24 – Oct 8
Weatherization	Oct 13 – Oct 27
Smart Black Friday/Cyber Monday – Smart Thermostats	Nov 4 – Dec 1

The mid-February to early March Bath Push campaign caused a small uptick in participation in water-saving measures, with 5% of all low-flow device purchases (n=14,439) occurring in February. Similarly, the Earth Month promotion for smart thermostats led to a small increase in demand, with 7% of all smart thermostat purchases (n=18,981) made in April. However, the mid-June to mid-July Smart Thermostat promotion and the Black Friday/Cyber Monday Smart Thermostat promotion were very successful, with 16% and 58% of all smart thermostat purchases occurring in July and November, respectively.

The mid-May to early June Water-Saving Devices promotion also proved to be very successful, with 63% of all low-flow device purchases occurring in May. The rural and muni/public power promotion, which marketed weatherization measures, and the October weatherization promotion were two other highly successful marketing events, accounting for 52% and 10% of all weatherization measure purchases (n=17,826) in October and November, respectively.

The peak months for all Online Marketplace orders (excluding LEDs) were June (13%), October (26%), and November (30%).

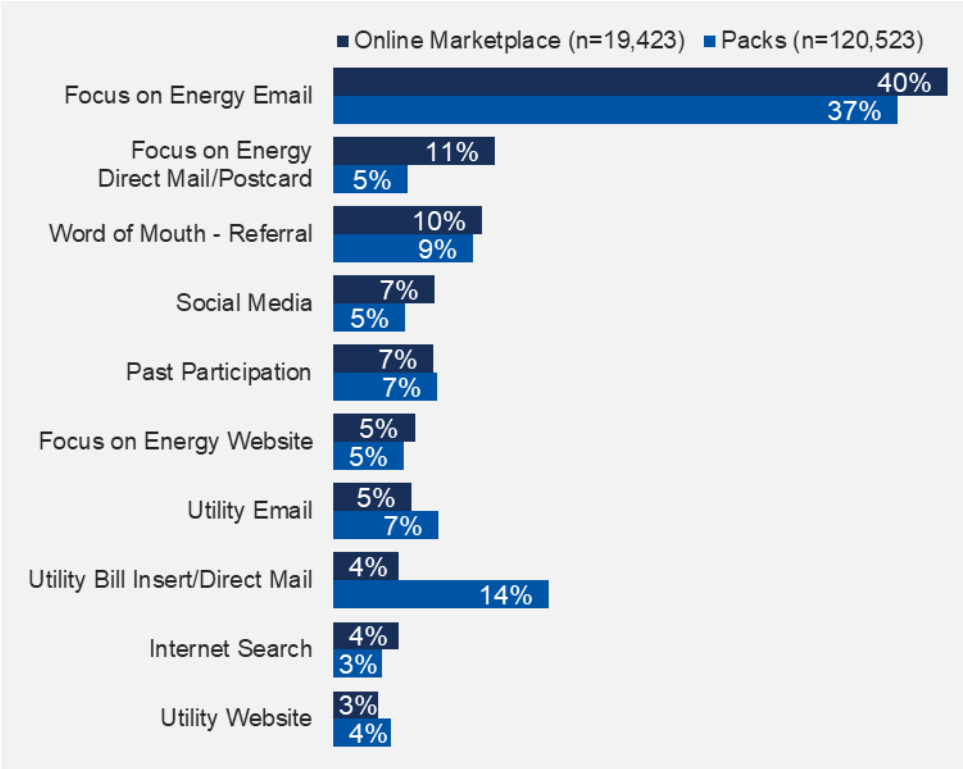
Program Customer Experience

The evaluation team assessed customer experience with the Packs and Online Marketplace offerings using responses captured in SPECTRUM and results from the CY 2024 participant surveys. This section presents those findings.

Program Participant Awareness and Motivation

Program tracking data included information about how participants learned about the Online Marketplace and Packs offerings. As shown in Figure 4, respondents reported emails from Focus on Energy were their top source for learning about the Online Marketplace and Packs offerings at 40% and 37%, respectively. This was followed by Focus on Energy direct mail for Online Marketplace respondents (11%) and utility bill insert for Packs respondents (14%). For both offerings, newspaper, radio, real estate agent, billboard, Focus on Energy staff or event, utility contact, and television were the least reported sources, with less than 1% each (not shown in Figure 4).

Figure 4. Online Marketplace and Packs Sources of Awareness



Source: CY 2024 Focus on Energy Direct to Customer SPECTRUM Data for residential offerings. "How did customer hear about Focus?"

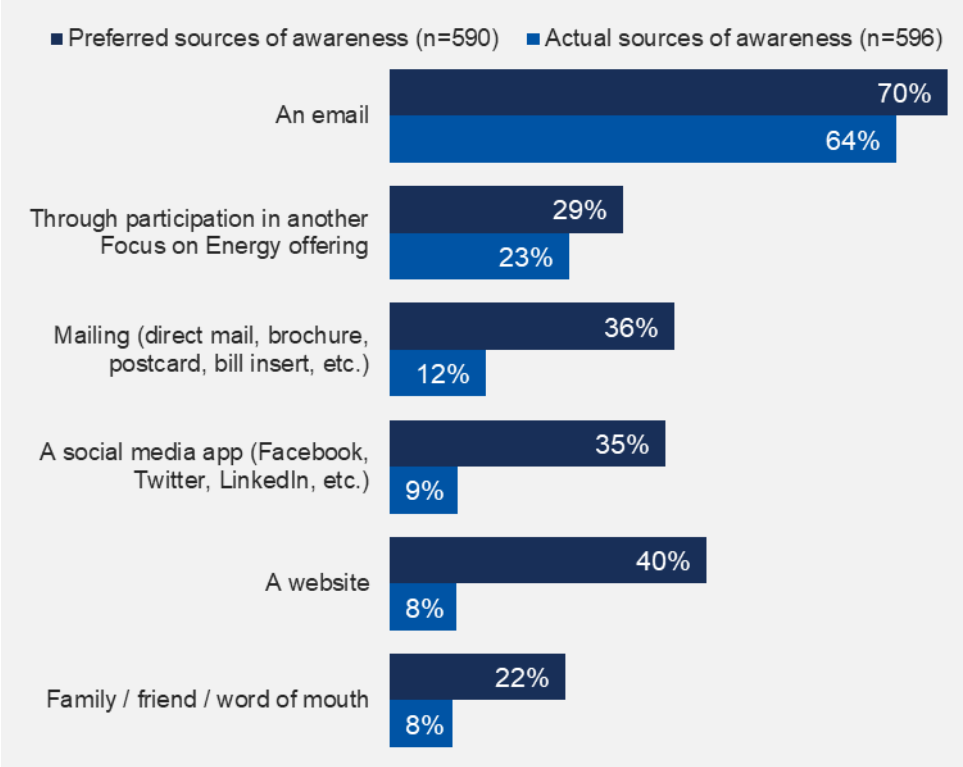
Online Marketplace: Customer Experience

The following sections summarize findings from the CY 2024 Online Marketplace participant survey.

Awareness and Motivation

The survey asked Online Marketplace participants where they heard about Focus on Energy discounts for energy efficiency products through the Online Marketplace and how they would prefer to learn about other Focus on Energy updates. The majority of respondents said they heard about discounts through email (64%), which was also respondents' preferred source of awareness (70%). Respondents were next most likely to learn about the Online Marketplace through participating in another Focus on Energy offering (23%) and mailings (12%); however, respondents preferred to hear about updates through websites (40%), mailings (36%), and social media (35%). Figure 5 shows a full breakdown of how CY 2024 survey respondents heard about Focus on Energy discounts for energy efficiency products available through the Online Marketplace.

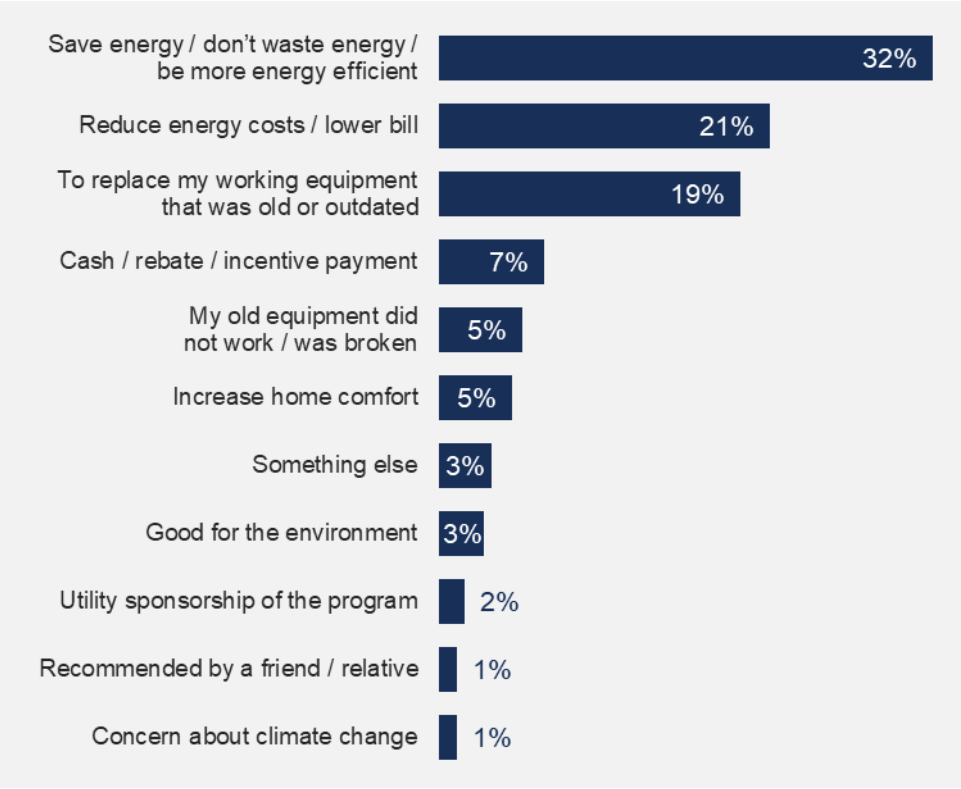
Figure 5. Sources of Awareness (Online Marketplace)



Source: CY 2024 Focus on Energy Online Marketplace Participant Survey: "Where have you heard about Focus on Energy discounts for energy efficiency products available through the Online Marketplace? Select all that apply."

Survey results for Online Marketplace showed most respondents participated in the offering to save energy, not waste energy, or be more energy efficient (32%), followed by reducing their energy costs and lowering their energy bills (21%), and to replace broken or old items in their homes. Figure 6 shows the full breakdown of reported motivations for participation.

Figure 6. Motivation for Participation (Online Marketplace)

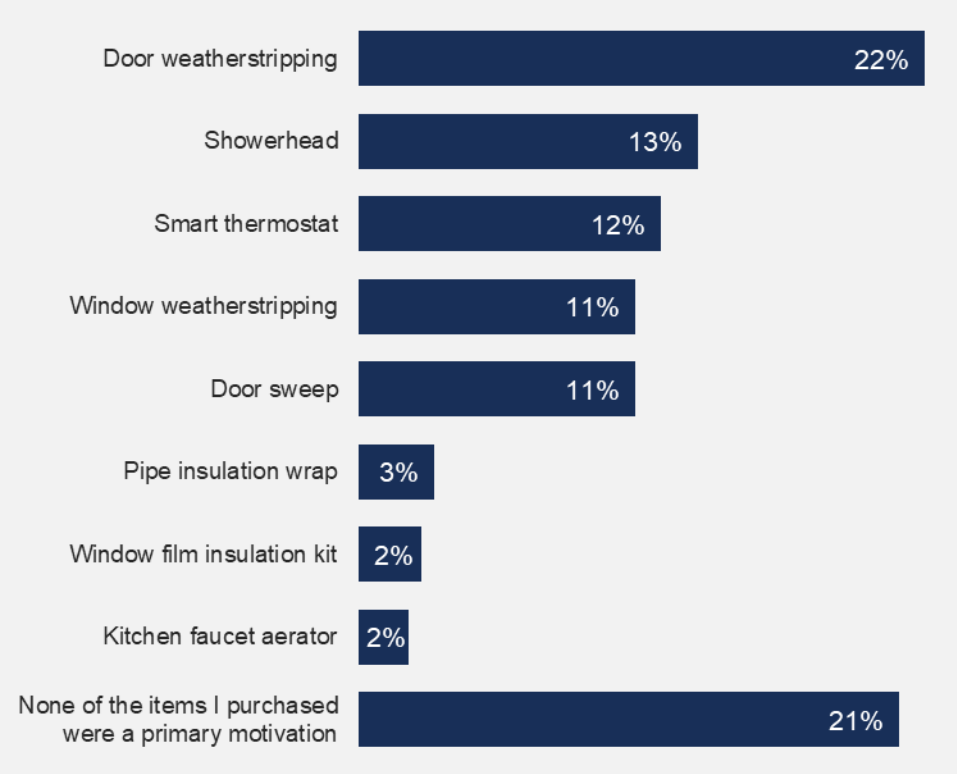


Source: CY 2024 Focus on Energy Online Marketplace Participant Survey: "What factor was the most important motivation for you to purchase the [MEASURE], "Thinking back to when you ordered your pack, what factor was the most important motivation for you to order the free pack?" (n=591)

Specific Product Motivations

The survey asked Online Marketplace survey respondents who purchased multiple items at once if one of the items they purchased was their primary motivation for shopping on the online marketplace (n=201). Door weatherstripping was the most popular product that brought participants to the online marketplace (22%). However, a similar percentage of respondents said that none of the measures was a primary motivator (21%). Figure 7 shows the full breakdown of the primary motivations for these respondents' purchases.

Figure 7. Specific Product Motivations (Online Marketplace)

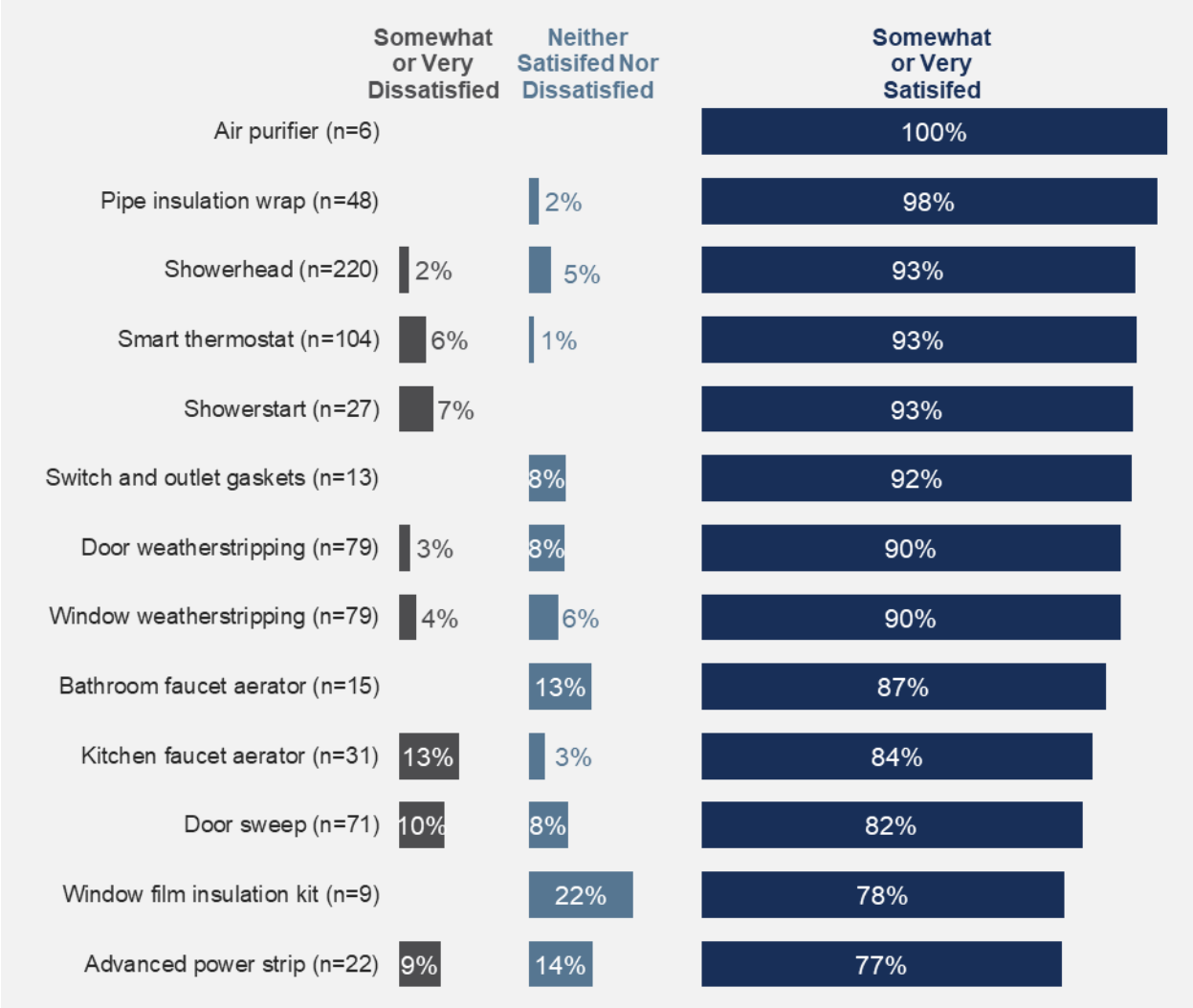


Source: CY 2024 Focus on Energy Pack Participant Survey: "Was one of the items you purchased your primary motivation for shopping on the online marketplace?" (n=201)

Measure Satisfaction

The survey asked participants for specific feedback on their satisfaction with the measures they ordered from the Online Marketplace. As shown in Figure 8, overall, participants are largely satisfied with all of the measures, with respondents being most satisfied with the air purifier (100%) followed by 98% of respondents satisfied with the pipe insulation wrap.

Figure 8. Level of Satisfaction with Measures (Online Marketplace)



Source: CY 2024 Focus on Energy Online Marketplace Participant Survey: "How satisfied are you with the [MEASURE] you received?"

Some participants who expressed dissatisfaction with their measure provided reasons for their dissatisfaction. Table 23 shows reasons for dissatisfaction from participants who were somewhat or very dissatisfied with their Online Marketplace measure.

Table 23. Comments on Measure Satisfaction

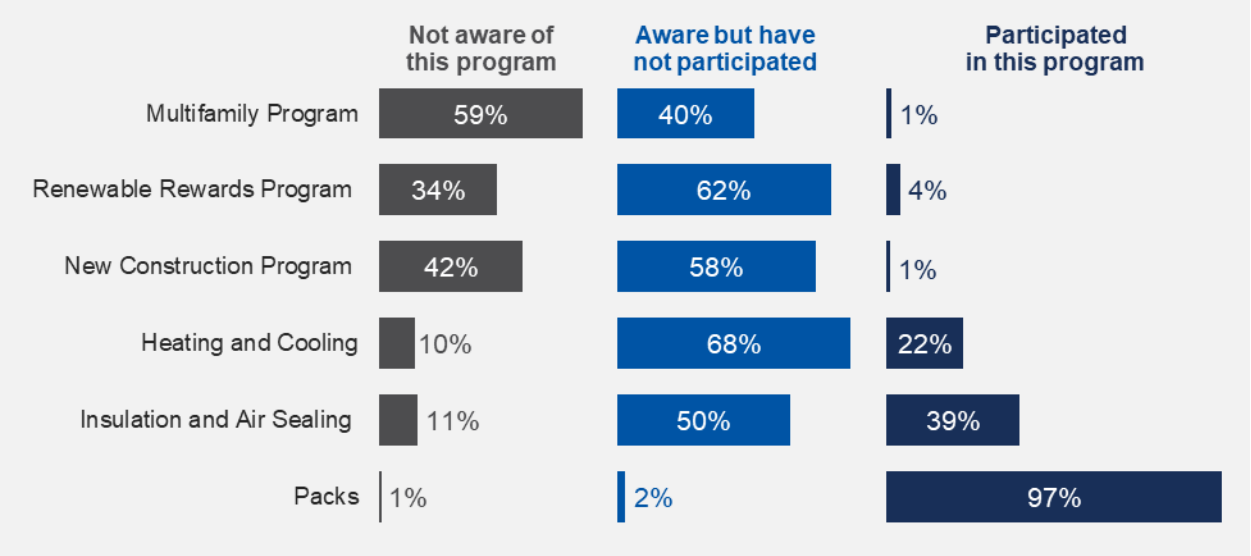
Measure	Comments
Showerhead	• "Complaints from family members about low flow." • "I did not get what I ordered." • "When you turn it on, it emits a huge blast of water spray, which is usually cold. Then the regulator in it kicks in, and the flow of water is terribly slow. It takes much too long to shower, trying to get shampoo out of my hair with not enough water pressure in the showerhead." • "Water output is very weak, and don't like the plastic showerhead. Very cheap."
Smart thermostats	• "I don't think it is nearly as easy to use [as the] Sensi thermostat I had in [my] prior house. The app isn't nearly as good as Sensi." • "It doesn't work as well as I hoped it would. It fails to register me at home or away at times, which was the main reason for purchase. As an example, I woke up freezing one morning because in the middle of the night it decided no one was home." • "It's hard to use, very little helpful instruction available." • "User interface for managing the setup and functions after setup are very poor." • "Will not connect to my phone without knocking the other thermostat off. "
Kitchen faucet aerator	• "Leaked and sprayed water."
Advanced power strip	• "The company's website/app is no longer available."

Note: Certain measures did not receive comments.
Source: CY 2024 Focus on Energy Online Marketplace Participant Surveys: "Why are you somewhat/very dissatisfied with the [MEASURE] you received?"

Focus on Energy Program Awareness

When asked about the multiple Focus on Energy programs and rebates, Online Marketplace participants said they were most likely to participate in the Packs program (97%). Figure 9 shows that nearly half or more of the participants were aware of, but did not participate in, the other programs, with most participants saying this occurred with the Heating and Cooling (68%) and Renewable Rewards (62%) programs. Overall, the program that the participants were least aware of was the Multifamily program (41%).

Figure 9. Focus on Energy Program Awareness (Online Marketplace)



Source: CY 2024 Focus on Energy Online Marketplace Participant Survey: "For the Focus on Energy programs and rebates listed below, please indicate which ones you are aware of and which ones you have participated in." (n=231)

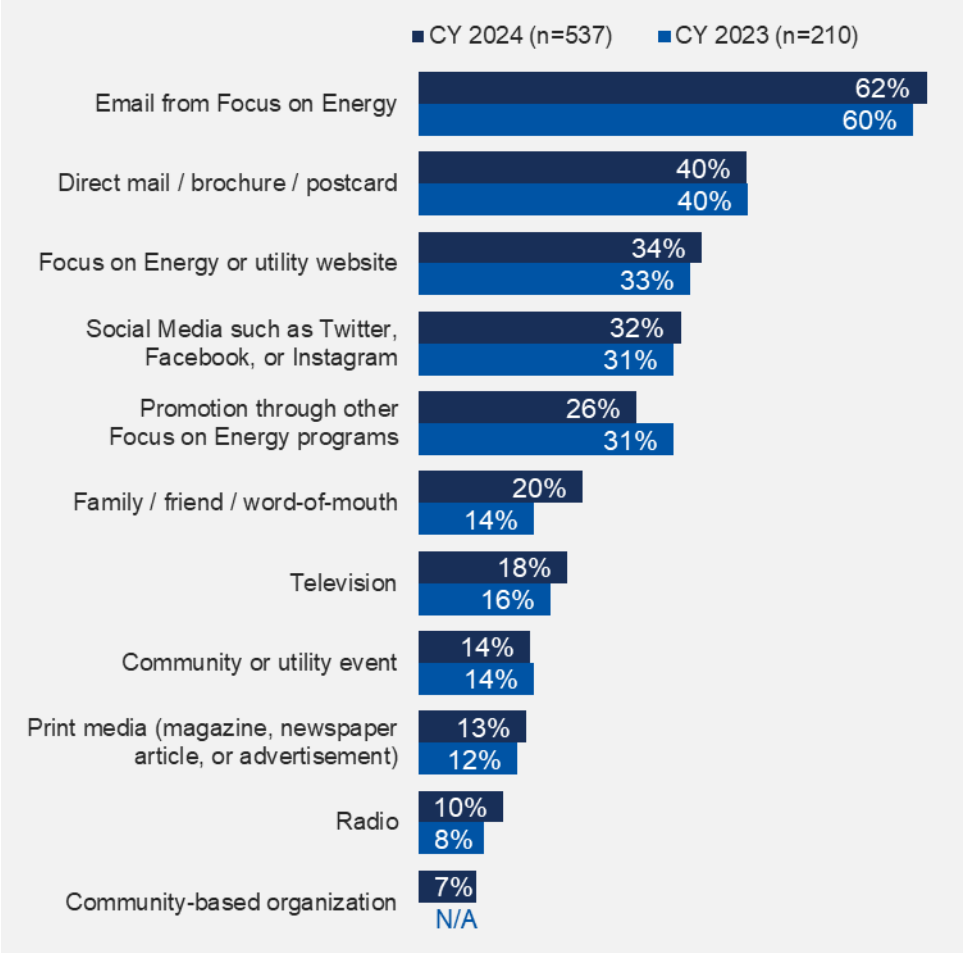
Packs Offering: Customer Experience

The following sections summarize findings from the CY 2024 Packs participant survey.

Awareness and Motivation

When asked how they preferred to hear about Focus on Energy programs and updates, the majority of CY 2024 Packs survey respondents said they preferred outreach similar to how they initially learned about Focus on Energy: through a Focus on Energy email (62%) and direct mail (40%). Compared to the CY 2024 survey, CY 2023 Focus on Comfort pack participants reported very similar preferences for hearing about Focus on Energy programs through an email from Focus on Energy, direct mail, the Focus on Energy or utility website, and social media. Figure 10 shows respondents' preferred source of awareness across both years.

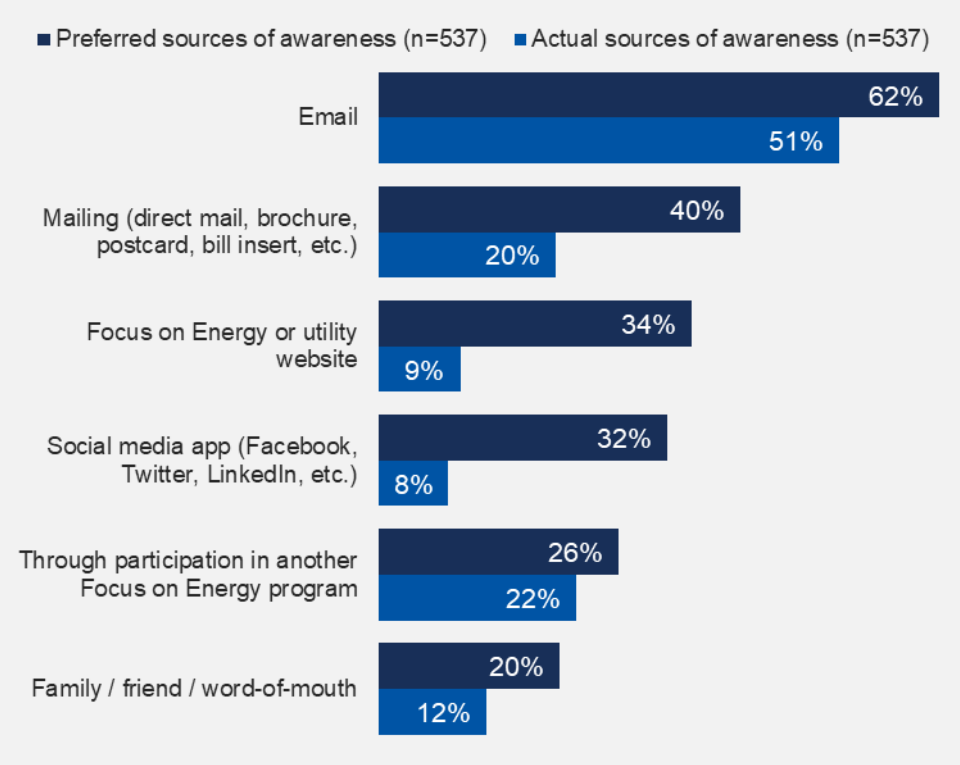
Figure 10. Preferred Source of Awareness (Packs)



Source: CY 2023/CY2024 Focus on (Comfort) Packs Participant Surveys: "What are the best ways for Focus on Energy to inform people about energy efficiency programs?"

Figure 11 shows the difference between how CY 2024 participants learned about the Packs offering and how they would prefer to learn about it. Similar to CY 2023, email remains the preferred source of awareness (62%) and the most common source of awareness (51%). Thirty-four percent of CY 2024 participants preferred to learn about the program through the Focus on Energy or utility website, whereas only 9% found out about the program this way.

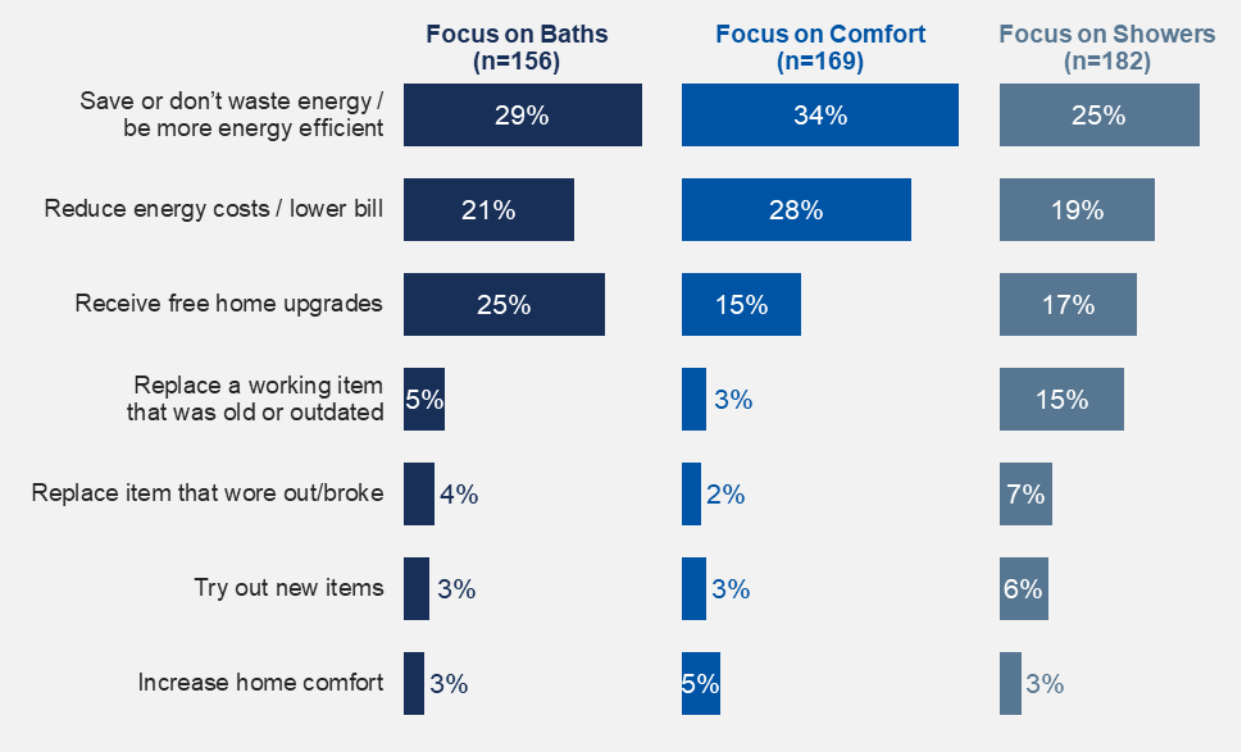
Figure 11. Actual and Preferred Sources of Awareness (Packs)



Source: CY 2024 Focus Pack Participant Survey: "Where have you heard about Focus on Energy's free Focus on Energy packs? Select all that apply." and "What are the best ways for Focus on Energy to inform people about energy efficiency programs? Select all that apply."

In CY 2024, survey respondents answered questions about why they ordered packs from Focus on Energy. As shown in Figure 12, most respondents said they wanted to save energy or be more energy efficient (Showers 25%, Comfort 34%, Baths 29%), followed by reducing their energy costs/bills (Showers 19%, Comfort 28%, Baths 21%) and receiving free items to make upgrades in their homes (Showers 17%, Comfort 15%, Baths 25%). Focus on Comfort responses are similar to responses provided in the CY 2023 participant survey.

Figure 12. Reasons for Ordering the Focus on Energy Pack

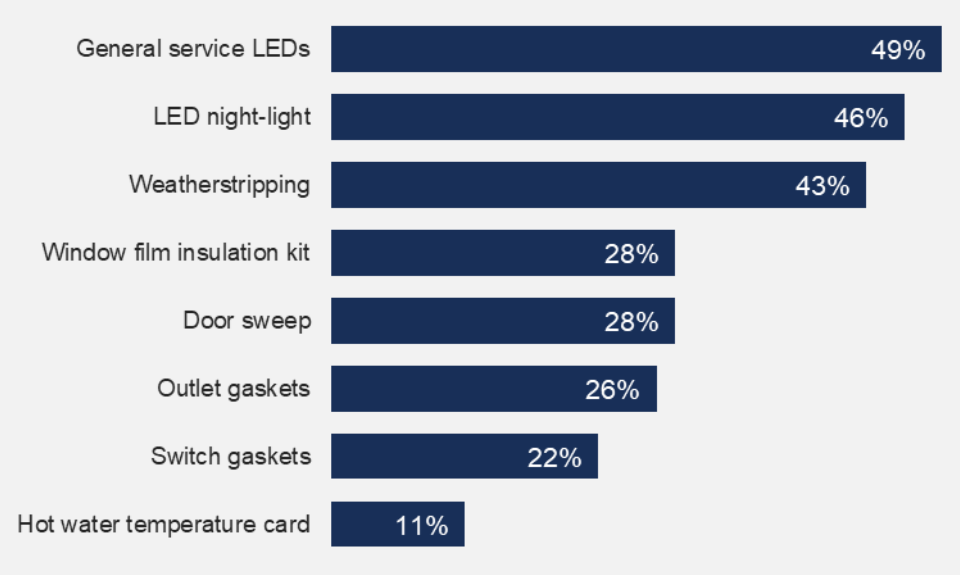


Source: CY 2024 Focus Pack Participant Survey: "Thinking back to when you ordered your pack, what factor was the most important motivation for you to order the free Focus on Energy pack?" (n=507)

Specific Product Motivations

The survey also asked which specific products motivated participants to choose the pack that they requested. Similar to CY 2023, lighting remains a primary motivator in CY 2024 for the Focus on Comfort (Figure 13) and Focus on Baths (Figure 14) packs, even though other measures in the packs generate more savings. Weatherstripping was the next most motivating measure in the Focus on Comfort pack.

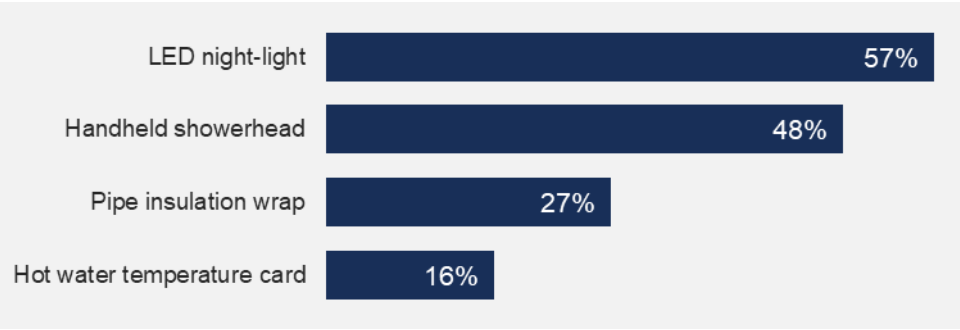
Figure 13. Specific Product Motivations for Focus on Comfort Pack



Source: CY 2024 Focus on Energy Pack Participant Survey: "Which specific products motivated you to choose the pack you requested? Select all that apply." (n=65)

As shown in Figure 14, most (57%) respondents said that night-lights were the biggest motivator for choosing the Focus on Bath packs, followed by showerheads.

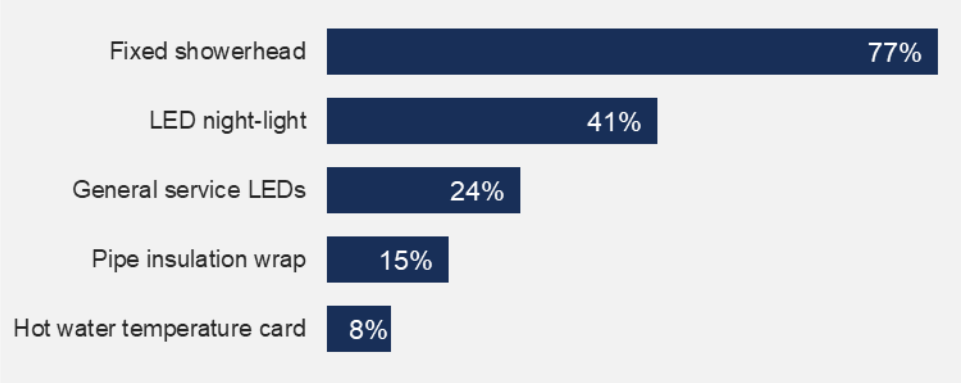
Figure 14. Specific Product Motivations for Focus on Baths Pack



Source: CY 2024 Focus on Energy Pack Participant Survey: "Which specific products motivated you to choose the pack you requested? Select all that apply." (n=83)

As Figure 15 shows, most respondents said fixed showerheads were the biggest motivator for choosing the Focus on Showers pack (77%), followed by the night-light (41%) and general service LEDs (24%).

Figure 15. Specific Product Motivations for Focus on Showers Pack

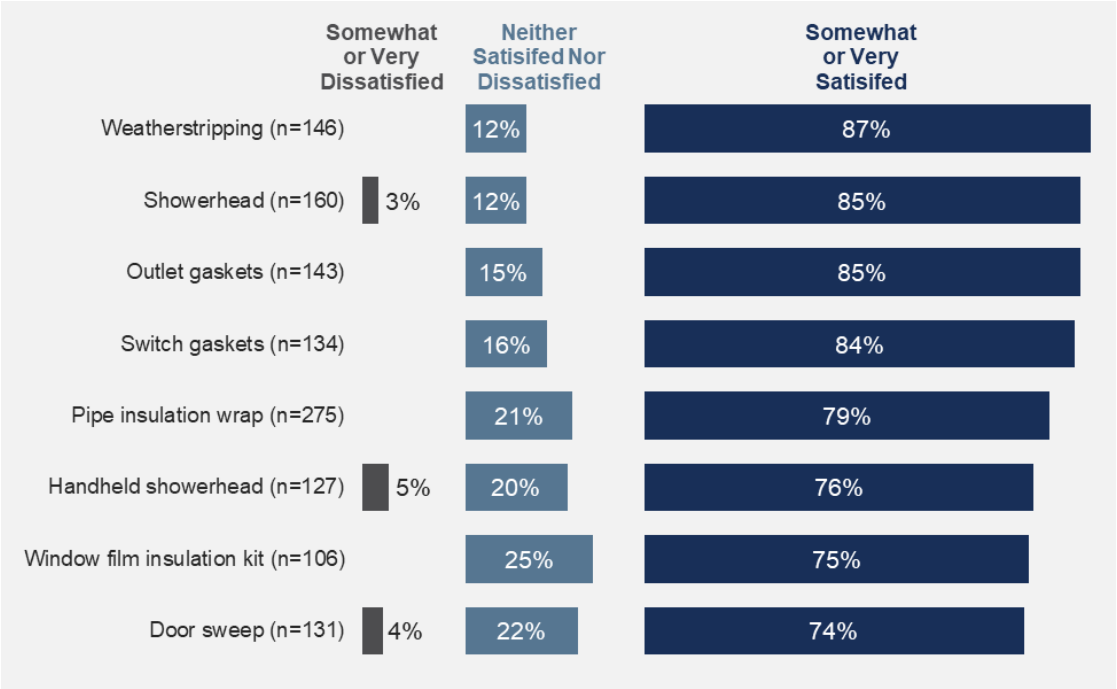


Source: CY 2024 Focus on Energy Pack Participant Survey: "Which specific products motivated you to choose the pack you requested? Select all that apply." (n=111)

Measure Satisfaction

Figure 16 shows overall high satisfaction with all the pack measures, with over 74% of respondents *satisfied with* all measures. In CY 2024, the measure with the highest satisfaction score was weatherstripping (87%), and the measure with the lowest satisfaction was door sweeps (74%), which was similar to CY 2023 (79%). Five percent or less of respondents were dissatisfied with each of the measures.

Figure 16. Satisfaction Ratings by Measure (Packs)



Source: CY 2024 Focus on Energy Pack Participant Survey: "How satisfied are you with the [MEASURE] you received?"

The evaluation team asked survey respondents who were somewhat or very dissatisfied with measures to provide reasons for their dissatisfaction. Table 24 lists verbatim comments from dissatisfied participants. In addition to the comment about the handheld showerhead in the table, another respondent cited concerns about the product containing lead, which could wash over them during use. This respondent chose not to install the handheld showerhead based on these concerns.

Table 24. Reasons for Measure Dissatisfaction (Packs)

Measure	Comment
Weatherstripping	"Too thick and too wide to fit inside the existing, integrated weatherstripping around the doors."
Handheld Showerhead	"Looks really cheap."
Pipe Insulation Wrap	"Didn't stick well, had to tape it on in places."

Note: Certain measures did not receive comments.

Source: CY 2024 Focus on Energy Pack Participant Survey: "Why are you somewhat/very dissatisfied with the [MEASURE] you received?"

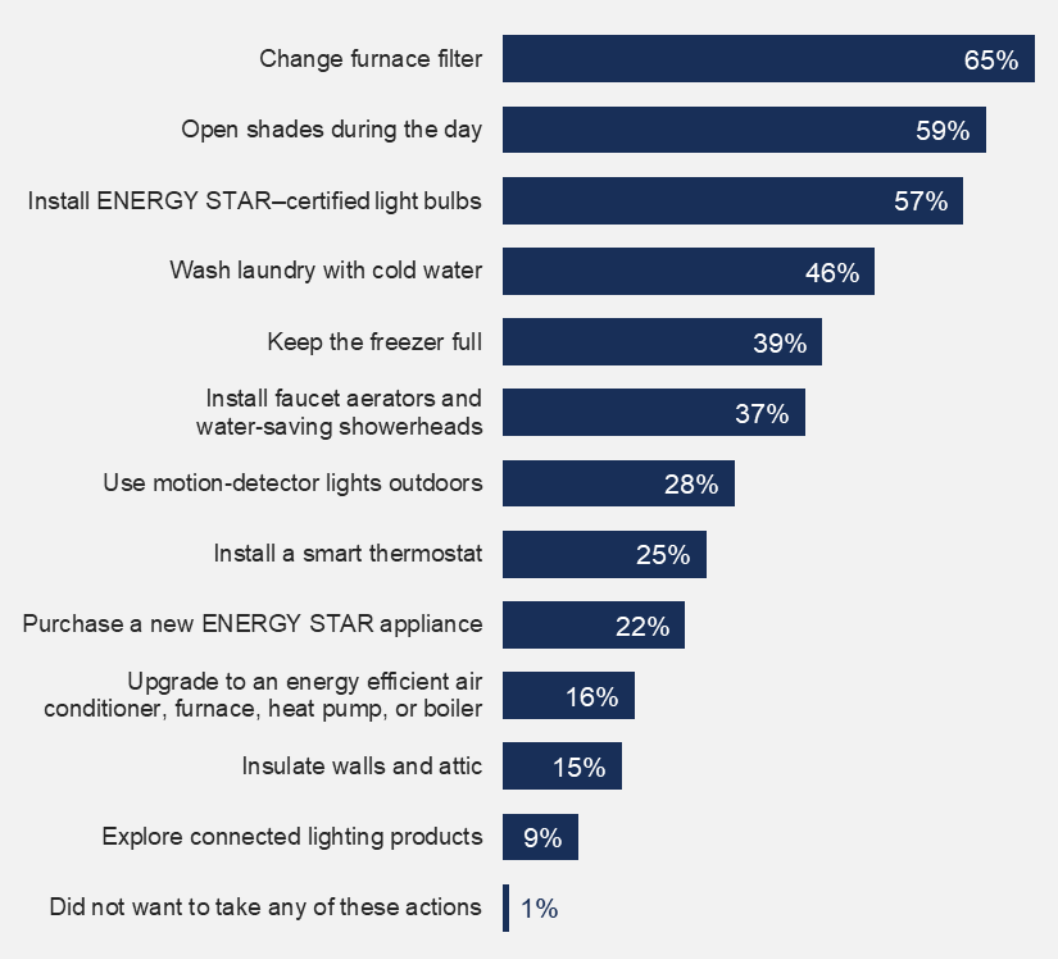
The Direct to Customer implementation plan calls for packs to be delivered within four to six weeks of the date an order is placed. According to the Packs survey, 79% of respondents said they received their pack within four weeks (n=475). Respondents were also generally satisfied with the time it took to receive their pack, with 89% of respondents reporting satisfaction with the time it took to receive their pack, and only 10% were neutral (n=466).

Energy Saving Actions

Focus on Energy packs contained educational materials, including a checklist of energy-saving tips and information on other Focus on Energy programs and rebates. Eighty-eight percent of survey respondents were satisfied with these educational materials (n=453).

Figure 17 shows a breakdown of the actions survey respondents took after receiving the educational information. Similar to CY 2023, the most common action reported in CY 2024 was changing the furnace filter (65%). The next most popular action taken to save energy was opening shades during the day (59%), followed by installing efficient light bulbs (57%) and using cold water to wash laundry (46%). Less than 1% of respondents said they did not take any action to save energy.

Figure 17. Actions Taken to Save Energy (Packs)

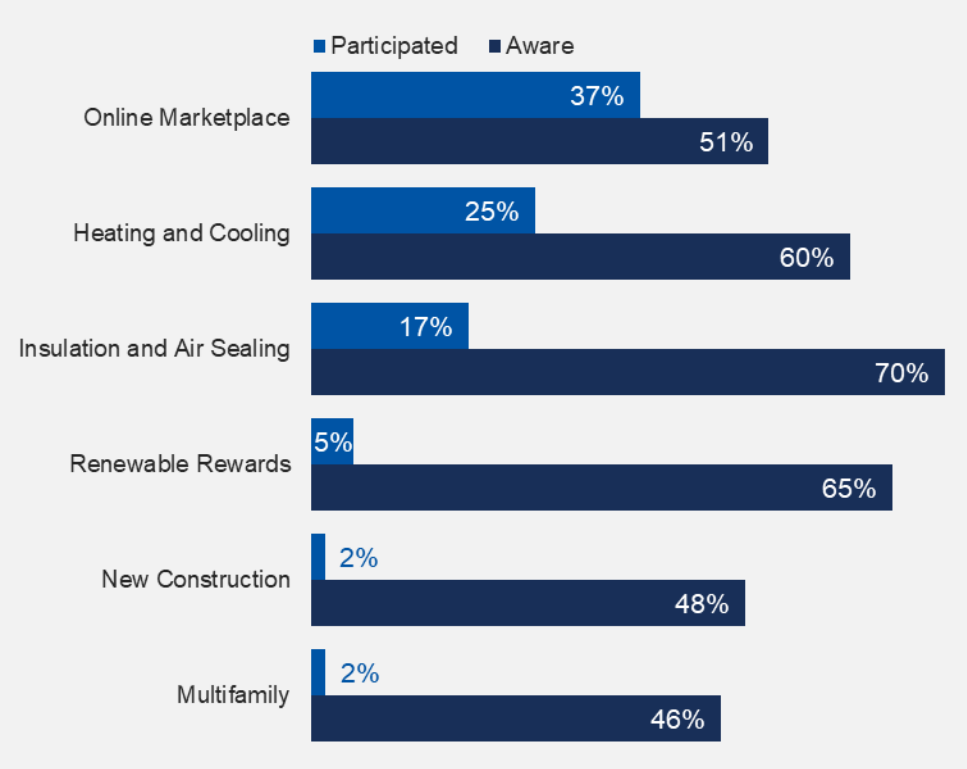


Source: CY 2024 Focus on Energy Pack Participant Survey: "Your free Focus on Energy pack should have included a pamphlet with information on actions you can take to save energy. Which of these actions listed in the pamphlet have you taken? Select all that apply." (n=456)

Focus on Energy Program Awareness

When asked about their awareness and participation in other Focus on Energy offerings, respondents reported they were mostly aware of the Insulation and Air Sealing (70%), Renewable Rewards (65%), and Heating and Cooling (60%) offerings. However, the Online Marketplace was the most popular offering respondents said they participated in (37%), which is consistent with the survey responses from CY 2023. Figure 18 shows the full breakdown of cross-offering awareness and participation.

Figure 18. Awareness of Other Focus on Energy Programs and Participation (Packs)

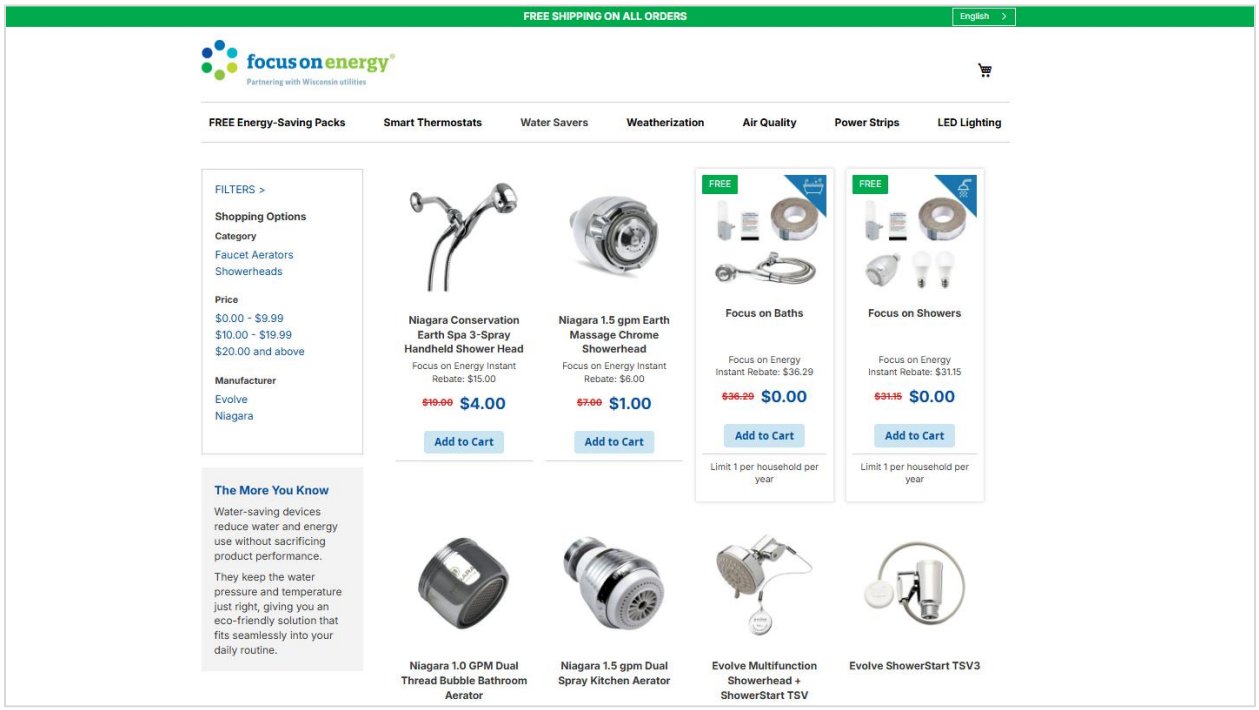


Source: CY 2024 Focus on Energy Pack Participant Survey: "For the Focus on Energy programs listed below, please indicate which ones you are aware of and which you have participated in." (n=189)

Online Marketplace and Packs New Website Design

In an effort to promote more cross-participation between the Online Marketplace and Packs offerings, Focus on Energy merged the Online Marketplace and Packs portals into one new online platform in September 2024. Figure 19 shows a snapshot of the platform's "water savers" page, featuring the two free water savings packs, Focus on Baths and Focus on Showers, alongside Online Marketplace water-saving measures.

Figure 19. Focus on Energy Website

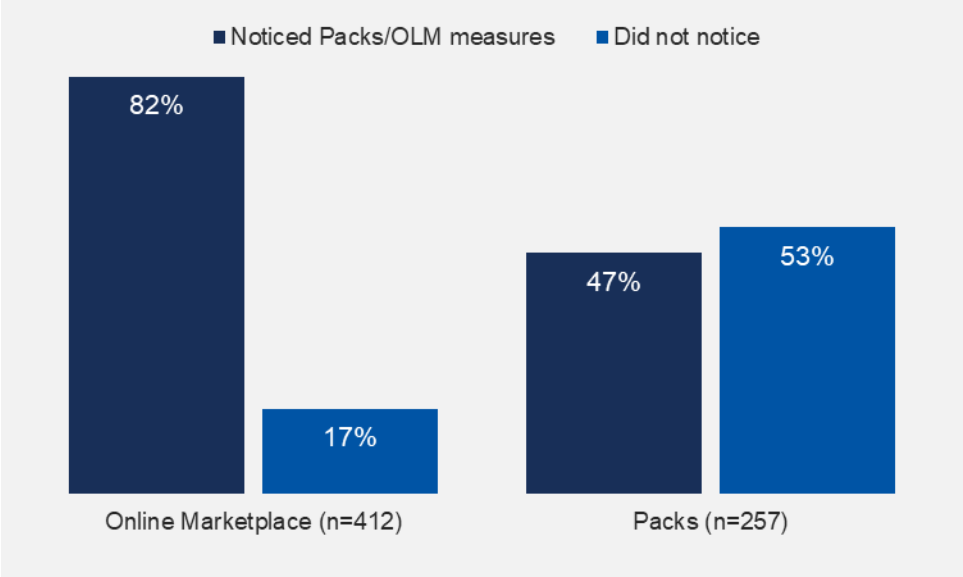


Source: Focus on Energy Website – March 2025

Website Cross-Participation

To gauge participants' experience with the redesigned website, in February 2025, the evaluation team surveyed CY 2024 Online Marketplace and Packs participants who purchased products or ordered a free pack after September 1, 2024. Survey respondents were first asked whether they noticed the other offerings' products were available through the website. As seen in Figure 20, most Online Marketplace respondents (82%) noticed free packs while navigating the website, compared to less than half of Packs respondents noticing Online Marketplace products (47%).

Figure 20. Awareness of Combined Website

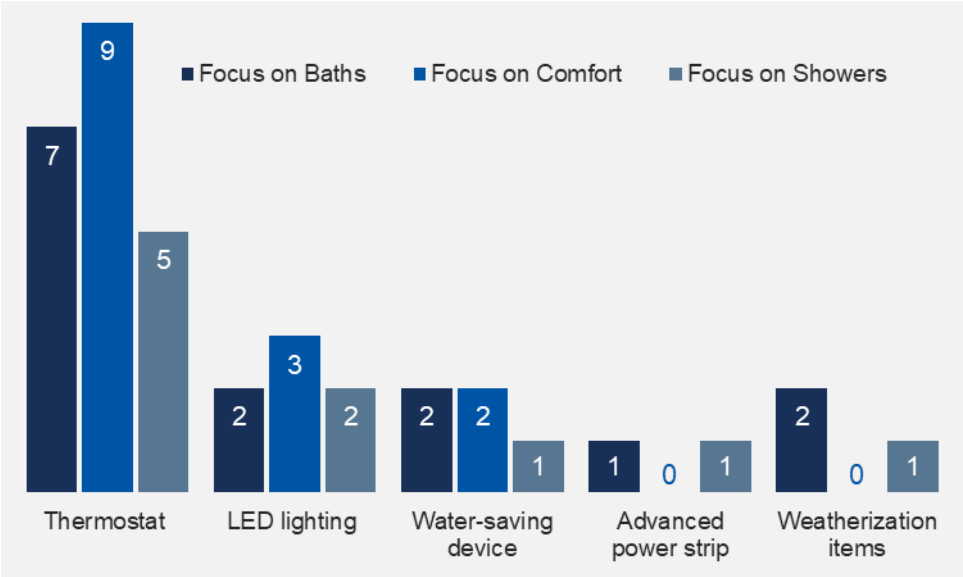


Source: CY 2024 Focus on Energy Direct to Customer Website Design Participant Survey: [Online Marketplace] Focus on Energy recently combined the websites for their Energy Saving Packs and their Online Marketplace. The next few questions are about the combined website. Did you notice the free Energy Saving Packs while navigating the online marketplace? [Packs] Focus on Energy recently combined the websites for the Energy Saving Packs and the Online Marketplace. While navigating the Energy Saving Packs, do you recall seeing products available through the Online Marketplace?

Ninety-one percent (n=279) of Online Marketplace respondents said the new website design encouraged them to explore both the Online Marketplace and the Packs portal. When Online Marketplace respondents were asked whether they ordered any of the free packs, 78% (n=315) said yes. Of those who said yes, 62% (n=227) ordered the Focus on Comfort pack, 34% ordered the Focus on Showers pack, and 4% ordered the Focus on Baths pack.

When Packs respondents were asked whether they ordered any items from the Online Marketplace, 23% (n=120) said yes. As shown in Figure 21, 21 of the 28 respondents (75%) who said yes ordered a smart thermostat, while the next most ordered items were LED lighting (seven respondents) and water-saving devices (five respondents).

Figure 21. Online Marketplace Measures Purchased by Packs Participants



Source: CY 2024 Focus on Energy Direct to Customer Website Design Packs Participant Survey. "What items did you purchase? Select all that apply."

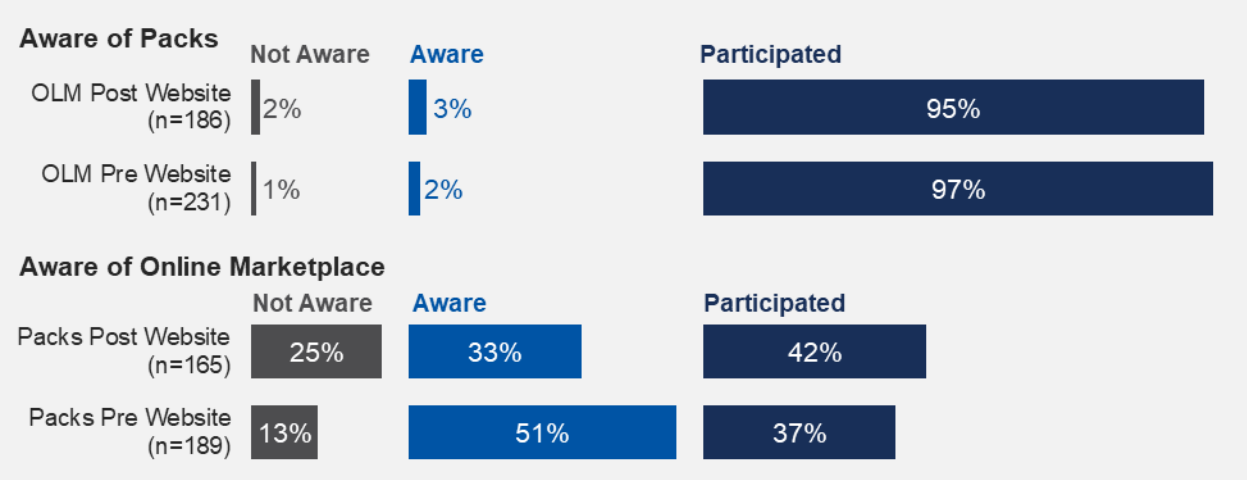
Program Awareness

Similar to the general participant survey conducted during CY 2024, the website design survey asked Packs and Online Marketplace participants if they were aware of the other offering and if they had participated in it.

As shown in Figure 22, Online Marketplace respondents showed high awareness of and participation in Packs both before and after the website update, with 98% aware of Packs and 95% having participated after the update. These results are similar to the 97% awareness and 95% participation reported before the update.

Overall, Packs respondents were less aware of the Online Marketplace after the website update, but the percentage of respondents who participated increased.

Figure 22. Cross Program Awareness Before and After Website Update



Source: CY 2024 Focus on Energy Direct to Customer General and Website Design Participant Surveys: For the Focus on Energy programs and rebates listed below, please indicate which ones you are aware of and which you have participated in.

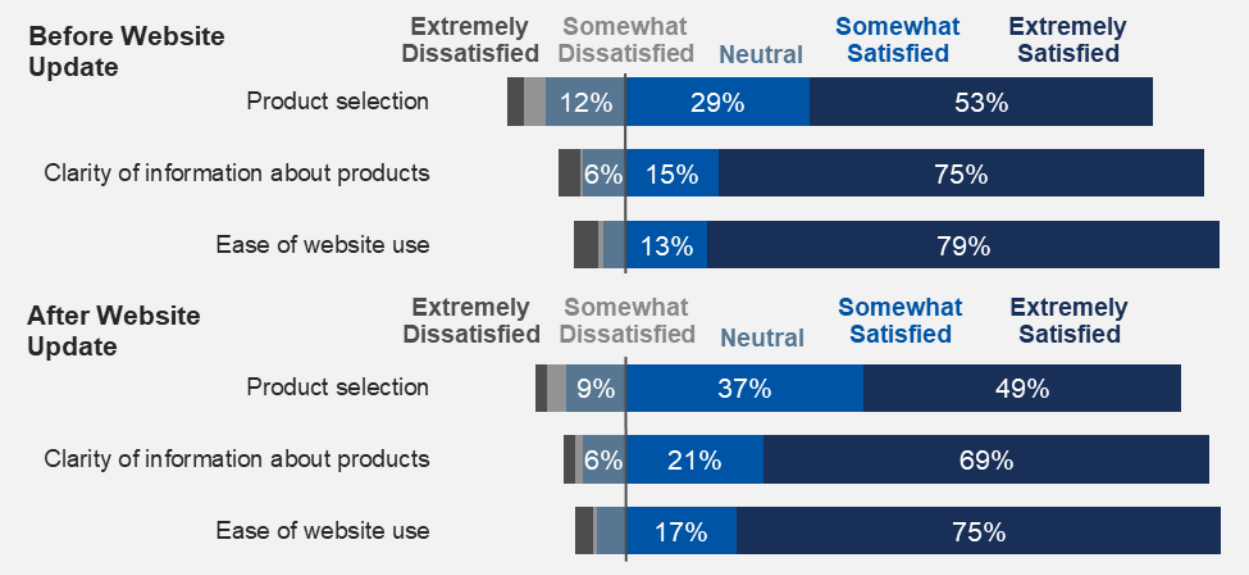
Website Satisfaction

General participant survey respondents and website design survey respondents were asked to rate their satisfaction with various aspects of the website. Comparing the two responses identified changes in satisfaction after the Packs and Online Marketplace websites were merged in September 2024.

Before the websites were merged, more than 75% (n=434) of general survey participants were satisfied with every aspect of the website, while more than 81% were satisfied with aspects related specifically to website design. The aspect of website design with the lowest satisfaction rating was product selection (82%). Website design survey respondents (n=344) reported similar satisfaction with the updated website design, with all satisfaction categories ranking similarly to those of the previous website.

Figure 23 shows a full breakdown of CY 2024 customer satisfaction with various aspects of the website design, both before and after the update.

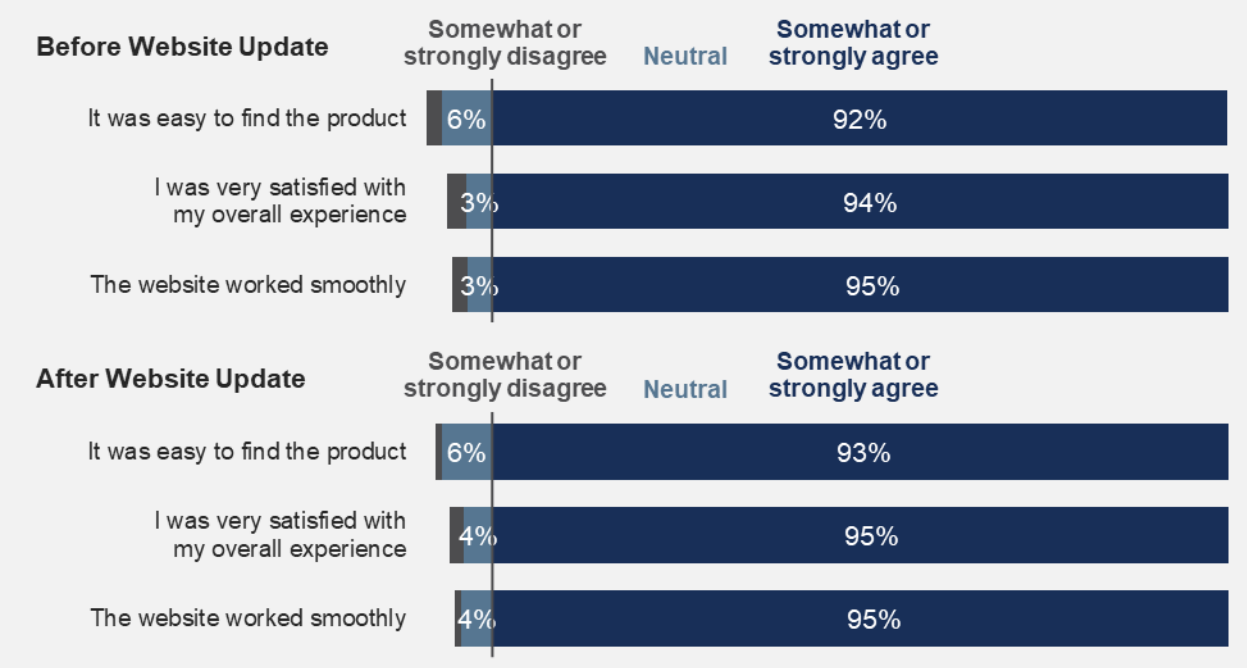
Figure 23. Website Satisfaction Before and After Website Update (Packs)



Source: CY 2024 Focus on Energy Pack Participant Survey: "Please rate your satisfaction with these aspects of the website from 1 to 5, where 1 is *extremely dissatisfied* to 5 *extremely satisfied*."

Similarly, Online Marketplace general survey respondents and website design survey respondents were asked to rate their agreement with a series of statements that expressed satisfaction with the Online Marketplace. Respondents agreed with all statements that expressed satisfaction with various design aspects of the Online Marketplace before and after it was updated. As shown in Figure 24, 92% (n=578) of Online Marketplace respondents who ordered from the Online Marketplace before the website was updated and 93% (n=457) after the website was updated *agreed* or *somewhat agreed* with the statements.

Figure 24. Website Satisfaction Before and After Website Update (Online Marketplace)



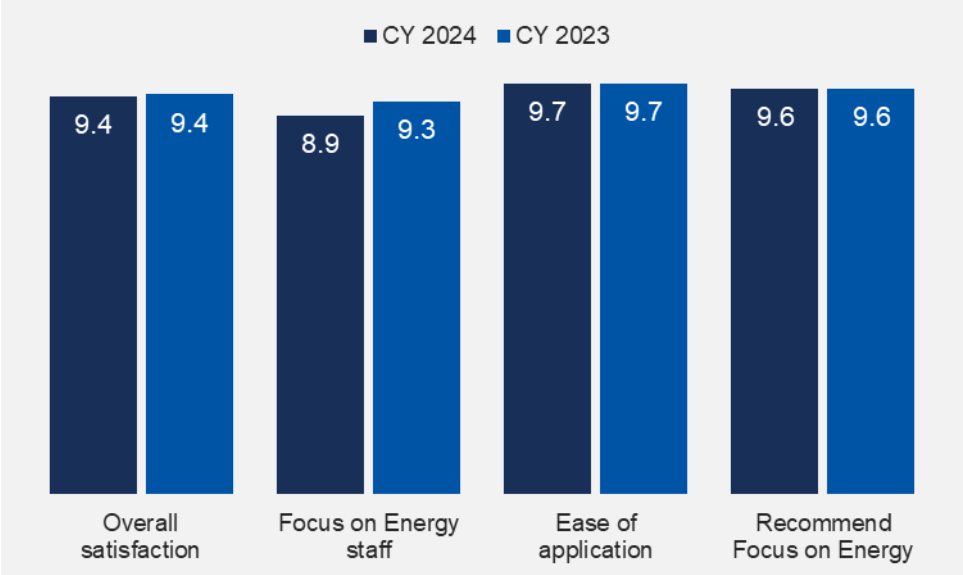
Source: CY 2024 Focus on Energy Pack Participant Survey: "Please rate your agreement with the following statements about the Online Marketplace on a scale from 1 to 5, with 1 being *strongly disagree* and 5 being *strongly agree*."

Ongoing Participant Satisfaction Surveys

Throughout CY 2024, the program administrator invited Direct to Customer participants in the Packs and Online Marketplace offerings to take a web-based satisfaction survey. Respondents answered questions related to satisfaction and the likelihood to recommend Focus on Energy on a scale of 0 to 10, where 10 indicated the highest degree of satisfaction or likelihood to recommend and 0 the lowest.[3] CY 2024 Packs participants gave the offerings they participated in an average overall satisfaction rating of 9.4, which was the same as their rating from the previous year. From CY 2023 to CY 2024, participants gave consistently high average satisfaction ratings for the ease of ordering packs. Interactions with Focus on Energy staff received the lowest average satisfaction ratings for the Packs offering (8.9 in CY 2024), but only 6% of survey respondents (99 out of 1,564) offered ratings for staff since most participants in this offering do not have contact with staff.

Figure 25 shows a breakdown of respondents' satisfaction ratings for the Packs offering.

Figure 25. Satisfaction Ratings for Packs Offering



Source: Packs Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=1,556; CY 2023 n=1,478). "How satisfied are you with the Focus on Energy staff member who assisted you with your order?" [4] (CY 2024 n=99; CY 2023 n=91). "How satisfied are you with the ease of ordering your pack from Focus on Energy?" (CY 2024 n=1,555; CY 2023 n=1,471). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=1,553; CY 2023 n=1,477). None of the differences between years are statistically significant.

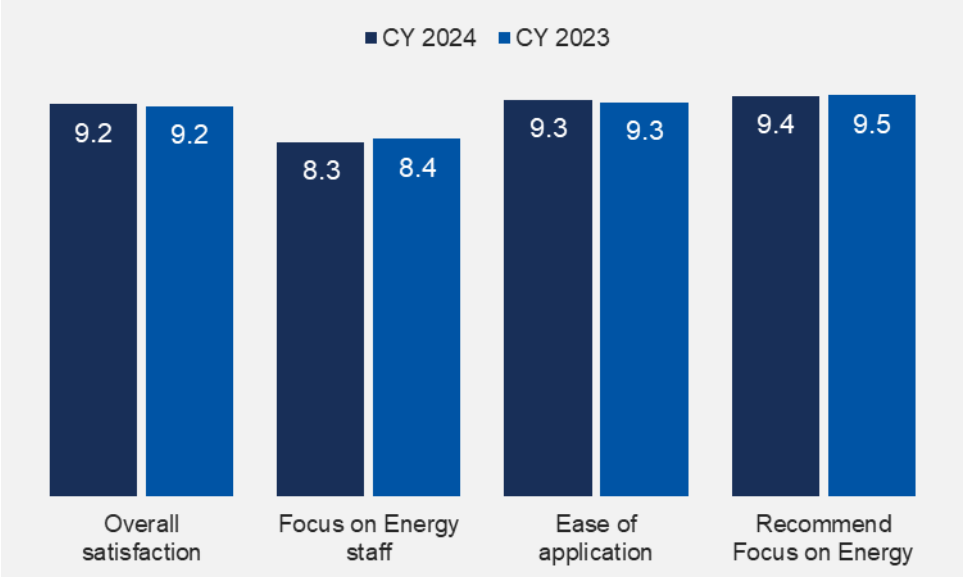
[3] The number of participants who completed a survey does not always match the number of responses for each question, as some participants skipped or did not know answers to questions.

[4] All surveys gave respondents the opportunity to rate staff, though they were not required to give a rating since their participation in an offering may not have involved any contact with staff.

Online Marketplace participants gave the offerings they participated in an average overall satisfaction rating of 9.2 in CY 2024, which was the same as the average rating they gave the program in CY 2023. The lowest average rating for an aspect of the program in CY 2024 was 8.3 for Focus on Energy staff, which is consistent with CY 2023 (8.4). However, only 10% of Online Marketplace respondents (151 out of 1,449) gave ratings for Focus on Energy staff because participants in this program usually do not have contact with Focus on Energy staff.

Figure 26 shows a breakdown of respondents' ratings for the Online Marketplace offering.

Figure 26. Satisfaction Ratings for Online Marketplace



Source: Online Marketplace Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=1,446; CY 2023 n=917). "How satisfied are you with the Focus on Energy staff member who assisted you with your order?" [5] (CY 2024 n=151; CY 2023 n=95). "How satisfied are you with the ease of shopping for products at the Online Marketplace?" (CY 2024 n=1,439; CY 2023 n=916). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=1,437; CY 2023 n=914). None of the differences between years are statistically significant.

Net Promoter Score

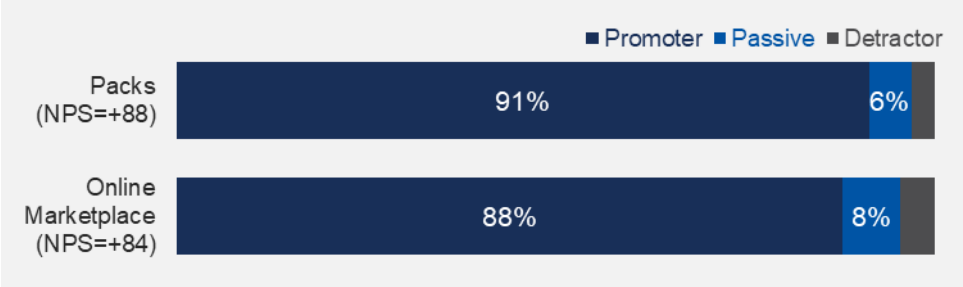
CY 2024 Packs and Online Marketplace participants gave consistently high ratings for their likelihood to recommend Focus on Energy, averaging 9.6 for Packs and 9.4 for Online Marketplace. Using these survey data, the evaluation team calculated a net promoter score (NPS) based on customers' likelihood to recommend Focus on Energy. The NPS is expressed as an absolute number between -100 and +100 that represents the difference between the percentage of promoters (respondents giving a rating of 9 or 10) and detractors (respondents giving a rating of 0 to 6). The Net Promoter Scores remained consistent

[5] All surveys gave respondents the opportunity to rate staff, though they were not required to give a rating since their participation in an offering may not have involved any contact with staff.

from CY 2023 to CY 2024. The Packs offering received an NPS of +88 in CY 2024, similar to +87 in CY 2023. The NPS for Online Marketplace was +84 in CY 2024, similar to +85 in CY 2023.

Figure 27 shows the distribution of promoters and detractors by offering.

Figure 27. Direct to Customer Net Promoter Scores by Offerings



Source: Packs and Online Marketplace Participant Satisfaction Survey Question: "How likely are you to recommend Focus on Energy to others?" (Packs n=1,533; Online Marketplace n=1,437).
Note: Unlabeled segments represent 4% or less of respondents.

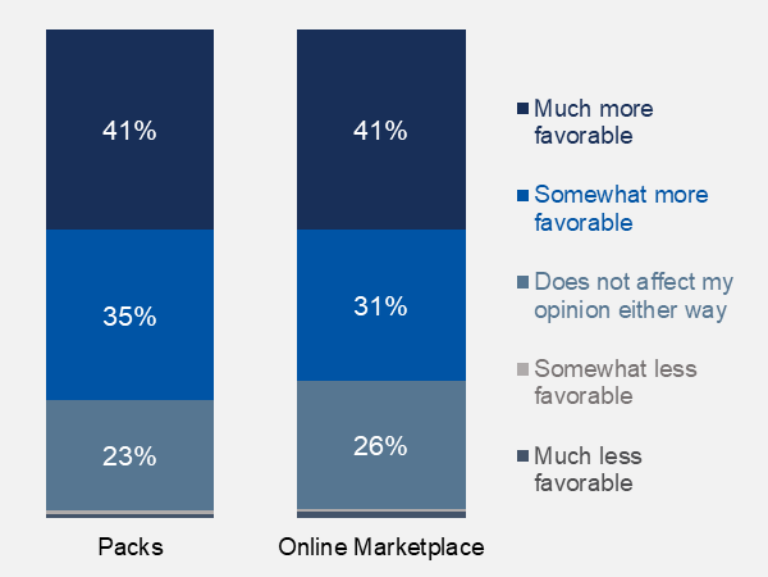
Awareness of Utility Partnership

The survey asked participants if they were aware, before receiving the satisfaction survey, that the offering they participated in was delivered in partnership with their local utility. Most CY 2024 respondents were aware of their utility's partnership with Focus on Energy: 80% of Packs respondents were aware (an increase from 76% in CY 2023), and 83% of Online Marketplace respondents were aware.

The survey also asked participants if the Direct to Customer offerings affected their opinion of their utilities. Seventy-six percent of Packs respondents and 72% of Online Marketplace respondents said their opinion had become *much more favorable* or *somewhat more favorable*. Very few respondents said their opinion of their utility had become *less favorable*; only 2% of responses from both surveys were *much less favorable* or *somewhat less favorable*.

Figure 28 summarizes the respondents' opinion of the Direct to Customer Program by offering.

Figure 28. Direct to Customer Program's Influence on Participants' Opinions of Utilities



Source: Packs, Online Marketplace Satisfaction Survey Question: "How have these offerings affected your opinion of your energy utility, if at all?" (Packs n=1,453, Online Marketplace n=1,383). Note: Unlabeled segments represent 1% or less of respondents.

Participant Feedback and Suggestions for Improvement

The survey asked participants for comments and suggestions to improve the offerings, which the team then coded into mentions. Table 25 summarizes the number and types of comments and suggestions by offering. Most respondents did not offer any comments or suggestions; only 28% (Online Marketplace) to 30% (Packs) offered comments in CY 2024, which was an increase from CY 2023 (23% and 20%, respectively). Most Packs comments continued to be positive in CY 2024 (58%, similar to 64% in CY 2023), while Online Marketplace comments trended toward more positive comments in CY 2024 (60% compared to 50% in CY 2023).

Table 25. CY 2024 Direct to Customer Percentage of Comments and Suggestions by Offering

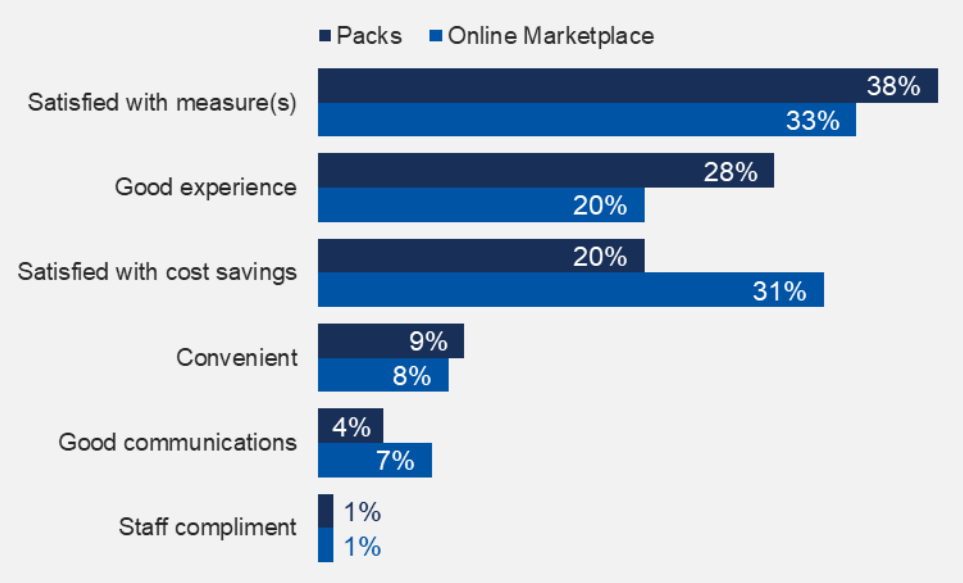
Offering	Total Completed Surveys	Gave Comments	Gave Comments (%)	Total Mentions	Positive Comments (%)	Suggestions for Improvement (%)
Packs	1,564	431	28%	517	58%	42%
Online Marketplace	1,449	429	30%	556	60%	40%

More than 80% of positive comments across both offerings reflected satisfaction with the measures received or purchased, satisfaction with cost savings (e.g., incentives, discounts, and lower utility bills), or a generally positive experience (e.g., non-specific comments such as "it was good" and "thanks for this offering"). Online Marketplace respondents who purchased discounted measures through the program were more likely to mention satisfaction with cost savings than Packs respondents who received measures for free (31% of Online Marketplace respondents compared to 20% of Packs

respondents.) Only 1% of positive comments (for both offerings) mentioned Focus on Energy staff, who do not usually have direct contact with participants in the Direct to Customer program.

Figure 29 shows the distribution of positive mentions by topic area and offering.

Figure 29. Direct to Customer—Positive Comments About Program

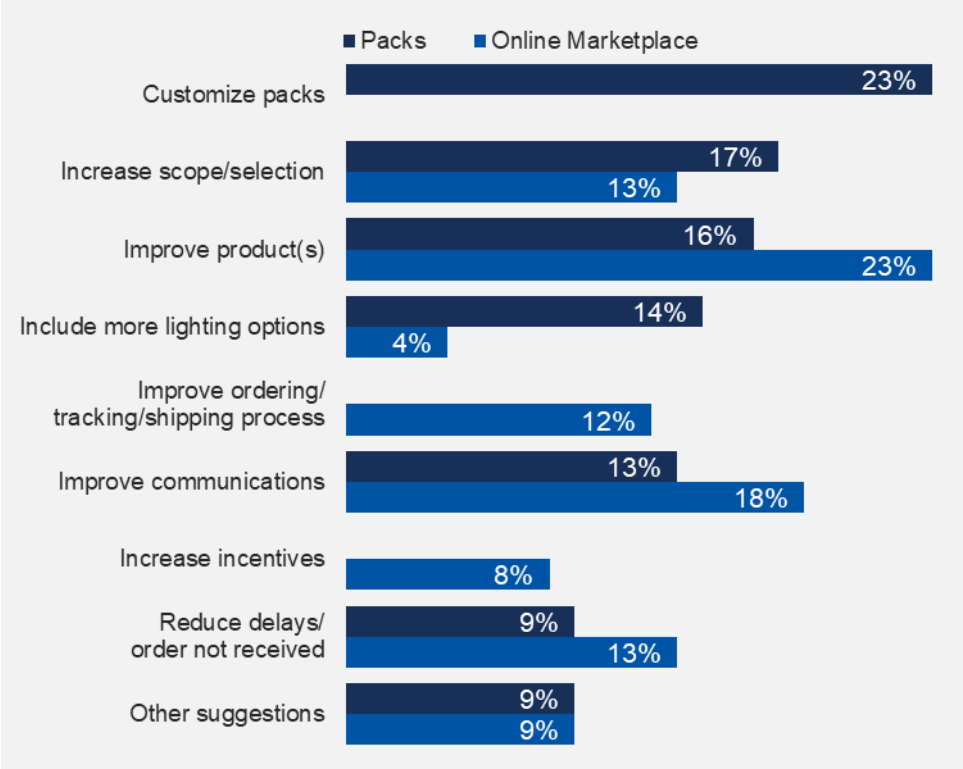


Source: Packs and Online Marketplace Participant Satisfaction Survey Question: "Please tell us more about your experience and any suggestions for improvement." Total positive mentions:
(Packs n=298; Online Marketplace n=332)

The most common suggestion from Packs respondents in CY 2024 was to allow participants to customize the items in their packs (23%), which was also the most common suggestion from Packs respondents in CY 2022 and CY 2023. Most of the remaining suggestions were about the pack measures, including that the quality of products needs improvement (16%), the selection of lighting needs improvement (14%), or generally increasing the scope and selection of available products (17%). Compared to CY 2023, more CY 2024 Packs suggestions mentioned reducing delays in delivery (9% compared to 3%), though this was not a common suggestion.

The most common suggestions from Online Marketplace respondents in CY 2024 were to improve the quality of the products offered (23%) and to improve communications about the offering (18%). Suggestions about improving communications typically related to the clarity of information about items offered, requests for more information about saving energy, and more promotion for Focus on Energy offerings. Many Online Marketplace respondents' suggestions to improve communications specifically related to installation instructions and compatibility issues with smart thermostats, which was also the case in previous years. Twelve percent of CY 2024 suggestions from Online Marketplace respondents related to the ordering, tracking, and shipping process, similar to CY 2023 (14%). However, more suggestions about the Online Marketplace in CY 2024 mentioned reducing delays in delivery (13% compared to 5% in CY 2023). Figure 30 shows suggestions for improvement.

Figure 30. Direct to Customer—Suggestions for Improvement



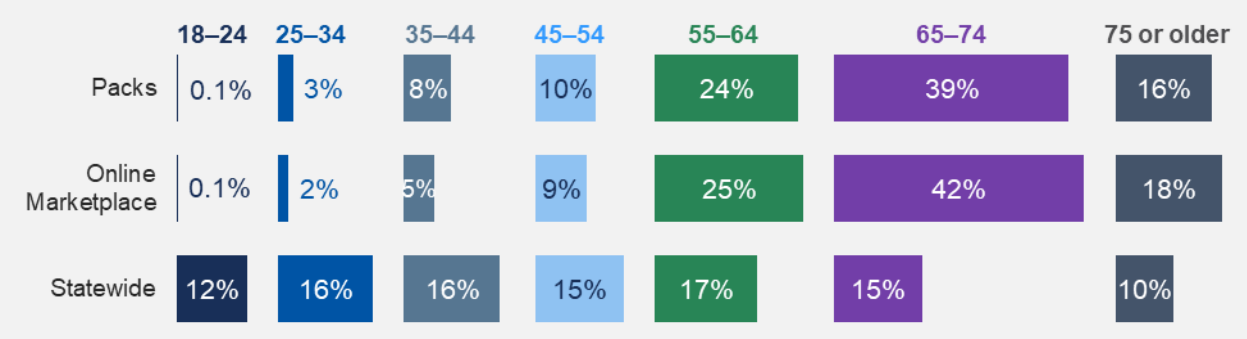
Source: Packs and Online Marketplace Participant Satisfaction Survey Question: "Please tell us more about your experience and any suggestions for improvement." Total suggestions for improvement: (Packs n=219, Online Marketplace n=224)

Demographics

The customer satisfaction survey asked respondents their age, household income, and how many people lived in their household. Most Direct to Customer respondents were age 55 or older (79% for Packs and 84% for Online Marketplace), compared to only 42% of the statewide population.

Figure 31 and Figure 32 summarize the respondents' age and income.

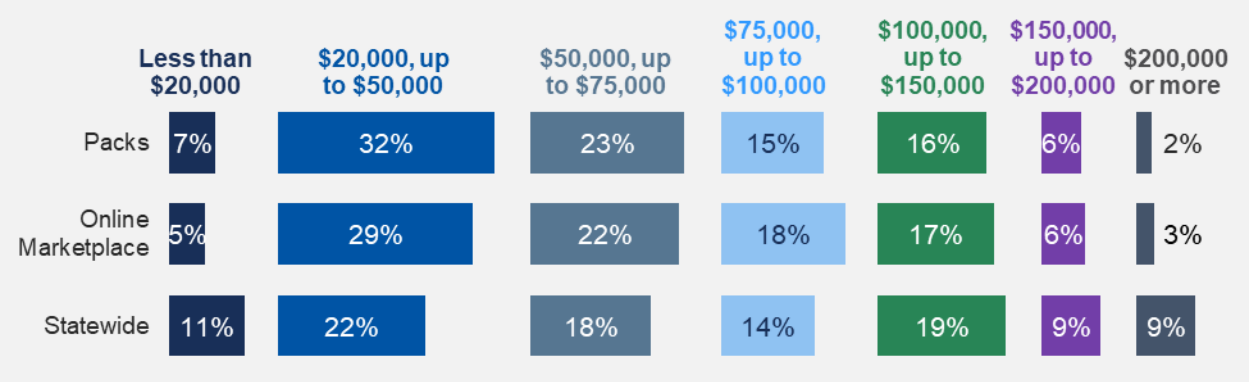
Figure 31. Direct to Customer—Participant Age



Source: Packs, Online Marketplace, Participant Satisfaction Survey Question: "Which of the following categories best represents your age?" (Packs n=1,507, Online Marketplace n=1,383). U.S. Census 2023 American Community Survey (ACS), Selected Social Characteristics in the United States.

Respondents' self-reported household income distribution was similar in CY 2024 and CY 2023, with a median income between $50,000 and $75,000 for respondents to both surveys. Compared to the statewide income distribution, Packs respondents were a little more likely to earn under $50,000 (39% compared to 33% statewide, while Online Marketplace respondents were very similar to the statewide distribution (34%). Compared to CY 2023, this indicates an increase in the percentage of households with incomes under $50,000 shopping at the Online Marketplace (only 24% of respondents last year).

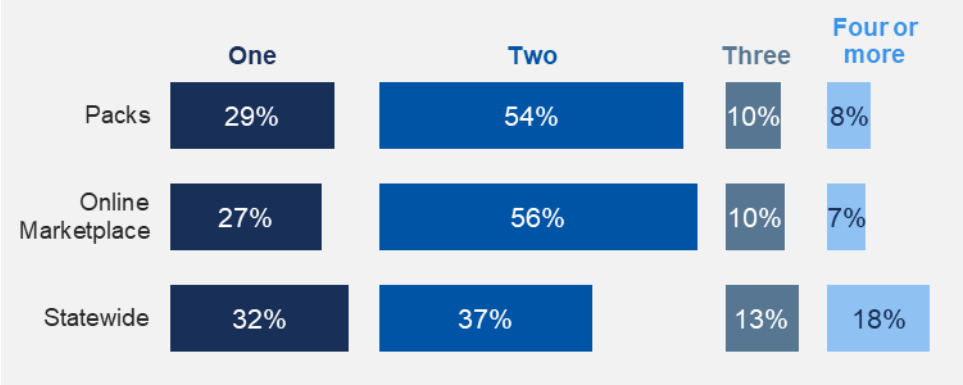
Figure 32. Direct to Customer—Participant Income Level



Source: Packs and Online Marketplace Participant Satisfaction Survey Question: "Which category best describes your total household income before taxes?" (Packs n=1,112, Online Marketplace n=1,019). U.S. Census 2023 ACS, Selected Social Characteristics in the United States.

As shown in Figure 33, Direct to Customer respondents were somewhat less likely than the statewide distribution to have three or more people in their household (18% Packs, 17% Online Marketplace, 31% statewide).

Figure 33. Direct to Customer—Participant Household Size



Source: Packs and Online Marketplace Participant Satisfaction Survey Question: "Counting yourself, how many people live in your household on a full-time basis today? Please include everyone who lives in your home and exclude anyone just visiting or children who may be away at college or in the military." (Packs n=1,494, Online Marketplace n=1,372). U.S. Census 2023 ACS, Selected Social Characteristics in the United States.

3.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a demand-side management (DSM) offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test.

Table 21 lists the CY 2024 incentive costs for the Residential Direct to Customer.

Table 21. CY 2024 Residential Direct to Customer Incentive Costs

Offering	Incentive Costs
Online Marketplace	$1,519,092
Packs	$4,793,935
Total	**$6,313,026**

The evaluation team found that the CY 2024 Residential Direct to Customer was cost-effective (2.30). Table 22 lists the evaluated costs and benefits.

Table 22. CY 2024 Residential Direct to Customer Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$311,355
Delivery Costs	$3,371,109
Incremental Measure Costs	$7,092,738
Total Non-Incentive Costs	**$10,775,202**
Benefits	
Electricity Benefits (kWh)	$3,377,286
Capacity Benefits (kW)	$1,110,225
Transmission and Distribution (T&D) Benefits (kW)	$317,375
Gas Benefits	$11,990,128
Emissions Benefits	$8,007,392
Total TRC Benefits	**$24,802,406**
Net TRC Benefits	**$14,027,204**
TRC Benefit/Cost Ratio	**2.30**

3.5. Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations for improving the Direct to Customer Program based on the CY 2024 program evaluation activities.

Outcome 1. For measures ordered in late CY 2023 but treated as CY 2024 participants, *ex ante* calculations applied deemed savings from the 2023 TRM to smart thermostats and thermostatic shutoff valves without showerheads and 2022 TRM deemed savings to aerators, showerheads, and thermostatic shutoff valves with showerheads. For these measures, the evaluation team applied 2022 smart thermostat billing analysis results, which are not reflected in the 2023 TRM but serve as the basis for smart thermostat savings in the 2024 TRM and 2024 TRM deemed savings to all water saving measures, resulting in realization rates that deviated above and below 100%.

Recommendation 1. To improve accuracy in savings estimates and avoid discrepancies in realization rates, ensure timely alignment with the current program year's TRM. Projects that transition between calendar years should be reviewed and updated promptly to reflect the most current deemed savings values.

Outcome 2. Promotions available through the Online Marketplace in CY 2024 successfully increased participation for the targeted measures. Specifically, customers purchased 74% of all smart thermostats purchased during the mid-June to mid-July smart thermostat promotion and the Black Friday/Cyber Monday smart thermostat promotion. Similarly, 63% of all water-saving device orders occurred during a mid-May to early June promotion. The October weatherization-based promotions were also highly successful marketing events, with 52% of purchases in October and 10% in November.

Recommendation 2. To sustain and build on the success of CY 2024 promotions, Focus on Energy should continue to strategically time and expand promotional campaigns on the Online Marketplace, especially for high-impact measures like smart thermostats, water-saving devices, and weatherization products. Promotions aligned with seasonal needs (for example, weatherization in fall and water saving in spring) and major retail events (such as Black Friday) have demonstrated strong effectiveness in driving customer participation. Increasing the frequency and visibility of these targeted promotions while leveraging timely messaging and limited-time offers can further boost participation. Additionally, analyzing purchase trends by customer segment and region could help tailor future promotions for an even greater impact.

Outcome 3. Direct to Customer participants generally preferred Focus on Energy communications to learn about opportunities. Similar to CY 2023, the CY 2024 Online Marketplace and Packs participants reported that emails from Focus on Energy were their top source for learning about Direct to Customer offerings. In a separate survey, respondents also reported that emails were their preferred source for learning about Focus on Energy opportunities.

Recommendation 3. Continue using Focus on Energy emails to reach customers and potentially engage new participants. For Packs advertising, consider enhancing messaging to reflect participants' primary

reasons for participating in the offering, which includes reducing costs, saving energy, and receiving free items for home upgrades.

Outcome 4. Although Direct to Customer participants reported high levels of satisfaction with the website both before and after the merger of the Packs and Online Marketplace websites in September 2024, fewer than half of Packs respondents noticed Online Marketplace products while navigating the site. Prior to the update, over 75% of general survey respondents and over 81% of website design respondents reported satisfaction across all aspects of the site. Following the update, website design survey respondents indicated similar levels of satisfaction, demonstrating that the redesign successfully maintained strong user approval across all measured categories.

Efforts to encourage cross-participation through the redesign also appeared to be successful with Online Marketplace participants, most of whom (82%) noticed free packs while navigating the website, and 91% said the new website design encouraged them to explore both the Online Marketplace and the Packs portal. In contrast, only 47% of Packs respondents were aware of Online Marketplace products.

Recommendation 4. To improve cross-participation between the Packs and Online Marketplace platforms, continue the strategies that have proven successful with Online Marketplace participants and implement more prominent and integrated cross-promotional elements throughout the website, particularly those aimed at increasing visibility and engagement among Packs users.

4. Multifamily Program

Through the Multifamily Program, Focus on Energy offers technical assistance and prescriptive and custom incentives to participants who install energy-efficient measures in multifamily buildings of four or more units.

In CY 2024, the Multifamily Program consisted of two offerings:

- **Multifamily.** This offering is available for multifamily buildings with four or more units. It consists of prescriptive rebates for installing energy-efficient equipment, including HVAC, lighting, controls, and building envelope measures. It also covers custom incentives for more complex measures, including non-solar renewable technologies. The offering also provides increased incentives on heating and cooling equipment, as well as insulation and air sealing, to units with occupant households that meet income-qualification requirements or if at least 50% of the residential units of the entire building are qualified.
- **Energy Design Assistance/Energy Design Review (EDA/EDR).** This offering is available for new construction, major renovation, and addition projects over 5,000 square feet. It provides a whole-building energy analysis of multiple design options and incentives based on the building's overall modeled energy savings. In addition to multifamily projects, this offering is available through the nonresidential Business and Industry, Schools and Government, and Large Industrial programs. Focus on Energy replaced Product Equipment Performance (PEP) with the Express Energy Design Assistance (eEDA) approach in CY 2024 to streamline the process and online energy modeling.

The program administrator is APTIM. CLEAResult is the program implementer of the Multifamily offering, overseeing program management and delivery with support from its subcontractor, Energy Sciences. With support from the administrator, the implementer's energy advisors work with trade allies to promote and deliver the Multifamily Program to customers. Willdan, the Design Assistance implementer, conducts building modeling to support the EDA/EDR offering.

Additionally, the Multifamily offering includes two secondary participation opportunities:

- **Multifamily Operations and Maintenance** (January 2024 – Present). Offers incentives for completing changes to the building automation system settings to deliver no- and low-cost energy savings for the customer. Incentives are $150 for the first opportunity completed and an additional $100 for each opportunity completed thereafter, up to a total of $750. Customers can apply using the online application to receive quicker verification of eligibility and energy savings generated by implemented efficiency measures.
- **Tribal Community Offerings** (January 2022 – December 2026). Developed to support tribal communities in overcoming barriers to completing energy-efficiency upgrades within tribal and member-owned housing. Participation opportunities include enhanced incentives for HVAC, insulation, and air sealing upgrades, as well as Building Performance Institute (BPI) training. Each tribe receives a set of diagnostic field-testing equipment to enable tribal communities to conduct home energy assessments for their residential and multifamily properties. Equipment

upgrades in multifamily properties owned by the tribe or a tribal member are eligible to participate. Tribes are responsible for verifying eligibility for tribal member-owned housing. Customers must enroll by contacting the designated point of contact from each tribe.

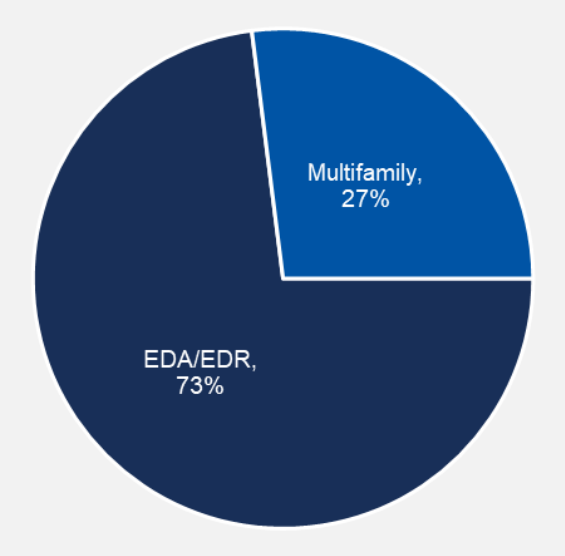
Table 26 provides a detailed summary of the performance and savings impacts of the Multifamily Program in CY 2024.

Table 26. CY 2024 Multifamily Program Summary

Item	Units	CY 2024
Incentive Spending	$	2,517,368
Participation	Number of Participants	546
Verified Gross Lifecycle Savings	kWh	257,309,912
	kW	1,706
	therms	16,637,576
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	90%
Net Annual Savings	kWh	12,570,780
	kW	1,574
	therms	742,674
Net Lifecycle Savings	MMBtu	2,294,961
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	2.14

Figure 34 shows the proportion of Multifamily Program savings by offering. In CY 2024, the Multifamily offering contributed 27% of the verified gross lifecycle MMBtu savings, and the EDA/EDR offering contributed 73%.

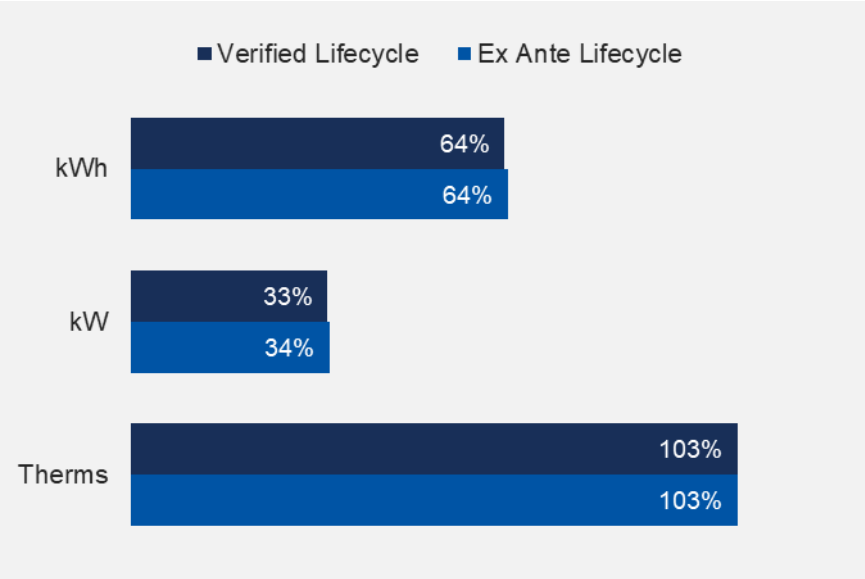
Figure 34. CY 2024 Proportion of Multifamily Program Gross Lifecycle Savings by Offering



4.1. Achievement Against Goals

As shown in Figure 35, in CY 2024, the Multifamily Program achieved 64% of its electric energy savings goal, 33% of its peak demand savings goal, and 103% of its therms savings goal based on verified lifecycle savings at the program level.

Figure 35. CY 2024 Multifamily Program Achievement of Gross Lifecycle Savings Goals



100% *ex ante* gross lifecycle savings reflect the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

4.2. Impact Evaluation

This section presents the findings from the CY 2024 impact evaluation of the Multifamily Program.

Impact Evaluation Methodology

The evaluation team designed its CY 2024 impact evaluation, measurement, and verification approach to integrate multiple perspectives into its assessment of program performance. The team used the following approaches to measure the impact of the Multifamily Program:

- Tracking database review
- Engineering desk reviews
- Virtual verification site visits and interviews
- Engineering savings calculations
- Participant surveys

Table 27 lists the specific data collection activities and sample sizes used in the evaluation. Additional details about these activities and their findings can be found in the offering-specific discussions below.

Table 27. CY 2024 Multifamily Impact Evaluation Activities and Sample Sizes

Offering	Total Measures	Impact Evaluation Sample		
		Desk Reviewed Measures	Virtually Verified Measures	% Sampled (by *Ex Ante* MMBtu savings)
Multifamily	877	35	7	14.5%
EDA/EDR[a]	101	15	7	52.4%
Total	**978**	**50**	**14**	**42.2%**

[a] PEP measures are included within the EDA/EDR offering.

Engineering Desk Reviews

The evaluation team reviewed all available project documentation in SPECTRUM for a sample of 50 measures offered through the CY 2024 Multifamily Program. This review included an assessment of the implementer's savings calculations and methodology. The team relied on the applicable TRMs and other relevant secondary sources as needed. Secondary sources included energy codes and standards, case studies, and energy efficiency program evaluations of comparable measures (based on geography, sector, measure application, and date of issue).

For prescriptive measures, the team used the Focus on Energy 2024 TRM and associated work papers as the primary sources to determine methodology and data in nearly all cases. For hybrid and custom measures, the team reviewed the SPECTRUM savings analysis workbooks and adjusted inputs and methodologies as necessary based on engineering judgment and project documentation.

To conduct the impact analysis of the program, the evaluation team selected a representative sample of measures to evaluate and then extrapolated the random sample findings to the larger population. In CY 2024, this process used purposive and proportional sampling by the following process:

- **Census sampling** selected the measures with the largest savings by offering, referred to as census measures. The team used a percentage distribution analysis to determine the threshold of savings since this varied by offering. The census sample included most measures larger than 5% of each offering's MMBtu lifecycle savings by sampling wave. Because these measures were sampled with certainty (100% of eligible highest saving measures were sampled), the team did not extrapolate the results to the offering population.
- **Random sampling** randomly selected measures from the population of offering measures (called randomly sampled measures). The team stratified the population by reported savings, fuel type, and sometimes measure type to ensure the overall representativeness of the sample selected. The team extrapolated the cumulative realization rate of randomly sampled measures by offering to the remainder of the offering's population.

Virtual Verification Site Visits

The evaluation team conducted 14 virtual verification site visits, including interviews with the site contact. Virtual site visits were conducted for sampled measures where the savings impact was high, the measure type was either hybrid or custom, or when there were outstanding questions and clarification needed to complete the evaluation of the measure. Field staff verified the type and quantity of equipment installed, determined how the installed equipment is controlled, and documented the operating hours of the installed equipment. The team then verified savings calculation input parameters based on operational and occupancy schedules, reported and observed setpoints, trend data, utility data, and any other relevant details identified before contact with the site.

Verified Gross Savings Results for the Multifamily Program

Table 28 lists the first-year and lifecycle realization rates for the CY 2024 Multifamily Program by offering. Table 29 lists verified first-year and lifecycle savings by offering and the program overall. The sampled projects represent 42% of the Multifamily Program lifecycle MMBtu savings. Overall, the program achieved a first-year evaluated realization rate of 100%, weighted by total energy savings (MMBtu). Note that at the measure level, there was variability between fuel types in terms of the realization rates. The team determined realization rates by strata, such as census and sample strata, and summed reported and verified savings at the offering level to arrive at savings and realization rates. Detailed findings for each offering, including factors affecting the realization rates, are discussed in the next section of this chapter.

Table 28. CY 2024 Multifamily Program First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Multifamily	100%	100%	100%	100%	100%	100%	100%
EDA/EDR	99%	99%	100%	100%	99%	100%	100%
Total	**99%**	**99%**	**100%**	**100%**	**99%**	**100%**	**100%**

Table 29. CY 2024 Multifamily Program First-Year and Lifecycle Verified Energy Savings Summary

Offering	Verified First-Year Savings				Verified Lifecycle Savings		
	kWh	kW	therms	MMBtu[a]	kWh	therms	MMBtu[a]
Multifamily	2,768,816	123	278,669	37,314	36,392,441	5,640,196	688,191
EDA/EDR	11,045,874	1,583	549,869	92,675	220,917,470	10,997,380	1,853,508
Total	**13,814,690**	**1,706**	**828,538**	**129,990**	**257,309,912**	**16,637,576**	**2,541,699**

[a] Verified kWh and therms savings may not sum to verified MMBtu values due to conversion/rounding associated with measure-level application of realization rates.

Multifamily Offering: Verified Gross Savings Results

For the Multifamily offering, which includes all measures except for EDA/EDR, eEDA, and PEP, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The sampled projects represent 14.5% of the offering's lifecycle MMBtu savings. The offering had a gross lifecycle realization rate of 100%.

Figure 36 illustrates the magnitude of and associated realization rates for *ex ante* lifecycle MMBtu savings of the sampled projects. None of the *verified* savings calculations deviated from *ex ante* savings in the Multifamily offering sample.

Figure 36. CY 2024 Multifamily Offering Sampling Results

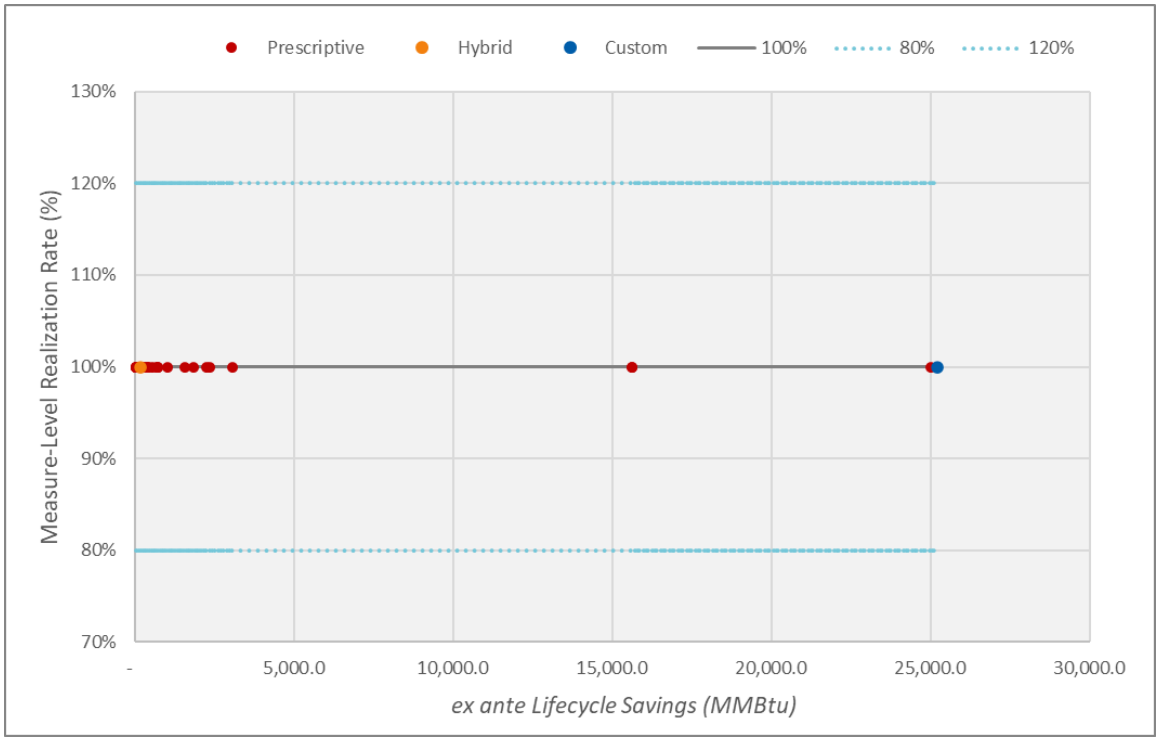


Table 30 lists the CY 2024 *ex ante* and verified gross savings by first-year and lifecycle gross savings for the Multifamily offering.

Table 30. CY 2024 Multifamily Offering *Ex Ante* and Verified Gross Savings

	***Ex Ante* Gross**			**Verified Gross**		
	kWh	**kW**	**therms**	**kWh**	**kW**	**therms**
First-Year Gross Savings	2,768,816	123	278,669	2,768,816	123	278,669
Lifecycle Gross Savings	36,392,441	123	5,640,196	36,392,441	123	5,640,196

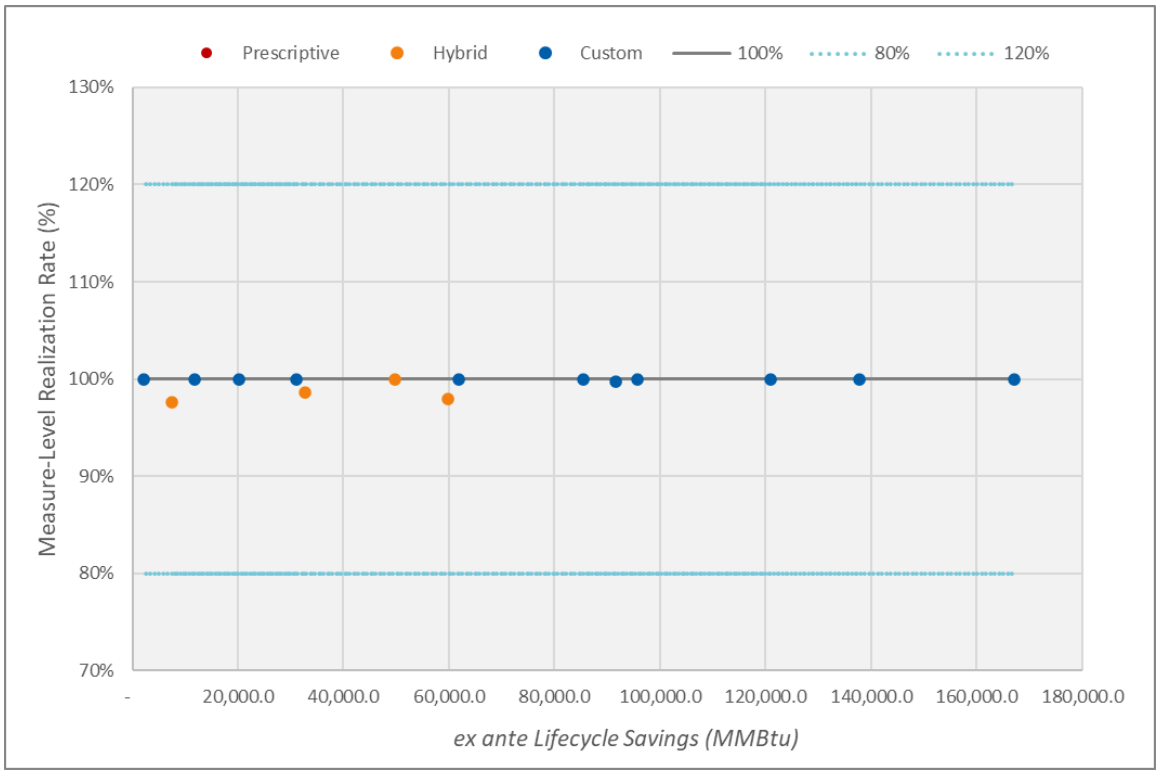
EDA/EDR Offering: Verified Gross Savings Results

For the EDA/EDR offering, which also included eEDA and PEP measures, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The EDA/EDR evaluation procedure included reviewing the System Information Modeling (SIM) files, the Net Energy Optimizer (NEO) modeling results, the written report, the project specifications, and the data entered into project tracking, looking for consistency amongst all documents. Interviews conducted in the evaluation phase may have produced additional documentation that the evaluation team reviewed against the rest of the submitted documentation for consistency. Where there were discrepancies and a

lack of additional information, the evaluation team considered the ModelSim reports to be the final as built and based evaluated savings on that output.

The sampled projects represent 52.4% of EDA/EDR lifecycle MMBtu savings. The offering achieved a gross lifecycle MMBtu realization rate of 100%. Figure 37 illustrates the magnitude of and associated realization rates for reported MMBtu savings of the sampled projects.

Figure 37. CY 2024 EDA/EDR Offering Sample Results



As Figure 37 shows, three of the sampled measures *verified* savings calculations deviated from *ex ante* savings in the EDA/EDR offering sample for the following reasons:

- For three measures, the summary report and the PEP workbook show different documentation of lighting power density (LPD). For all measures, the *ex post* savings align with the documentation demonstrating the more conservative savings in the absence of documentation to support the higher savings claimed. For all three measures, *ex post* adjustment resulted in a reduction of kWh annual and lifecycle savings and lifecycle MMBtu realization rates of 98% to 99%.

Table 31 lists the CY 2024 *ex ante* and verified gross savings by first-year and lifecycle gross savings for the EDA/EDR offering.

Table 31. CY 2024 EDA/EDR Offering *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
First-Year Gross Savings	11,157,448	1,599	549,869	11,045,874	1,583	549,869
Lifecycle Gross Savings	223,148,960	1,599	10,997,380	220,917,470	1,583	10,997,380

Verified Net Savings Results for the Multifamily Program

The evaluation team used CY 2023 participant survey results to assess net savings for the CY 2024 Multifamily Program. To calculate the NTG for each offering in CY 2024, the team combined the self-reported freeridership and participant spillover results using the following equation.

$$NTG = 1 - Freeridership\ Ratio + Participant\ Spillover\ Ratio$$

Table 32 shows the NTG ratios applied to the CY 2024 Multifamily Program.

Table 32. CY 2024 Multifamily Program NTG Ratios by Offering

Offering	Freeridership	Spillover	NTG Ratio
Multifamily	20%	3%	83%
EDA/EDR	7%	0%	93%

Table 33 shows the total lifecycle gross verified savings, lifecycle net savings, and final NTG ratios for the Multifamily Program in CY 2024.

Table 33. CY 2024 Multifamily Program Total Lifecycle Net Savings and NTG

Program	Total Lifecycle Gross Verified Savings (MMBtu)	Total Lifecycle Net Savings (MMBtu)	NTG Ratio
Multifamily	688,191	571,198	83%
EDA/EDR	1,853,508	1,723,763	93%
Total	**2,541,699**	**2,294,961**	**90%**

4.3. Process Evaluation

The CY 2024 process evaluation of the Multifamily Program focused on these key topics:

- Opportunities for and challenges to electrification and clean energy projects in the multifamily building market
- Motivations for and barriers to program participation

Process Evaluation Methodology

In CY 2024, the evaluation team conducted a process evaluation of the Multifamily Program, designing its evaluation approach to assess key research topics and to understand any changes from CY 2023. Table 34 lists specific data collection activities and completed surveys and interviews used in the evaluation.

Table 34. CY 2024 Multifamily Program Process Evaluation Activities and Sample Sizes

Activity	CY 2024 Completes (n)
Program Documentation Review	✓
Program Staff Interview	1
Multifamily Offering Participating Building Owner/ Manager Online Survey	13
Ongoing Participant Satisfaction Surveys	31
Historical Program Data Analysis	173,576 project records from January 2020 through September 2024

Program Documentation Review

The evaluation team reviewed the Multifamily Program implementation and marketing plans to understand the program structure and how it was implemented in CY 2024.

Program Staff Interview

The team conducted one combined interview with program administration and implementation staff. The interview focused on relevant program changes, electrification considerations, and program data to better inform the scope of the building owner and manager survey.

Multifamily Offering Building Owner/Manager Online Survey

Using contact information stored in the tracking database (SPECTRUM), the evaluation team developed and administered a web-based survey to building owners and managers who participated in the Multifamily offering between January 2023 and September 2024. The evaluation team separated multifamily building owners and managers from unit owners and tenants in the program data based on measure type, quantity, and contact name. The sample included 117 building owners and managers who participated in the Multifamily offering in the sample period and had contact information in the program data. Online surveys were delivered through a link provided in outreach emails, with 13 participants fully completing and two participants partially completing the survey.

The survey met the following primary objectives:

- Collect information about common characteristics of the current participants' buildings
- Identify participants' motivations and barriers to participate in the program
- Assess participants' current levels of awareness and interest in multifamily building electrification and clean energy projects, as well as the perceived challenges

Ongoing Participant Satisfaction Surveys

Using contact information stored in SPECTRUM, the program administrator oversaw web-based satisfaction surveys throughout the year to CY 2024 participants. There were two objectives for these satisfaction surveys:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help to facilitate timely follow-up with customers to clarify and address service concerns

A total of 31 Multifamily Program participants responded to the CY 2024 survey. The survey covered several topics, including overall satisfaction, satisfaction with offering staff and trade allies, the likelihood of recommending Focus on Energy, and other feedback.

Historical Program Data Analysis

The evaluation team reviewed 173,576 project records from CY 2020 through September 2024. The team analyzed the data by site and by measure type to identify trends over time and detect patterns in measure adoption. The analysis included units installed through other Focus on Energy residential and nonresidential programs from CY 2020 to CY 2022 before the Multifamily Program was established as a standalone offering. The analysis incorporated project data from the Multifamily Program for CY 2023 and CY 2024 following the program's establishment. Across all years, the analyzed data included projects completed by unit residents as well as property owners and managers.

Program Design and Delivery

Participation in the Multifamily Program primarily occurs through the Multifamily offering. The Multifamily offering provides incentives for a broad range of energy-efficient prescriptive measures and custom projects in existing buildings. The EDA/EDR offering provides design assistance or review in addition to incentives for new construction buildings and major remodeling or additions. Customers can apply for incentives directly through Focus on Energy or via their trade ally. They receive support from the implementer’s energy advisors and, occasionally, from their utility account representatives.

The Multifamily Program has three dedicated energy advisors. Each energy advisor covers a geographic region of the state, with two advisors in urban territories and a third advisor (hired in CY 2024) covering rural territories. The energy advisors manage relationships with multifamily building owners, managers, associations, and trade allies. They provide several services, helping building owners and managers to identify opportunities for energy efficiency improvements, understand available incentives, conduct engineering calculations for custom projects, and complete application materials.

The program launched two new initiatives in CY 2024 after ending related initiatives in CY 2023:

- In response to ending the Strategic Energy Management offering in CY 2023, Focus on Energy launched an operations and maintenance (O&M) offering in CY 2024, with an initial small batch of applications. O&M offers incentives for completing changes to the building automation system settings to deliver no- and low-cost energy savings to the customer.

- The program launched an eEDA in CY 2024 to replace PEP incentives that were discontinued in CY 2023. eEDA offers a streamlined EDA process, expanded building types, and online energy modeling to evaluate energy efficiency options and incentives.

Department of Administration Solar/Heat Pump Pilot

Focus on Energy launched this pilot in Q1 2023 with a goal of supporting weatherization agencies' improvements to multifamily buildings. The pilot covers half of the solar photovoltaic (PV) and heat pump costs in small multifamily buildings with existing electric resistance heat. To qualify, a building must have between four and 12 units and incorporate both solar PV and heat pump space heating to qualify. Buildings must also meet income-qualification requirements and must have been previously weatherized or include weatherization in the project scope.

The pilot offers incentives of $1,500/kW (direct current [DC]) for up to 7kW per solar PV unit and 50% of the cost of heat pump units (up to $3,000 for air source heat pumps and up to $800 for heat pump water heaters). The maximum total incentives are $75,000 per building and $225,000 per property.

Opportunities and Challenges for Electrification and Clean Energy Projects

Understanding the characteristics of participants' buildings was essential to identifying infrastructure opportunities and challenges related to energy efficiency and electrification. As part of the analysis, the evaluation team gathered information on building characteristics via participant surveys to assess the physical constraints, existing equipment, and potential barriers to implementing energy upgrades. As noted above, the evaluation team analyzed Focus on Energy program data for multifamily buildings dating back to CY 2020, identifying trends in heat pump and gas equipment projects over time. Specifically, these data provided insights into market adoption patterns, technology preferences, and areas where further program support may be needed.

The following sections describe survey analysis and findings around electrification and clean energy, including the multifamily building owners' and managers' reported characteristics of the buildings they own or manage, their outlooks on electrification and clean energy projects in Wisconsin's multifamily building market, and trends from the program data.

Multifamily Building Characteristics

The 13 surveyed multifamily building owners and managers each managed between one and 258 properties. Seven manage between one and four (median of two), three between 14 and 27 (median of 15), and three between 96 and 258 (median of 140).

The survey asked them to focus on a property that received a Focus on Energy incentive in either CY 2023 or CY 2024. Of the properties that received a Focus on Energy incentive, the number of residential units in the multifamily properties ranged from six to 1,250, with an average unit size of 312 to 1,590 square feet. The year properties were built ranged from 1960 to 2015. Eleven respondents reported managing or owning a building with apartment units, while two respondents reported managing or owning a building with condominium units.

Figure 38 shows the property types managed or owned by the respondents.

Figure 38. Respondents' Property Type



Source: Focus on Energy Multifamily Survey:
"What's the most accurate description of this property's residential units?" (n=13)

Figure 39 shows the ownership types of the properties managed or owned by the respondents.

Figure 39. Property Ownership Types

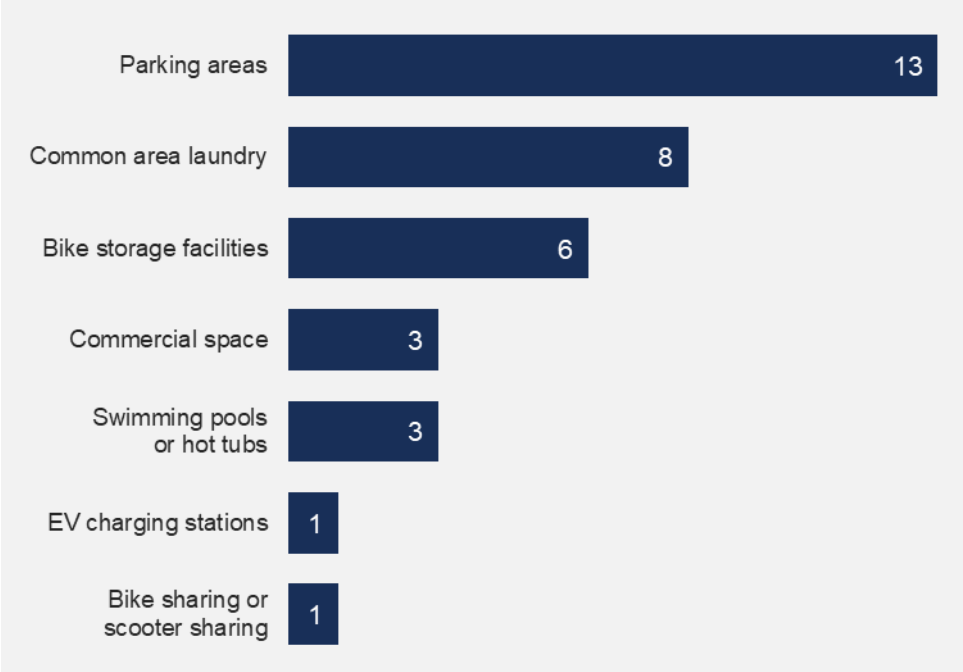


Source: Focus on Energy Multifamily Survey:
"Which of the following best describes the ownership of this property?" (n=10)

Amenities

As shown in Figure 40 on the following page, respondents were asked to list the available amenities at their properties. All 13 properties had parking areas available to tenants. A common area laundry was the next most common amenity, available at eight buildings. Nine properties had in-unit laundry machines—four of them had both in-unit machines and a shared laundry facility. Of the properties with common area laundry, the majority (seven) owned the laundry machines, while one property leased the machines. Most properties (seven) had electric resistance clothes dryers, and one had gas. Three respondents reported that the properties had swimming pools or hot tubs. Two of these respondents reported that the pools or hot tubs used gas heaters, and one did not know the heat source.

Figure 40. Respondents' Property Amenities



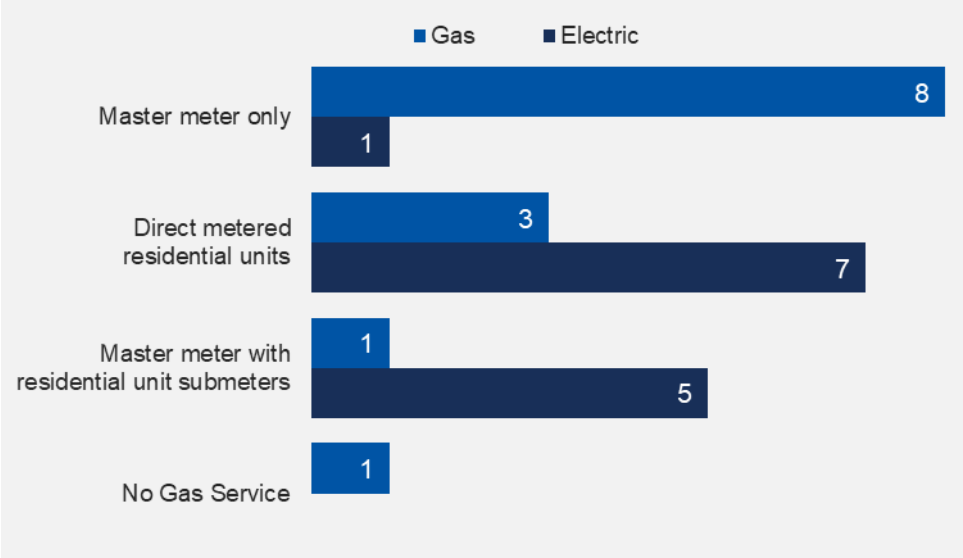
Source: Focus on Energy Multifamily Survey: "The next questions ask about the building features. Which of the following amenities does this property have? Please select all that apply" (n=13). Respondents could select more than one option.

Utility Bill Responsibility

Twelve respondents provided information about how electric and gas utilities were metered at their properties and about utility bill responsibilities at their properties. The survey divided questions about utility bill responsibility by electric and gas service. At all 12 properties, the tenants or unit owners paid electric bills; the property owner paid the electric bills at the one master-metered property. In four of the 12 properties with gas service, the tenant or unit owners paid for the gas bill, while the property owner paid the gas bills at the six master-metered properties. Two respondents selected "other," with one clarifying, "There is no in-unit gas, only gas to outside furnace," and the other noting, "Complex maintenance checks."

As shown in Figure 41, nine respondents indicated that their property utilized a master meter exclusively; eight of these properties had a master meter for gas service, while one had a master meter for electric service. Three respondents reported having direct-metered residential units for gas service, whereas seven had direct-metered residential units for electric service. Additionally, one property featured a master meter with residential unit submeters for gas service, while eight properties had a similar configuration for electric service.

Figure 41. Method of Metering Gas and Electric Utilities



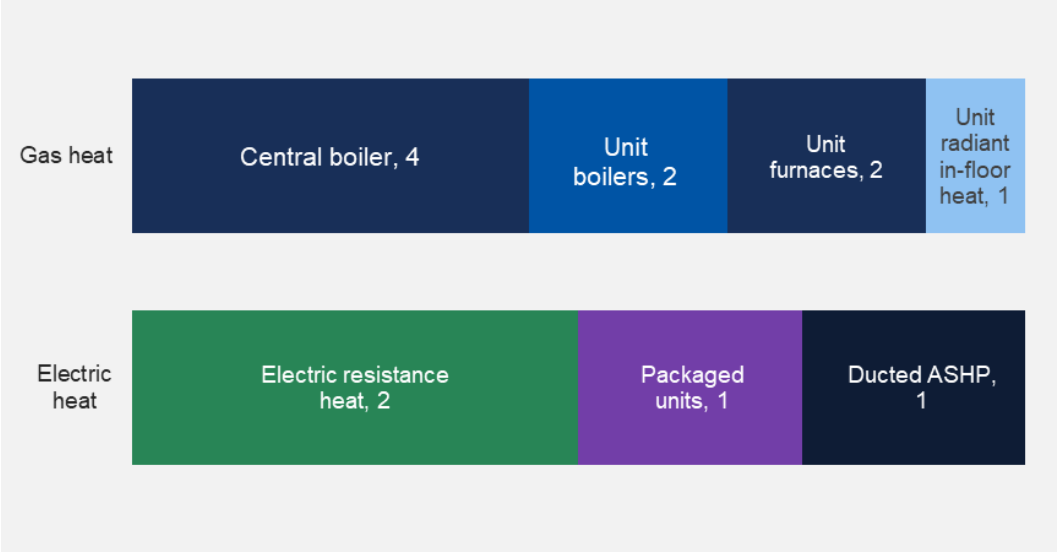
Source: Focus on Energy Multifamily Survey: "How are gas utilities metered for this property?" (n=13) and "How are electric utilities metered for this property?" (n=13)

Heating Systems

The survey asked respondents about the characteristics of their property's heating system. Respondents reported varying ages for the heating system across properties. Four properties had a heating system five years old or less, four properties had a heating system between five and 20 years old, and five properties had a heating system 20 years or older.

As shown in Figure 42 on the following page, most survey respondents (nine) reported that their properties had natural gas heating systems. Four of these nine properties had central hot water boilers, while the other five had individual unit heating systems, including unit boilers, furnaces, and in-floor heating. The remaining four properties had electric heating systems, including electric resistance heating, packaged units (MagicPak), and ducted air source heat pumps.

Figure 42. Unit Heating Type



Source: Focus on Energy Multifamily Survey: "What is the primary heating fuel for this property?" (n=13)

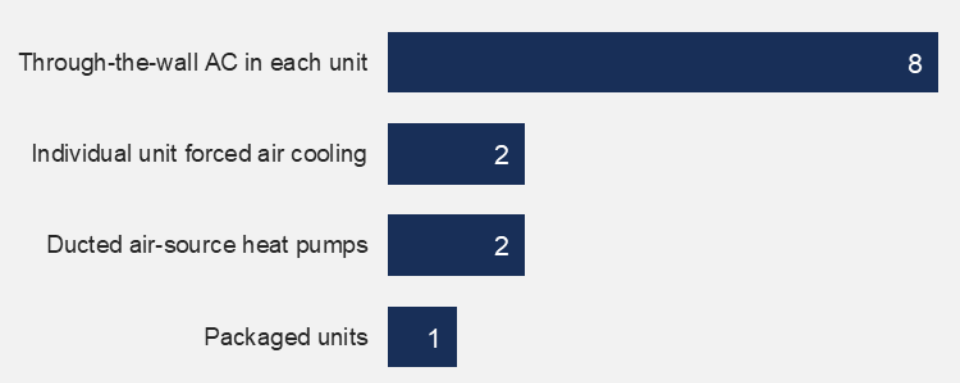
As mentioned above, the evaluation team analyzed historical program data to identify trends over time and detect patterns in measure adoption. During the CY 2020 to CY 2024 period, Focus on Energy incentivized a total of 2,431 multifamily heating equipment projects. Of these, 294 projects (12.1%) involved heat pump installations, 282 projects (11.6%) were boiler installations, and the remaining projects consisted of new furnace installations. Among the 294 heat pumps installed, 102 (34.5%) had a natural gas utility provided listed in the tracking data, while the remaining 192 only had an electric provider listed. The distribution of heating systems across buildings in the multifamily program follows a similar pattern, with 4% utilizing a heat pump or dual-fuel heat pump, 87% a furnace, 6% a boiler, and 3% baseboard heating.

Application date information was available for 68 heat pump projects, demonstrating a year-over-year increase in installations: none in CY 2020, four in CY 2021, six in CY 2022, and 58 in CY 2023. This upward trend aligns with the launch of the Multifamily Program in CY 2022 and a broader push by Focus on Energy to increase heat pump adoption rates across all sectors.

Cooling Systems

The survey also asked multifamily building owners and managers about the characteristics of their properties' cooling systems. As shown in Figure 43 on the following page, all 13 properties had some form of air conditioner (AC), the majority of which (eight) had through-the-wall AC in each unit. Individual unit forced air cooling, ducted air-source heat pumps, and packaged units were reported by one or two respondents each. For one of the properties that used ducted air-source heat pumps, the primary heating source was natural gas.

Figure 43. Primary Cooling System for the Unit at Respondent's Property



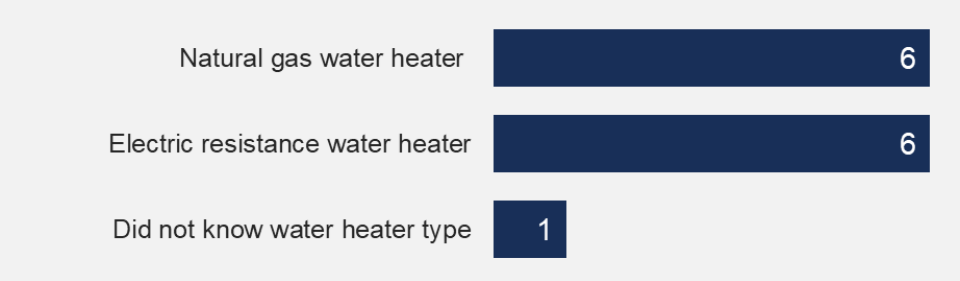
Source: Focus on Energy Multifamily Survey: "What is the typical primary cooling system for the units at this property?" (n=13)

Ten respondents provided information about the age of the cooling systems; eight of those reported that most cooling systems at their properties were less than 10 years old. Only five of 13 properties allowed tenants to install window AC units, while most properties (eight) did not allow tenants to install window AC units.

Water Heating

The survey also asked respondents about their property's water heating characteristics. All 13 properties had a central water heating system. As shown in Figure 44, six of these properties had a natural gas water heater, and six had an electric resistance water heater. One respondent did not know what type of water heater was being used at their property.

Figure 44. Primary Hot Water Heating System Type at Respondent's Property



Source: Focus on Energy Multifamily Survey: "What is the primary hot water heating system type for this property? (n=13)

Electrification Awareness, Interest, and Challenges

The building owner and manager survey asked respondents about their and their tenants' awareness, interest, and perceived challenges related to building electrification and clean energy projects.

Water Heating

Respondents were asked if they had plans to add heat pump technology for water heating. Of the six respondents who answered the question, three were aware of concrete plans to install heat pump water heaters in their buildings in the future. Their motivations were to enhance equipment and

building performance (one respondent) and save money (two respondents). For one, cost was a concern, even though they had plans to install the heat pump water heater. For the three respondents with concrete plans, one used electric resistance water heating at the time of the survey, and two had natural gas boilers. The three respondents who were not aware of concrete plans to install heat pump water heaters cited cost as the main barrier.

The remaining three respondents said that though they had no plans in place to install a heat pump water heater, they expected their property to install one in the future. One said that their motivation for installing a heat pump water heater in the future was to offset heating and cooling costs.

Space Heating

Regarding space heating, only one respondent reported that their building had current plans to add heat pump technology. This respondent said that low-income weatherization funding was making these plans feasible. No other survey participants expected their property to install a heat pump in the future.

The survey provided a brief introduction to portable or window heat pumps as a heating and cooling solution for small units or spaces. Respondents were informed that these systems are portable, plug into a standard 120-volt outlet, do not require through-wall ducting, and are more cost-effective than mini-split heat pump installations. Prior to the survey, two respondents were aware of portable heat pumps, while six were not. Four respondents indicated that they would consider installing cold-climate portable heat pumps on their property in CY 2025.

When asked what information from Focus on Energy would be helpful regarding heat pump technology, participants reported that they wanted to learn more about the following:

- Price comparison
- A list of trusted vendors and contractors
- More information in general, including maintenance
- Available models to heat multiple rooms and the need for supplemental heat

Other Technologies

The survey also asked if respondents had plans to install a variety of technologies, including electric stoves, electric clothes dryers, solar pool heaters, on-site solar, electric energy storage (such as a battery), and electric vehicle chargers. Two respondents reported being aware of concrete plans for installing electric energy storage. For one of them, the motivation was the awareness that more owners were buying electric vehicles. This respondent did not have plans to install electric vehicle chargers. No other respondent had concrete plans to install any of the other technologies.

Electrification Upgrades

When asked if they foresaw the property making any other electrification upgrades at some point, even without current plans, one respondent said they expected to replace their gas cook stoves with electric stoves in the future, two said their property would replace in-unit cooling with heat pumps, and three of them said they would install on-site solar. Of the three who reported that they expected their properties to install on-site solar at some point, two also reported that they expected the properties to install

battery storage, and one expected to install electric vehicle chargers. One additional participant who did not expect to install on-site solar did expect to install electric vehicle chargers.

Respondents estimated how soon electrification upgrades could begin. One of them said within two years, another one said in two to five years, and two said in five to 10 years.

Six out of eight respondents selected cost as the reason they hesitated when considering electrification projects for the property. One reported the need for additional electrical service upgrades, another reported that unit owners were not interested in change, and one more said that low-income residents would not buy electric vehicles.

Tenant Interest

The survey asked respondents to rate tenants' interest in several technologies, including on-site solar, heat pumps, induction stoves, electric vehicles, and battery storage. Respondents reported varied levels of tenant interest (*interested*, *uninterested*, *mixed*, and *unaware*) between properties. Three out of 13 mentioned that tenants were *interested* in solar, two in heat pump technologies, one in induction stoves, one in electric vehicles, and one in battery storage. One specifically mentioned that tenants were *interested* in heat pump packaged terminal AC units. Three survey participants reported tenants were *uninterested* in heat pumps; this was followed by disinterest in electric vehicles (two respondents), battery storage (two respondents), and induction stoves and solar (one each).

Inflation Reduction Act Interest

Respondents answered questions regarding the Inflation Reduction Act (IRA) funding opportunities for multifamily buildings in Wisconsin. Of nine respondents who answered questions about IRA, three were aware of IRA opportunities for multifamily buildings in Wisconsin, and two of them had plans for projects that would use IRA funding. One project involved single-family building projects; the other mentioned that IRA would fund heat pumps for packaged terminal ACs, window and door replacements, and heating and cooling replacements. Of the six respondents who were unaware of IRA opportunities, three were also unaware of plans for projects that would utilize IRA funding, and three were certain they did not have any plans funded by IRA.

Regarding how they heard about IRA funding opportunities, one respondent said they received information from contractors, and three said they received information from Focus on Energy.

When asked if awareness of the anticipated IRA funding opportunities impacted any projects, respondents were already planning in terms of timing or scope; three out of five said yes, and two said no. Of those who said yes, one reported that they were waiting for full details about the funding opportunity, and one said they were currently investigating their replacement options.

Four respondents were eager to learn more about IRA opportunities from Focus on Energy. They mentioned that they would like to receive the following from Focus on Energy when the multifamily opportunity launches: a list of multifamily measures that qualify for IRA funding and a brief overview of IRA funding opportunities to share with building owners.

Motivations and Barriers to Program Participation

Respondents were asked to report any differences between properties they manage that could make conducting energy efficiency projects easier or more difficult. One respondent said that the age of buildings, the number of buildings they managed, and a limited budget make conducting energy efficiency projects more difficult, while another said that existing systems design, access to the envelope and attic, and having multiple or central units may make it harder. One respondent mentioned specifically that electrically heated buildings are "very conducive to console water source heat pumps."

Respondents provided multiple considerations that could make energy efficiency implementation easier or more difficult depending on the property, characteristics like the age of a building, the existing HVAC system (e.g., in-unit or central), whether there is a basement or slab on grade, and the number of individual buildings at a given property. Respondents reported that a limited budget or limited access to a building's envelope or attic can make energy efficiency implementation more difficult.

While respondents identified various factors that impact the feasibility of energy efficiency projects — such as building characteristics and budget constraints—the historical trend analysis demonstrates that new construction projects, which can integrate energy efficiency from the outset, have been particularly successful in achieving significant energy savings. The historical analysis revealed that between CY 2020 and CY 2023, a total of 321 new construction multifamily projects were completed. These projects focused on building design and ensuring energy efficiency. Among the 10 projects with the highest first-year kWh savings, seven were new construction projects, including the four with the greatest savings in the period. Additionally, two of the top 10 projects were building shell insulation projects, while the remaining project was an HVAC upgrade. On average, these 10 projects achieved first-year savings of 544,040 kWh, with 76 projects surpassing 100,000 kWh in first-year savings.

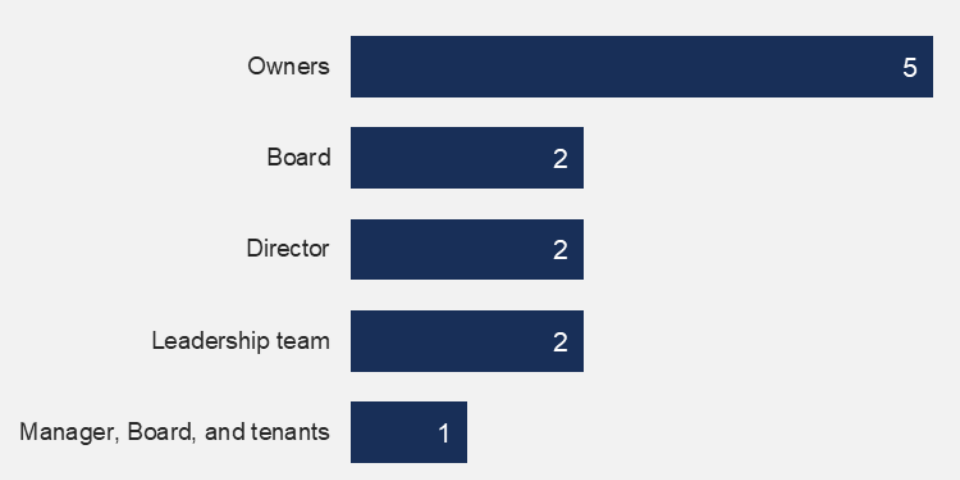
In terms of first-year therm savings, 19 of the top 20 projects were new construction, with the remaining project classified as an energy management initiative. These 20 projects achieved an average first-year savings of 38,554 therms.

From CY 2020 to CY 2023, participants installed a total of 868 building shell measures in multifamily buildings. Of these, 414 were air sealing, 429 were attic air sealing, and 25 were wall insulation projects.

Survey respondents also provided feedback about the challenges they face with energy efficiency projects, citing monetary constraints as the biggest challenge in moving energy efficiency projects forward (nine of 10 respondents), followed by a lack of tenant/unit owner buy-in (one of 10).

Figure 45 on the following page shows the distribution of reported parties that must sign off on capital improvement projects at their properties, with owners being the most common (five respondents).

Figure 45. Parties that Must Sign off on Capital Improvement Projects at Interviewee's Properties



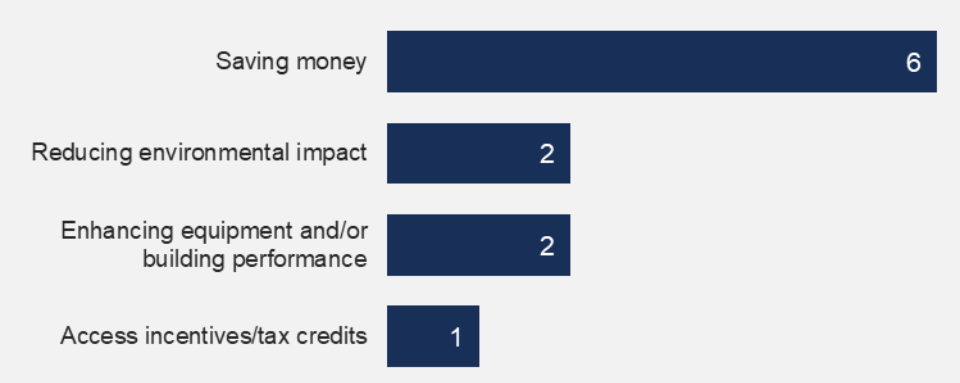
Source: Focus on Energy Multifamily Survey: "For the building(s) that you own or manage or work with, who needs to sign off on a capital improvement project for it to move forward?" (n=12)

Respondents provided several specific examples of challenges when implementing energy efficiency improvements:

- Installation of solar
- Lack of central air conditioning (requiring major changes to the building infrastructure)
- The cost-prohibitive process of changing over to individual meters
- Funding shortfalls
- Obtaining stakeholder buy-in, specifically board approvals

The survey asked respondents about their biggest motivation for implementing energy efficiency projects in general and also about the most important factors in completing their recent energy efficiency project with Focus on Energy. As shown in Figure 46, respondents were motivated to implement energy efficiency for various reasons. The most common motivation is saving money (six respondents), followed by reducing environmental impact (two respondents), enhancing equipment and/or building performance (two respondents), and incentives or tax credits (one respondent).

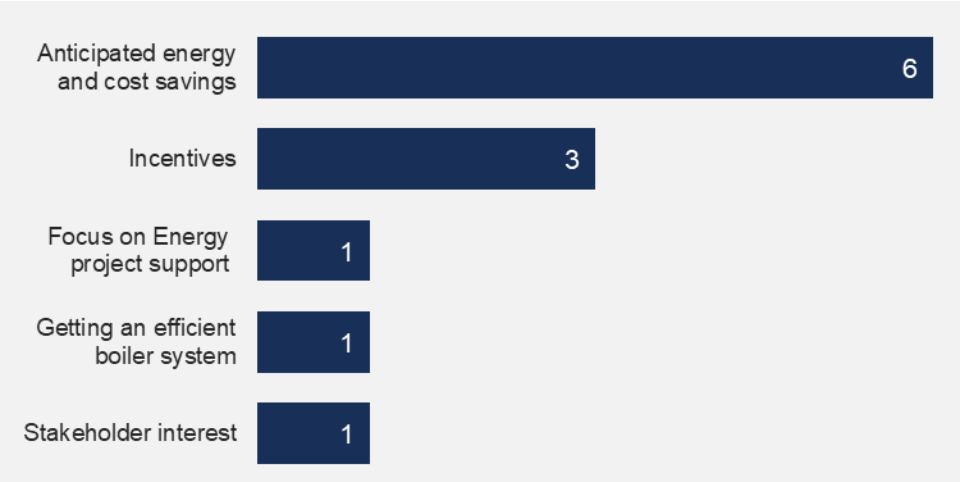
Figure 46. Largest Motivations to Implement Energy Efficiency Projects



Source: Focus on Energy Multifamily Survey: "What is the strongest motivation for implementing an energy efficiency project?" (n=11)

As shown in Figure 47, the most important factor for respondents to complete their most recent energy efficiency projects with Focus on Energy varied. The most important factor for respondents was related to monetary incentives, either through anticipated energy and cost savings (six respondents) or incentives (three respondents). Respondents also reported Focus on Energy support, getting an efficient boiler system, and stakeholder interest (one respondent each).

Figure 47. Most Important Factor in Completing Recent Energy Efficiency Projects



Source: Focus on Energy Multifamily Survey. "What was most important in completing your recent energy efficiency project that received a Focus on Energy incentive? (n=12)

To further explore the key factors influencing project completion, the survey included an open-ended question asking respondents to explain their decision to proceed with their most recent energy efficiency project. Five out of eight respondents had monetary motivations, whether because of incentives or reductions in their energy bills. Two respondents mentioned energy conservation as a reason for moving forward. Two respondents mentioned safety or comfort for their residents. Two respondents were motivated to replace equipment. One had an "aging heating system near end of life," and another respondent mentioned upgrading to an efficient boiler.

Respondents specifically reported the following benefits from projects incentivized by the Multifamily Program:

- "[The project] helped reduce our electric bill and made it safer for our residents."
- The project was "helpful to reduce energy loss by improving insulation and ventilation."
- The project helped reduce costs, improve residents' comfort, and increase structure longevity.

The evaluation team asked respondents how Focus on Energy can best reach building owners and managers amidst all the communications they get from vendors. The top two recommendations from respondents were to lead with the Focus on Energy name since it has good recognition (four of seven), and to utilize email and direct mail since they still work best (three of seven).

Respondents also expressed interest in Focus on Energy's presence at community events:

- "Teaching during community events. Providing educational events at local community events, community centers, and libraries."
- "Attend multifamily events to showcase options and incentives."

When asked what information from Focus on Energy would be helpful for implementing future energy efficiency projects, respondents asked for the following:

- Information about solar, heat pumps, and unit air conditioning
- A better list of available rebates and incentives
- On-site evaluation of buildings and a report of what incentives would be available
- Incentive dollar amounts listed for various projects
- Simple explanations of available programs

Ongoing Participant Satisfaction Surveys

Throughout CY 2024, the administrator invited participants to take a web-based satisfaction survey.

Awareness

The survey asked participants how they learned about the Multifamily Program. In CY 2024, respondents most often said they learned about it from trade allies (45%, n=28), followed by previous experience with Focus on Energy offerings (13%). These were also the top sources of awareness in CY 2023.

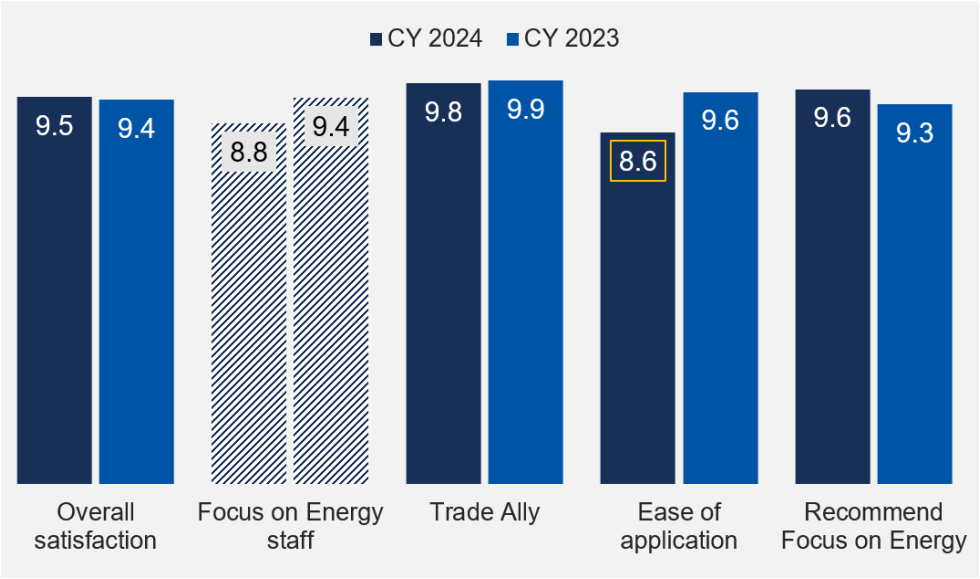
Participant Experience

When asked about satisfaction with the program and the likelihood of recommending Focus on Energy, respondents gave ratings on a scale of 0 to 10, where 10 indicated the highest degree of satisfaction or likelihood and 0 the lowest.[6] As Figure 48 shows, CY 2024 respondents gave the Multifamily Program an average overall satisfaction score of 9.5. Multifamily respondents gave the trade allies they worked with

[6] The number of participants who completed a survey does not always match the number of responses for each question, as some participants skipped or did not know answers to questions.

an especially high rating (9.8), but satisfaction with the ease of applying for incentives dropped significantly from CY 2023 (9.6) to CY 2024 (8.6).

Figure 48. Multifamily Participant Satisfaction and Likelihood Ratings



Source: Multifamily and Business and Industry Program Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=31; CY 2023 n=29). "How satisfied are you with the Energy Advisor or Focus on Energy staff member who assisted you with your project?" (CY 2024 n=10; CY 2023 n=7). "How satisfied are you with the contractor(s) that you worked with on this project?" (CY 2024 n=23; CY 2023 n=28). "How satisfied are you with the ease of submitting your rebate application?" (CY 2024 n=31; CY 2023 n=28). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=31; CY 2023 n=29). Boxes around ratings indicate a statistically significant difference between CY 2024 and CY 2023 ($p<0.10$ using t-tests). Textured bars represent results from less than 20 surveys; interpret with caution.

Net Promoter Score

Using the survey data, the evaluation team calculated an NPS based on customers' likelihood to recommend Focus on Energy. The NPS is expressed as an absolute number between -100 and +100 that represents the difference between the percentage of promoters (respondents giving a rating of 9 or 10) and detractors (respondents giving a rating of 0 to 6). High NPS scores (+70 or higher) are theoretically predictive of customer behaviors, such as participating in another offering, implementing additional energy improvements, and referring Focus on Energy offerings to others. The Multifamily Program's NPS was +87 for CY 2024, consistent with +84 NPS for this program in CY 2023.

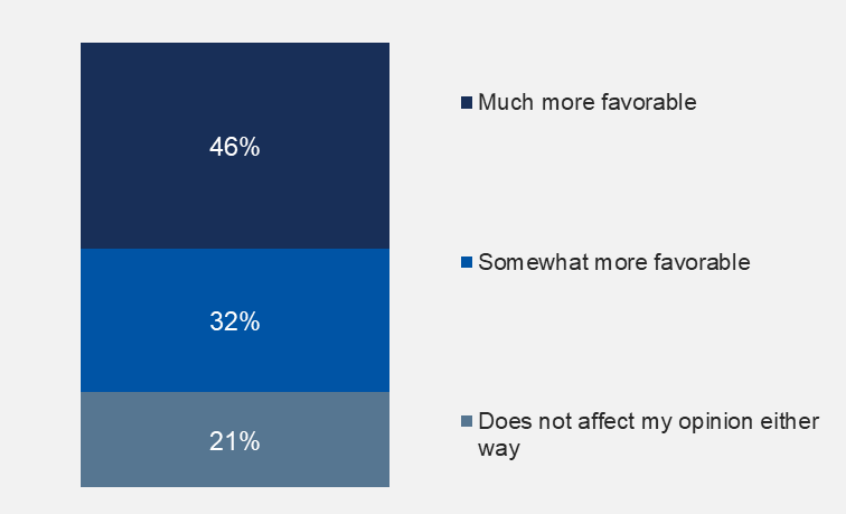
Awareness of Utility Partnership

The survey asked participants if they were aware that the Multifamily Program was offered in partnership with their local utility before receiving the satisfaction survey. Fifty-five percent (n=28) were aware in CY 2024, which was much lower than awareness by participants in other programs.

The survey also asked if Focus on Energy offerings affected their opinion of their utilities. As Figure 49 shows, 79% of respondents said their opinion had become *much more favorable* or *somewhat more*

favorable, while no one reported that their opinion had become *much less favorable* or *somewhat less favorable,* and 21% said their opinion did not change. These results were similar to CY 2023 responses.

Figure 49. Multifamily Program's Influence on Participants' Opinions of Utilities



Source: Multifamily Participant Satisfaction Survey Question: "How have these offerings affected your opinion of your energy utility, if at all?" (n=28).
No responses were received for the options *somewhat less favorable* and *much less favorable*.

Participant Feedback and Suggestions for Improvement

The survey asked participants if they had any comments or suggestions to improve the program. Of the 31 participants who responded to the survey, 35% provided open-ended feedback, which the evaluation team coded into a total of 14 mentions. Of these mentions, five were positive or complimentary and nine suggested improvements. Three of the positive comments praised the trade allies and energy advisors who worked on the projects or reflected a generally positive experience, while the other two indicated satisfaction with cost savings.

Six of the nine suggestions for improvement were related to the application process, which is consistent with the relatively low 8.6 average satisfaction rating respondents gave for the application process (Figure 48). One respondent's comment was illustrative of these issues: "I spent most of a day combing through the paperwork my contractor gave me, doing Google searches on model numbers, and reading information on the Focus of Energy website to determine how to complete the rebate application. It reminded me of preparing an income tax return." The other three suggestions included improving communications and record-keeping when there is staff turnover at Focus on Energy, reducing delays in paying incentives, and providing assurances that contractors who receive incentives will pass the savings on to customers.

In CY 2024, the satisfaction survey included an open-ended question soliciting comments on participants' experience with trade allies. Sixteen Multifamily respondents provided comments, which were mostly positive and complimentary. All but one CY 2024 respondent gave their contractor a satisfaction rating of at least 9 out of 10; the one respondent who rated their contractor at 8 out of 10

recounted difficulties gathering information to submit a program application but did not seem to blame the contractor for the situation.

4.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test. Table 35 lists the CY 2024 incentive costs for the Multifamily Program.

Table 35. CY 2024 Multifamily Incentive Costs

Offerings	Incentive Costs
Multifamily	$1,321,243
EDA/EDR/PEP	$1,196,125
Total	$2,517,368

The evaluation team found that the CY 2024 Multifamily Program was cost-effective (2.14). Table 36 lists the evaluated costs and benefits.

Table 36. CY 2024 Multifamily Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administrative Costs	$124,155
Delivery Costs	$1,344,256
Incremental Measure Costs	$11,937,114
Total Non-Incentive Costs	**$13,405,524**
Benefits	
Electricity Benefits (kWh)	$4,803,714
Capacity Benefits (kW)	$4,835,803
T&D Benefits (kW)	$1,385,601
Gas Benefits	$6,599,409
Emissions Benefits	$11,123,203
Total TRC Benefits	**$28,747,730**
Net TRC Benefits	**$15,342,206**
TRC Benefit/Cost Ratio	**2.14**

4.5. Outcomes and Recommendations

The evaluation team offers the following outcomes and recommendations based on findings from the CY 2024 evaluation. The electrification awareness, interest, and challenges research performed in CY 2024 was intended to be exploratory, consistent with the Public Service Commission of Wisconsin's directive for Focus on Energy to use Quadrennium IV as a transitional period to position the program to take on a larger role in promoting beneficial electrification statewide.[7] The practical applicability of the outcomes and recommendations related to that research may increase should portfolio goals be structured in a manner that supports the expansion of electrification initiatives.

Outcome 1. Billing responsibility might influence decision-making for energy efficiency projects. Survey respondents were more motivated to implement energy efficiency projects that help reduce overhead. This suggests that building owners and managers are more interested in energy efficiency projects when they are responsible for paying the electric or gas bill. Respondents reported that tenants most commonly paid electricity bills, while property owners more frequently covered gas costs.

Recommendation 1. Consider tailoring incentive structures to account for the unique financial responsibilities of property owners versus tenants (for example, offer higher rebates and direct financial incentives for owner-paid energy systems to encourage electrification and efficiency improvements). When gas is included in the rent but electricity is not, be aware that electrification will shift additional expenses to tenants. Implement safeguards to avoid passing on cost impacts from electrification to the unit owner or tenant.

Outcome 2. Financial considerations are a key factor in energy efficiency and electrification. Cost emerged as the most significant factor influencing both barriers to and motivations for energy efficiency and electrification projects. Financial constraints were the most frequently cited barrier, with respondents highlighting the high upfront costs, the need for major retrofits, and metering challenges. Securing stakeholder approval, particularly from ownership groups, further complicated decision-making and contributed to project delays. Cost was also identified as the primary obstacle to electrification upgrades, and cost savings were the primary motivation for program participation. Additionally, respondents expressed high trust in Focus on Energy, favoring clear, simple information about rebates and tailored recommendations for their buildings.

Recommendation 2a. Create decision-making tools that simplify project approvals for property owners and boards, such as financial modeling calculators, cost/benefit analyses, and case studies of Multifamily projects that successfully completed electrification projects without increasing tenant costs.

Recommendation 2b. Enhance marketing and outreach strategies by emphasizing financial benefits in program materials, such as anticipated payback periods, long-term cost savings, and return-on-investment data. Improve rebate clarity and accessibility by developing customized incentive roadmaps that outline the most relevant opportunities based on building type and existing equipment. Leverage

[7] Final Decision. November 14, 2022. *Quadrennial Planning Process IV*. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=453081

Focus on Energy's strong brand recognition by leading with its name in all communications and expanding direct engagement efforts through property manager networks and multifamily housing associations.

Outcome 3. Cost and lack of awareness are the primary barriers to electrification projects. Focus on Energy supports electrification through eligible energy-saving measures, but it is not currently building new initiatives around electrification based on existing program goals. Still, respondents expressed interest in electrification upgrades, including heat pump water heaters, space heating, on-site solar, battery storage, and electric vehicle (EV) chargers. However, cost remained a primary barrier, and some respondents lacked detailed knowledge about available options and incentives. Respondents said that more information is needed on pricing, trusted vendors, and the feasibility of electrification projects.

Recommendation 3. Consider expanding outreach and marketing materials to better educate potential participants about electrification benefits, where applicable. Offer in-depth educational materials to help property owners understand the long-term value of electrification, including comparative cost breakdowns for gas versus electric systems, case studies of successful installations in similar buildings, and return on investment. Enhance marketing and outreach strategies for the income-qualified offering among affordable housing properties where cost is an even greater challenge. Connect owners with the Focus on Energy Trade Ally Network program for heat pump, solar, and battery storage installations.

Outcome 4. There is limited awareness but high interest in upcoming IRA incentives for Multifamily projects. Three out of nine respondents were aware of IRA opportunities, and two of them had plans to use IRA funding for upcoming projects. Despite the current limited awareness of future opportunities, respondents showed a strong interest in learning more and receiving clear guidance on participation and qualifying measures when the program becomes available. Some property owners were already factoring IRA funding into their project planning, but they were waiting for more information before moving forward.

Recommendation 4. When IRA opportunities become available, establish clear and accessible communication channels and resources to effectively convey information on multifamily funding. Consider including a list of qualifying measures and a concise overview of funding opportunities. Additionally, proactive outreach efforts—such as webinars, fact sheets, and direct consultations—can help property owners and managers integrate IRA funding into their energy efficiency plans.

Outcome 5. Untapped energy-savings potential presents opportunities to expand Focus on Energy's electrification and energy efficiency efforts. Respondents identified key areas where Focus on Energy could provide valuable support, such as price comparisons, vendor lists, and information on electrification technologies and incentives. The evaluation team's research highlighted significant untapped energy-saving potential in multifamily buildings, particularly through efficiency upgrades, such as replacing electric resistance water heaters and pool heaters with heat pump technology. In addition, the widespread use of through-the-wall AC units presents an opportunity to improve efficiency by transitioning to mini-split systems or portable heat pumps as technology advances. While survey

respondents reported limited awareness about these technologies, they indicated a willingness to consider installing them.

Recommendation 5. Strengthen Focus on Energy's role as a trusted resource by offering tailored guidance, interactive tools for cost-benefit analysis, and connections to qualified vendors. Provide customized outreach to multifamily property owners to increase engagement and program participation. Develop targeted outreach campaigns to promote the adoption of heat pump water heaters and pool heaters in multifamily buildings. Financial incentives, technical support, education around usage and savings, and contractor training can help to accelerate adoption. Consider piloting a replacement program to assess the feasibility and effectiveness of mini-split heat pumps and emerging portable heat pump solutions in multifamily buildings and provide case studies and incentives for early adopters to drive market transformation.

Outcome 6. The high prevalence of parking facilities at multifamily buildings provides an opportunity for future EV charging stations. Multifamily buildings commonly include parking facilities, and while the reported interest in EV infrastructure is moderate, it is growing. This may present a future opportunity to explore efficient EV infrastructure programs in these facilities, should the PSC determine that EV chargers are within the scope of Focus on Energy.

5. Residential New Construction Program

The Residential New Construction Program provides Wisconsin builders with technical training and support, as well as incentives, to construct homes that meet Focus on Energy's prescriptive performance and modeled energy performance requirements. In CY 2024, the Residential New Construction Program also included a New Manufactured Homes Pilot that incentivized retailers to sell ENERGY STAR® and Department of Energy Zero Energy Ready manufactured homes, promoting more efficient construction practices. Additional details about the program are provided in the *Process Evaluation* section of this chapter.

In CY 2024, the Residential New Construction Program was administered by APTIM and implemented by Performance Systems Development.

Table 37 lists actual spending, savings, participation, and cost-effectiveness of the Residential New Construction Program in CY 2024.

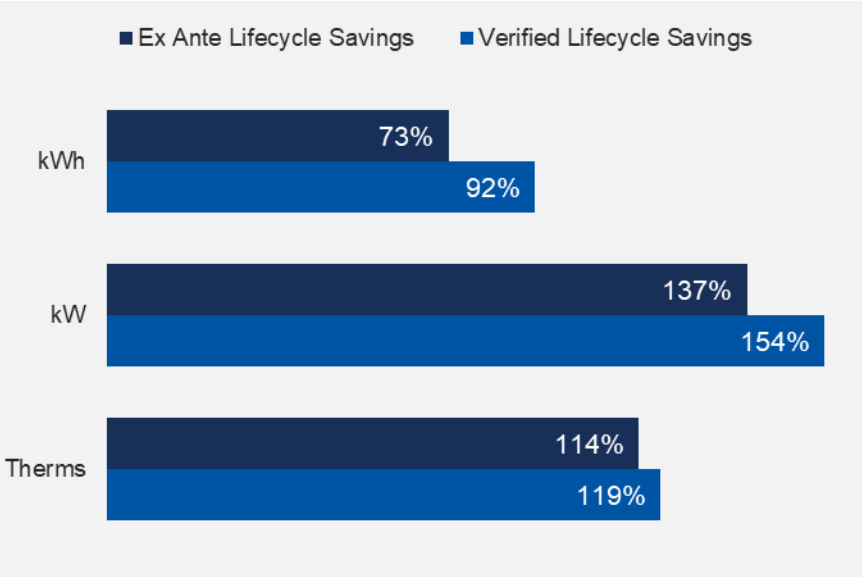
Table 37. CY 2024 Residential New Construction Program Summary

Item	Units	CY 2024
Incentive Spending	$	3,102,285
Participation	Number of Participants	2,205
Verified Gross Lifecycle Savings	kWh	149,171,712
	kW	1,610
	therms	15,354,763
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	88%
Net Annual Savings	kWh	498,157
	kW	162
	therms	581,929
Net Lifecycle Savings	MMBtu	1,796,778
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	7.23

5.1. Achievement Against Goals

The program exceeded two of three fuel-specific goals in CY 2024, achieving 154% of its kW goal, 119% of its natural gas (therms) savings goal, and 92% of its kWh goal. Figure 50 on the following page shows the percentage of gross lifecycle savings goals achieved by the Residential New Construction Program in CY 2024.

Figure 50. CY 2024 Residential New Construction Program Achievement of Gross Lifecycle Savings Goals



The 100% *ex ante* gross lifecycle savings reflect the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

5.2. Impact Evaluation

This section describes the methodology the evaluation team used to evaluate the Residential New Construction Program and presents the findings from the CY 2024 impact evaluation.

Impact Evaluation Methodology

Table 38 lists the specific data collection activities and sample sizes used in the impact evaluation of the Residential New Construction Program. Additional details about these activities are below.

Table 38. CY 2024 Residential New Construction Impact Evaluation Activities and Sample Sizes

Activity	Sample Size
Tracking Database Review	Census
NTG Assessment of Program Homes	Census
Manufactured Homes Participant Interviews	3
Market Effects Calculation for Non-Program Homes	Census

Tracking Database Review

In CY 2024, the evaluation team reviewed the tracking data in the SPECTRUM database to verify gross savings of the Residential New Construction Program. The review involved two tasks:

- Ensuring that total savings and activity in SPECTRUM matched the totals reported by the administrator
- Checking for complete and consistent application of data fields (including measure names, application of first-year savings, and application of effective useful lives)

NTG Assessment of Program Homes

In CY 2024, the evaluation team updated the Residential New Construction Program NTG by applying the certification-level results of the CY 2019 NTG analysis to CY 2024 program homes. The CY 2019 evaluation included a comprehensive analysis of energy consumption data (billing data) of newly constructed Focus on Energy-certified and non-certified homes. The study found higher NTG ratios in program homes built at higher certification levels (i.e., a percentage better than code requirements). For CY 2024, the evaluation team applied the tiered NTG ratios to CY 2024 program homes based on the homes' certification level.

Table 39 lists the electric and natural gas NTG ratios that the team applied from the CY 2019 billing analysis to CY 2024 program homes. These NTG ratios are grouped by certification levels that were effective in the CY 2019 Residential New Construction Program. Because the CY 2024 program did not use this same incentive structure (see Table 52), the evaluation team used each program home's specific certification rating to apply the NTG ratios from Table 39.

Table 39. CY 2024 Residential New Construction NTG Ratios by Savings Tier

Savings Type	Certification Level [a] (% Better than Code)	NTG Ratio
Electric	25% - 29.9%[a]	-181%
	30% - 34.9%	-48%
	35% - 99.9%	14%
Natural Gas	25% - 29.9%[a]	-23%
	30% - 34.9%	11%
	35% - 99.9%	23%

[a] Percentage based on the CY 2019 certification level.

Manufactured Homes Retailer and Community Interviews

The evaluation team interviewed three New Manufactured Homes participant retailers and communities to understand their interactions with the pilot and Residential New Construction Program, ask questions about freeridership, and gather insights on the broader manufactured homes market.

Market Effects Calculation for Non-Program Homes

To account for the program's historical impact on the residential new construction market in Wisconsin, the evaluation team applied results from the Quadrennium III market effects analysis to non-program homes constructed in CY 2024. These market effects savings are because non-program homes are now being built more efficiently as a result of the program's long-standing impact on the Wisconsin market. Although it was decided that electric market effects savings would no longer be applied beyond CY 2023, the evaluation team determined that natural gas market effects remain applicable for the CY 2024 evaluation. The team combined market effects savings with the net savings of program homes to calculate the final CY 2024 net savings for the program.

Verified Gross Savings Results for Residential New Construction

Table 40 lists the CY 2024 first-year and lifecycle realization rates for the Residential New Construction Program. Overall, the program achieved a verified first-year realization rate of 100%, weighted by total

energy savings (MMBtu). While the evaluation team assumed a 100% realization rate for Residential New Construction first-year and lifecycle savings, New Manufactured Home Pilot savings are based on deemed savings in the approved 2024 New Manufactured Homes work paper. For most measures, *ex ante* savings appeared to align with the deemed savings outlined in the 2024 work paper. However, the team found that the *ex ante* savings for the double-wide, propane-fueled new manufactured home measure mistakenly applied therm savings from the double-wide, natural gas new manufactured home measure. For this measure, the team applied zero therms from the 2024 New Manufactured Homes work paper, resulting in a 0% realization rate for the measure. This adjustment led to overall first-year and lifecycle therms and MMBtu savings realization rates of 98%.

Table 40. CY 2024 Residential New Construction Program First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Residential New Construction	100%	100%	100%	100%	100%	100%	100%
Manufactured Homes Pilot	100%	100%	98%	98%	100%	100%	98%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 41 lists verified first-year and lifecycle savings for the program.

Table 41. CY 2024 Residential New Construction First-Year and Lifecycle Gross Verified Energy Savings

Offering	Verified First-Year Savings				Verified Lifecycle Savings		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Residential New Construction	4,880,552	1,542	485,145	65,167	146,416,572	14,554,363	1,955,010
Manufactured Homes Pilot	91,838	68	26,680	2,981	2,755,140	800,400	89,441
Total	**4,972,390**	**1,610**	**511,825**	**68,148**	**149,171,712**	**15,354,763**	**2,044,450**

Table 42 shows the *ex ante* and *ex post* verified gross savings for the Residential New Construction Program by offering and overall.

Table 42. CY 2024 Residential New Construction Program *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
Residential New Construction						
First-Year Gross Savings	4,880,552	1,542	485,145	4,880,552	1,542	485,145
Lifecycle Gross Savings	146,416,572	1,542	14,554,363	146,416,572	1,542	14,554,363
New Manufactured Homes Pilot						
First-Year Gross Savings	91,838	68	27,200	91,838	68	26,680
Lifecycle Gross Savings	2,755,140	68	816,000	2,755,140	68	800,400
Total Residential New Construction						
First-Year Gross Savings	4,972,390	1,610	512,345	4,972,390	1,610	511,825
Lifecycle Gross Savings	149,171,712	1,610	15,370,363	149,171,712	1,610	15,354,763

Annual Achievements

In CY 2024, the Residential New Construction Program continued to increase average savings per certified home, as it did during the CY 2019-CY 2022 quadrennium. Table 43 shows the number of homes certified by the program, verified lifecycle savings for CY 2024, and average verified total savings (MMBtu) per home.

Table 43. Residential New Construction
Per-Home Verified Lifecycle Energy Savings (MMBtu) by Calendar Year

Program Year	Number of Homes Certified	Verified Lifecycle kWh Savings	Verified kW Savings	Verified Lifecycle therms Savings	Total Verified Lifecycle MMBtu Savings	Average Verified Lifecycle MMBtu per Home
CY 2019	2,382	85,789,920	765	14,000,850	1,692,800	711
CY 2020	2,259	93,451,159	759	13,339,004	1,652,756	732
CY 2021	2,488	128,995,699	955	14,589,788	1,899,112	763
CY 2022	2,418	172,444,902	1,153	14,537,310	2,042,113	845
CY 2023	2,146	165,913,082	1,092	13,289,988	1,895,094	883
CY 2024	2,138	146,416,572	1,542	14,554,363	1,955,010	914

Figure 51 shows verified gross lifecycle savings by certification tier for CY 2024. The majority (93%) of program savings (MMBtu) were in the Level 1 (30% above code) tier, which includes income-qualified homes.

Figure 51. CY 2024 Residential New Construction Verified Gross Lifecycle Energy Savings (MMBtu) by Certification Tier

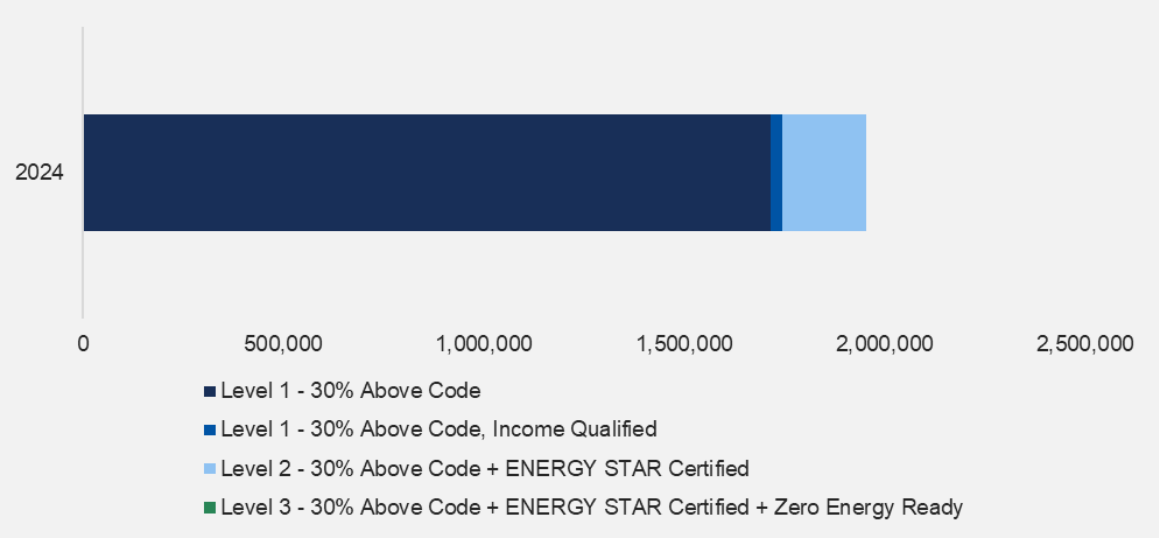
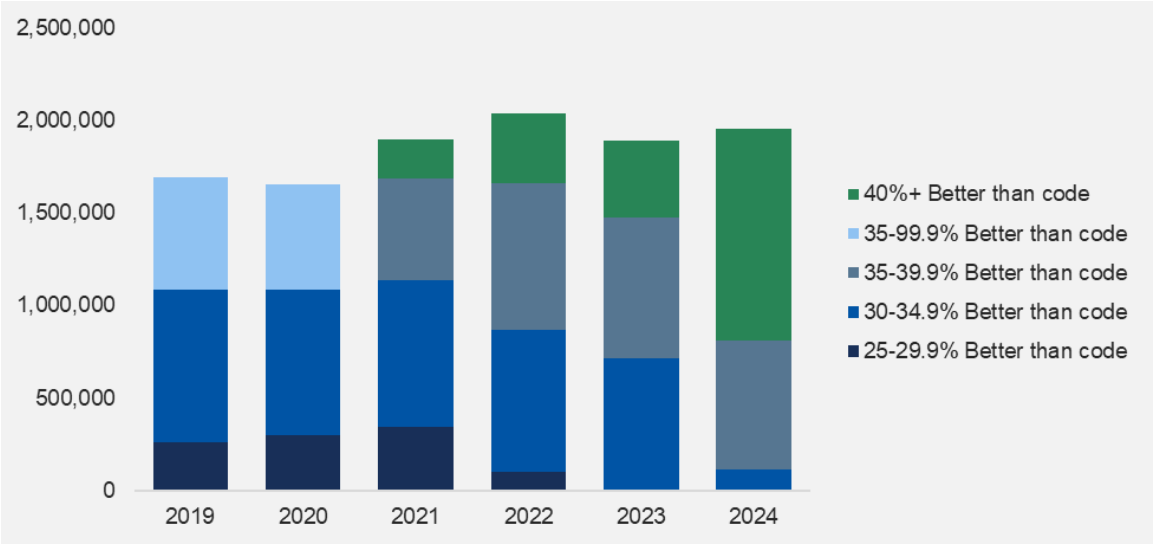


Figure 52 shows how CY 2024 verified gross lifecycle savings compared to previous years by the percentage of savings above code. It illustrates that the percentage of savings from higher certification tiers (about 35%) has been increasing since CY 2021.

Figure 52. Residential New Construction Verified Gross Lifecycle Energy Savings (MMBtu) by Performance Above Code



Verified Net Savings Results for Residential New Construction Program

To calculate net savings for the Residential New Construction Program, the evaluation team updated the program's NTG ratios using a combination of the CY 2024 tracking data and CY 2019 billing analysis adjustments. The team also applied natural gas market effects determined during the CY 2019 evaluation and incorporated NTG ratios for manufactured homes based on CY 2024 interviews with retailers and communities. As shown in Table 44, the team calculated an overall NTG ratio of 19% for the program without market effects, weighted by first-year MMBtu savings, and an NTG ratio of 88% with market effects.

Table 44. CY 2024 Residential New Construction Program First-Year Net Savings and NTG

	Total First-Year Gross Verified Savings (MMBtu)	Total First-Year Net Savings (MMBtu)	NTG Ratio
Without Market Effects	68,148	12,666	19%
With Market Effects		59,893	88%

Net-to-Gross Assessment of Program Homes

The evaluation team updated Residential New Construction NTG ratios using the CY 2024 program tracking data and the net adjustments produced by the CY 2019 billing evaluation. Table 45 and Table 46 show the share of program homes and net adjustments for each certification level. The updated electric NTG ratio was 10%, and the updated therms NTG ratio was 22%. Note that manufactured homes were not included in this analysis.

Table 45. CY 2024 Residential New Construction NTG for Electricity

Certification Level	% above Code	Number of Homes in Bin	Gross kWh (First-Year) Savings	Net Adjustment	Net kWh Savings
Certification Level 1	25-29.9%	0	0	-181%	0
Certification Level 2	30-34.9%	164	282,944	-48%	-135,813
Certification Level 3	35-39.9%	895	1,833,109	14%	256,635
Certification Level 4	40%+	1,079	2,764,499	14%	387,030
Total	-	**2,138**	**4,880,552**	**10%**	**507,852**

Table 46. CY 2024 Residential New Construction for Natural Gas

Certification Level	% above Code	Number of Homes in Bin	Gross therms (First-Year) Savings	Net Adjustment	Net therms Savings
Certification Level 1	25-29.9%	0	0	-23%	0
Certification Level 2	30-34.9%	164	28,165	11%	3,098
Certification Level 3	35-39.9%	895	169,888	23%	39,074
Certification Level 4	40%+	1,079	287,092	23%	66,031
Total	-	**2,138**	**485,145**	**22%**	**108,204**

Manufactured Homes Net-to-Gross Ratio

To calculate net savings for the New Manufactured Homes Pilot, the evaluation team used NTG results from the CY 2024 retailer and community interviews. To better understand freeridership within the New Manufactured Homes Pilot, the evaluation team conducted interviews with one retailer and two communities that participated in the pilot during CY 2024. These participants accounted for 22% of the reported MMBtu savings. The interviews focused on assessing the extent of freeridership and also gathered insights into their experiences with the pilot and the broader Residential New Construction Program. The interviews included questions that allowed the team to calculate freeridership (homes that would have been purchased without the offering's influence) and spillover (offering-induced energy-saving actions).

To calculate final NTG ratios, the evaluation team combined self-report freeridership and spillover using the following equation. The team used the results from the CY 2024 interviews conducted during the CY 2024 evaluation.

$$NTG = 1 - Freeridership + Participant\ Spillover$$

Table 47 shows the self-reported freeridership, spillover, and final NTG ratios applied to the New Manufactured Homes Pilot in CY 2024.

Table 47. Manufactured Homes Freeridership and Spillover Results

Sector	Freeridership	Spillover	NTG (1 – Freeridership + Spillover)
Residential	89%	0%	11%

The team then applied the NTG ratio to the Manufactured Homes Pilot, which resulted in the net savings shown below in Table 48.

Table 48. CY 2024 Manufactured Homes Pilot First-Year Net Savings and NTG

Offering	Total First-Year Verified Gross Savings (MMBtu)	Total First-Year Net Savings (MMBtu)	NTG Ratio
New Manufactured Homes Pilot	2,981	328	11%

Market Effects for Non-Program Homes

In CY 2019 and CY 2020, the evaluation team conducted research to calculate market effects for the Residential New Construction Program, calculating the kWh, kW, and therms per-home market effects savings for a standard non-program home constructed in Wisconsin.[8] To determine these per-home market effects, the team convened an expert Delphi panel to understand if building practices for standard non-program new homes were affected by the program.[9] This feedback informed the characteristics of a counterfactual non-program home—that is, a non-program home that would have been built without any influence from the program—and modeled the energy use of that counterfactual home.

Per-home market effects savings are the difference between the modeled energy consumption of a counterfactual non-program home and the modeled energy consumption of a standard non-program home. These savings should be considered new savings realized for the program since they represent program-induced energy savings in the Wisconsin residential new construction market that have not previously been attributed to program spending (past or present).

Table 49 shows the per-home first-year market effects savings as determined by modeling the energy consumption of standard and counterfactual non-program homes. The overall per-home market effects savings are 770 kWh, 0.15 kW, and 49 therms per year. Electric market effects savings were driven primarily by efficient lighting (LEDs) and electronically commutated motor (ECM) furnace fans, while gas savings were primarily attributed to efficient gas furnaces and water heaters.

Table 49. CY 2024 Residential New Construction Per-Home First-Year Market Effects Savings

Electric/Natural Gas	Standard Non-Program Home Consumption	Counterfactual Non-Program Home Consumption	Market Effects Savings
kWh	8,996	9,766	770
kW	2.56	2.72	0.15
therms	771	820	49

In CY 2023, the evaluation team determined that kWh market effect savings should not be included after CY 2023 because recent federal lighting and furnace standards now require that new equipment be

[8] The term *standard non-program home* refers to a typical newly constructed Wisconsin home that did not participate in the Residential New Construction Program.

[9] Full details about the Delphi panel process are available in the CY 2020 Focus on Energy Evaluation Report.

as efficient as LEDs and ECM furnace fans. This decision aligns with Focus on Energy's broader decision to stop claiming LED savings in other residential offerings.

Natural gas furnace and water heating regulations have not changed since 2020. In the absence of evidence suggesting that natural gas market effects are not ongoing, the evaluation team continued to apply therm market effects to non-program homes.

To calculate CY 2024 market effects for non-program homes, the evaluation team multiplied per-home market effects savings by 9,638, which represents the total number of non-program homes constructed in Wisconsin in 2024.[10] Table 50 shows the first-year and lifecycle market effects savings for non-program homes. The team added these market effects savings to net savings for program homes to determine the total net savings for the program.

Table 50. CY 2024 Residential New Construction First-Year Market Effects Savings for Non-Program Homes

	First-Year Market Effects Savings			
	kWh	kW	therms	MMBtu
First-Year Market Effects Savings	0	0	472,262	47,226
Lifecycle Market Effects Savings	0	0	14,167,860	1,416,786

5.3. Process Evaluation

The evaluation team designed the CY 2024 process evaluation activities to monitor participating home construction practices and the performance of the Residential New Construction Program. This section details the evaluation activities and findings.

Process Evaluation Methodology

In CY 2024, the evaluation team monitored program activity by reviewing program documentation and monitoring program home-building characteristics. Table 51 lists CY 2024 process evaluation activities, followed by brief descriptions of these activities.

Table 51. CY 2024 Residential New Construction Process Evaluation Data Collection Activities and Sample Sizes

Activity	Sample Size
Program Documentation Review	✓
Program Home Database Update	2,133 homes
Builder Interviews	15
Contractor Interviews	10
Building Performance Consultant Interviews	10
New Manufactured Homes Retailer and Communities Interviews	3

[10] New home permits by county sourced from the United States Department of Housing and Urban Development's Office of Policy Development and Research. Permit data are available here: https://www.huduser.gov/portal/datasets/socds.html

Program Documentation Review

The evaluation team reviewed the Residential New Construction Program implementation and marketing plans provided by the administrator to understand the program structure and how it was implemented in CY 2024. The team also reviewed miscellaneous documentation throughout the year, such as *ad hoc* updates from the program administrator and the administrator's quarterly performance reports to the PSC to understand program updates and progress in CY 2024.

Program Home Database Update

In CY 2019, the evaluation team created a database of historical participating home REM/Rate software files,[11] and since then, has updated it annually to show how program home characteristics have evolved over time, including again in CY 2024, using program home REM/Rate files from the implementer.

Builder Interviews

The evaluation team interviewed 15 Wisconsin home builders, including 10 builders who participated in the CY 2024 Residential New Construction Program and five builders who did not participate. The interviews focused on building practices as well as the overall construction market for new residential homes and how both are influenced by the program.

Contractor Interviews

The evaluation team interviewed 10 subcontractors who worked on program-certified homes in CY 2024, focusing on construction practices and the effects of the new homes and program market.

Building Performance Consultant Interviews

The team also interviewed 10 program Building Performance Consultants (BPCs) to gather insights on the Residential New Construction Program and the Wisconsin new construction market. These discussions also explored their experiences partnering with Focus on Energy and identified opportunities for improving BPC engagement and recruitment.

New Manufactured Homes Retailer and Communities Interviews

Additionally, the team interviewed three New Manufactured Homes retailers and communities to understand their interactions with the pilot, assess areas of pilot success and improvement, and gather insights into the broader manufactured homes market.

Program Design and Delivery

Focus on Energy delivers the Residential New Construction Program throughout Wisconsin through the administrator, implementer, participating trade allies (home builders), and BPCs affiliated with the program. Participating home builders can certify homes and receive incentives for homes that are at least 30% more energy efficient than the current Wisconsin Uniform Dwelling Code, as determined by REM/Rate energy modeling software used by third-party BPCs.

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[11] REM/Rate is the modeling software used to calculate the energy consumption and energy savings of homes certified by the Residential New Construction Program.

Participating home builders are paired with BPCs, who guide them on using more energy-efficient building techniques and then model and verify the new homes' energy performance using REM/Rate. Focus on Energy also offers training on advanced building techniques to help home builders meet program requirements and construct more efficient homes. This training is also open to nonparticipating builders and subcontractors.

In CY 2024, the Residential New Construction Program continued offering the incentive structure that it launched in CY 2023. The new design includes three incentive levels (starting at 30% above code) and a bonus for income-qualified homes. Table 52 lists CY 2024 incentives and participation for each home certification level. In CY 2024, 93% of participating homes were certified at the 30% Above Code certification level.

Table 52. CY 2024 Residential New Construction Certification Level Incentives and Participation

Certification Level	CY 2024 Incentives (Per-MMBtu Savings)	CY 2024 Participation
30% Above Code	$45	1,947
30% Above Code + ENERGY STAR Certification	$50	155
30% Above Code + ENERGY STAR + Zero Energy Ready Certification	$60	0
30% Above Code + Income-Qualified Additive Per MMBtu Saved (bonus)	$5	36

Though certification levels are expressed as a percentage better than code, the program measures the energy savings of participating homes against a market baseline home. In CY 2024, the program updated this market baseline home to reflect home characteristics from the evaluation team's CY 2022 market characterization study.[12]

Building Performance Consultant Recruitment

To address concerns from previous years about a shortage of BPCs and to build on previous efforts to recruit BPCs, Focus on Energy launched a pilot in CY 2021 to recruit and train new BPCs for the Residential New Construction Program and integrated this pilot into the program in CY 2023. The BPC trade ally training establishes a training and apprenticeship program to expand the BPC network into areas of the state that traditionally have been underserved by the program and to transfer program knowledge and expertise from retiring BPCs to new BPCs.

In CY 2024, four BPC candidates enrolled in the Residential Energy Services Network (RESNET) training program. One candidate successfully passed the exam and advanced to the field/practical stage of training, completing their mandatory probationary ratings in CY 2024, while another passed and completed their probationary ratings in CY 2025. In CY 2023, three BPC candidates were certified; however, none of them submitted a program home in CY 2024.

[12] Cadmus. July 2022. *2020 Residential New Construction Baseline Study.* https://focusonenergy.com/evaluation-reports/2020-residential-baseline-study-report

New Manufactured Homes Pilot

For CY 2024, the Residential New Construction Program included a New Manufactured Homes pilot designed to push Wisconsin's manufactured homes market toward more efficient construction practices. The pilot provides incentives to manufactured home retailers and communities for sales of ENERGY STAR or Department of Energy Zero Energy Ready certified manufactured homes. Four incentive options are available to participants and offered on a per-home basis. Table 53 shows the incentive levels and participation for the pilot in CY 2024.

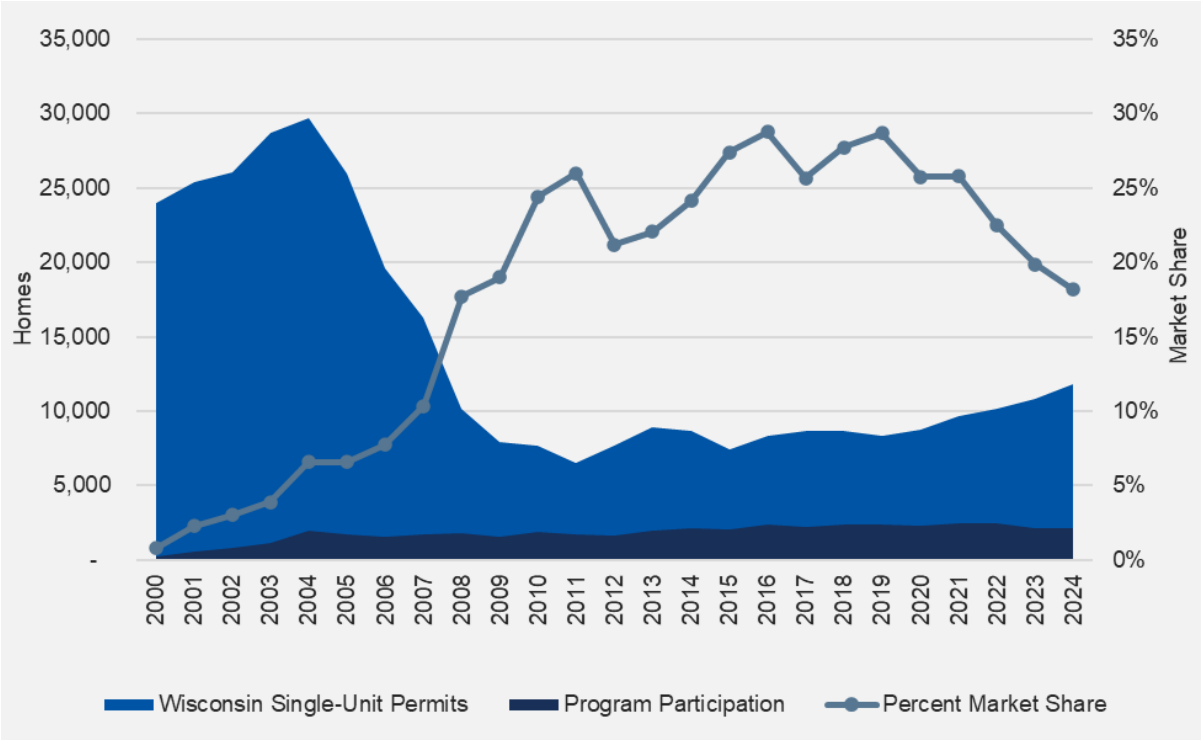
Table 53. CY 2024 New Manufactured Homes Pilot Incentives and Participation

Certification Level	CY 2024 Incentives (Per Home)	CY 2024 Participation
ENERGY STAR-certified, Single-Floor Units	$1,000	2
ENERGY STAR-certified, Double-Floor Units	$1,250	5
Zero Energy Ready Home-certified, Single-Floor Units	$1,500	59
Zero Energy Ready Home certified, Double-Floor Units	$1,750	0

Residential New Construction Activity

The evaluation team tracks market share and other new construction metrics to monitor the Residential New Construction Program's market effects. The number of new construction permits has steadily increased since CY 2020, following about 10 years of relatively low permits. In CY 2024, there were 975 more permits issued than in CY 2023, compared to 657 more permits issued in CY 2023 than in CY 2022. At the same time, the number of program homes has stayed relatively stable, leading to a decrease in the program's market share as the number of permits has increased. Figure 53 shows the historical participation rate and market share of the Residential New Construction Program as a percentage of single-family new construction permits since CY 2000.

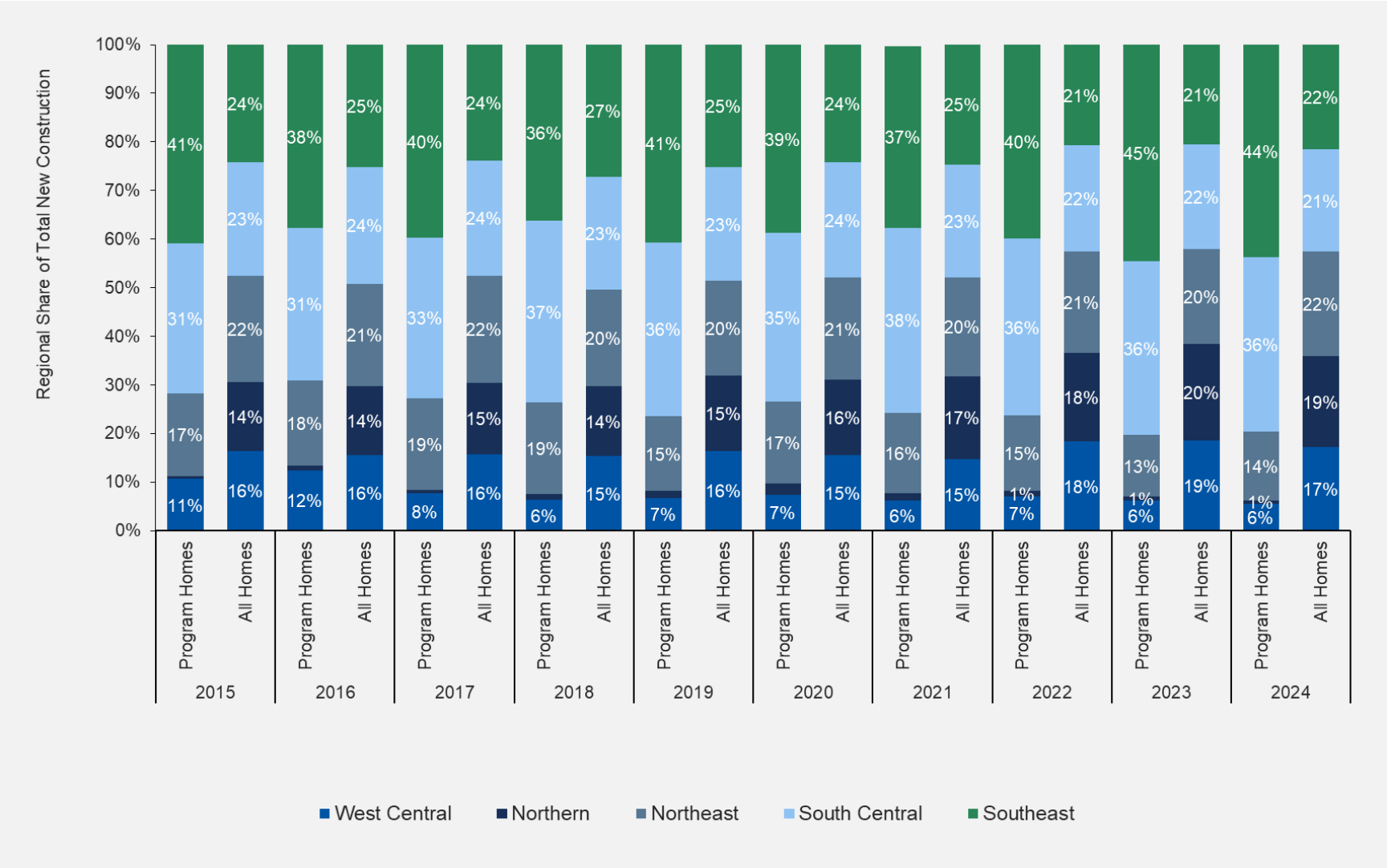
Figure 53. Residential New Construction Program Participation and Market Share (CY 2000-CY 2024)



Since CY 2015, between 57% and 74% of statewide residential new construction has been in urban counties.[13] In comparison, between 88% and 91% of Focus on Energy-certified homes have been built in urban areas during the same period. Figure 54 shows the overall regional share of Residential New Construction homes and new construction in Wisconsin. The figure illustrates that Residential New Construction homes are disproportionately concentrated in Southeast and South-Central Wisconsin, which include the large urban areas of Milwaukee (Southeast) and Madison (South Central). Northern and West Central Wisconsin have a smaller percentage of Residential New Construction homes compared with the overall market. Notably, there are several rural electric cooperatives located in the Northern and West Central regions of Wisconsin that do not participate in Focus on Energy.

[13] The evaluation team used urban/rural county designations from the Wisconsin Department of Health Services. "WISH: Urban and Rural Counties." Accessed April 2022. www.dhs.wisconsin.gov/wish/urban-rural.htm

Figure 54. Regional Share of the New Construction Market (CY 2015-CY 2024)



Building Practices in Program Homes

As in previous evaluations, the evaluation team collected and tracked data on building practices in program homes as part of the CY 2024 Residential New Construction Program. Additional details on CY 2024 findings and long-term trends are provided in Appendix G. Residential New Construction Building Practices in Volume III.

Builder Interview Results

As part of the CY 2024 evaluation, the evaluation team interviewed 15 builders, 10 of whom participated in the CY 2024 program. Table 54 shows the total population of participant and nonparticipant builders interviewed by the volume of homes built in CY 2024.

Table 54. Builders Interviewed by Size

Number of Homes Built in CY 2024	Total Participating Builders in CY 2024	Total Program Homes Constructed in CY 2024	Participant Builder Interviews[a]	Nonparticipant Builder Interviews
10 or fewer (smaller volume)	87	258	2	4
11 to 50 (medium volume)	24	524	4	1
51 to 150 (large volume)	11	832	3	0
Over 150 (very large volume)	1	524	1	0

[a] Because larger builders construct most of the certified homes, the team interviewed both smaller builders, who (while greater in number) build fewer certified homes, and larger builders, who (while fewer in number) build most of them.

Participant Builder Characteristics

In CY 2024, participant builders reported building between six and 524 certified homes. Seven builders said their total number of homes built and the number of certified homes in CY 2024 were similar to the previous year. Two builders noted an increase in overall volume, while one builder reported an increase in certified homes due to the involvement of an independent inspector.

Six builders certified all their homes through the program, representing 87% of homes built by the interviewed builders. The remaining four builders certified most of their homes, citing various reasons for not achieving 100% certification for all homes built:

- Two builders cited cost and homebuyer budget constraints for custom homes.
- One builder mentioned customer demand for larger homes, which could not meet certification requirements.
- One builder explained that non-certified homes using liquefied petroleum (LP) gas were either disqualified or too expensive to certify.

All builders said they constructed a mix of custom and spec homes. Larger-volume builders had a higher percentage of spec homes, while smaller builders tended to focus more on custom homes. Builders reported that all of their spec homes were certified, but not all custom homes were certified due to specific homebuyer requests like wood-burning stoves, which are not permitted in certified homes.

Nonparticipant Builder Characteristics

The team interviewed smaller- and medium-volume nonparticipant builders. Four of the five builders built only custom homes, while one builder built both custom (75%) and spec homes (25%). Builders reported constructing between one and 12 homes in CY 2024, similar to the previous year.

Three builders said these numbers met their expectations for the year, while two did not. One builder built about half of what they expected, and the other cited low activity due to high interest rates and increased material costs. Builders confirmed that none of their CY 2024 homes were certified through the Residential New Construction Program.

Program Participation

The 10 participant builders have been involved in the program for an average of 13 years, with durations ranging from three to 23 years. The team asked these builders why they participated in the Residential New Construction Program, categorizing their responses as follows:

- **Quality assurance** (six respondents). Of these, three specifically mentioned the provision of an inspection or third-party oversight. Additionally, one of these builders mentioned that the program creates "accountability with subcontractors," as the subcontractors know their work will be evaluated by an outside party.
- **Marketing and promotions** (two respondents). One builder said that the program "offers a selling point to customers."
- **Overall value** (two respondents)
- **Rebates** (three respondents)

> *[We initially joined] "for the significant rebate, now we continue because we appreciate the third-party inspection and blower door rating, and we can promote these pieces to our customers."*
>
> ***– Participating Builder***

Of the five nonparticipant builders, four said they were aware of the program. The one builder who was not aware had "heard about the HVAC program" through Focus on Energy and expressed interest.

Three builders who knew about the program but had not previously participated provide various reasons:

- **Lack of knowledge about the program** (two respondents). One noted they were too busy to look into it further.
- **Pending retirement** (one respondent). This builder clarified that they would participate if they were "starting my career today."

One nonparticipant builder noted previously participating around 2010 "for that stamp of approval," but said the program did "not really grab the attention it needed." This builder explained that while the program helped to offset some costs, "it just turned into one more thing we had to schedule or do before closing."

When asked about future participation, four of the five nonparticipant builders said they would consider joining the program and expressed interest in receiving more information. The builder who previously

participated was more hesitant and replied that the program "would have to be more mainstream and [provide] a cost benefit… people that have custom homes built don't seem to care."

Other Program Participation

The team asked both participant and nonparticipant builders if they participate in other certification programs. Builders noted the following other affiliations:

- Did not participate in other programs (seven respondents)
- ENERGY STAR (three respondents)
- WEI Green Built (one respondent)
- EPA Indoor AirPlus (one respondent)

Responding to the benefits of other programs, one builder said the "benefits are the branding, which is something that Focus on Energy needs to do more."

When asked if homebuyers were aware of energy certifications and whether it affected their buying decisions, builders offered these insights:

- Homeowners are not aware (five respondents).
- Yes, homebuyers are aware (four respondents); one explained, "[they are] knowledgeable of ENERGY STAR, mainly from the appliance standpoint."
- Some homebuyers are aware (two respondents); one estimated the number to be 10% to 15% of homebuyers, and the other 50%.

Program Benefits and Challenges

The team asked participant builders which aspects of the program provide the most value. Eight of the 10 builders called out the provision of a third-party inspection or outside certification. Of these, four specifically mentioned their BPC, auditor, or inspector, while another said they appreciated the "ability to contact an outside source for issues." One builder appreciated the third-party verification and the expert opinions provided by the verifier, which they identified as aspects that help sell homes. The remaining two builders valued the educational aspects of the program, with one stating that program rebates help offset costs associated with ongoing learning, education, and best practices.

> *"The certifications from the outside, expert opinions, this all helps us sell houses."*
>
> ***– Participant Builder***

The team also asked about challenges in meeting the program's requirements. Only two of the eight builders reported challenges. One sometimes struggled with the "design portion" of the requirements, particularly for larger homes, and the other said high costs associated with meeting program requirements prevented them from certifying some of their homes.

When asked how Focus on Energy could make it easier to certify homes, three participant builders offered suggestions. Two suggested having more staff available to conduct certifications, with one noting that their inspector is "very busy, and the program keeps growing." One of those two builders also recommended "more outreach to subcontractors to keep them informed of standards." The third

builder proposed that Focus on Energy provide "a menu of items with the average code improvement" for each option.

Program Influence

The team asked participant builders if the Residential New Construction Program positively influenced their building practices. (The *Reported Building Practices* section below provides specific equipment and practices that builders have instituted due to the program.) Three builders responded generally, stating that the program continually encourages or promotes more efficient practices and equipment, helping them "exceed the standard." Out of the five participant builders who build both certified and non-certified homes, four reported that the program led them to adopt energy-efficient practices in their non-certified homes.

Program Changes

The evaluation team asked participant builders questions to assess the impact of the program's new incentive structure and certification levels introduced in CY 2023. Nine builders responded: three said the changes did not affect their participation, and three were unaware of these changes. Of the three impacted builders, one found the changes beneficial, another said the adjustments prevented their LP gas homes from achieving certification, and the third said they only certify 25% of their single-family homes because the program is "too expensive."

All participant builders interviewed said they most commonly certify their homes at a target of 30% above code. When asked what factors prevent them from certifying more homes at the ENERGY STAR and Zero Energy Ready levels, seven participant builders responded:

- Costs, with one of them adding that their "heating contractors are not helpful" (three respondents)
- Lack of awareness of these levels (three respondents)
- Windows were an obstacle to achieving higher certification levels (one respondent)
- Impractical for area, with one builder saying, "did try for ENERGY STAR, but it didn't make sense for our area" (one respondent)

The team probed with follow-up questions about other challenges associated with the new program design. Eight builders provided the following responses:

- No challenges (five respondents)
- High construction costs (two respondents)
- High interest rates prevented affordability (one respondent)
- Technical challenges with exhaust fan and humidistat switch (one respondent)
- Internal and BPI staff availability (one respondent)

When asked if their satisfaction with the program has changed due to the recent design changes, seven of the 10 participant builders said no. One builder said they were unsatisfied due to the lack of financial incentives. Another did not indicate whether they were satisfied but said they are "at the break-even

point or right above" with the new incentive structure. The last builder was unsatisfied with a recent change unrelated to the programmatic changes, reporting an issue with their new BPC and that they were "not happy with this person since our old BPC left."

Building Performance Consultants

All participant builders interviewed provided positive feedback on the BPCs, who conduct two visits to program homes (during framing and after construction is complete) and provide advice to builders on constructing energy-efficient homes. Seven builders cited their BPCs as a trusted source of information when making changes to building practices related to energy efficiency, with many mentioning their BPC by name, indicating a close working relationship. One builder noted a 20-year relationship with their BPC.

When asked what value BPCs bring beyond the certification, all 10 participant builders responded positively. Four builders gave general positive feedback, saying their BPC provided "huge" (three respondents) or "high" value (one respondent). The other six highlighted multiple areas of value, including BPCs' knowledge (four respondents), passion (two respondents), suggestions (two respondents), and training (one respondent).

The team also asked nonparticipant builders if they used BPCs or HERS raters. Of the five respondents, only one had previously used a BPC. When asked about blower-door testing, two respondents said they conduct the tests but could not comment on the levels of airtightness, while three do not conduct tests.

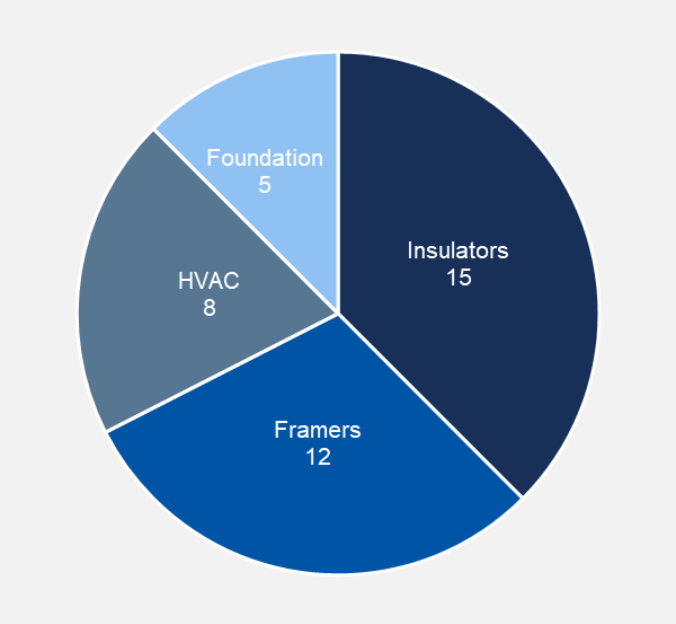
Subcontractors

Importance of Subcontractors in Building Energy-Efficient Homes

All interviewed builders rely heavily on subcontractors, with both participant and nonparticipant builders subcontracting all or most trade processes. Two participant builders do their framing in-house, while another has an in-house plumber and design team. Nonparticipant builders did not specify any in-house trades.

When asked which category of subcontractors is most important when building energy-efficient homes, nine of the 10 nonparticipant builders provided specific answers: all nine mentioned insulators, eight mentioned framers, four mentioned HVAC, and one mentioned foundation subcontractors. One said that "all of them have an important role." Of the five nonparticipant builders, three did not specify, saying that all subcontractors were important, with one adding that they were equally important and defining them as "foundation, framer, insulator, and mechanical." The other two nonparticipant builders mentioned insulators, with one also mentioning window installers. Figure 55 illustrates the combined totals reported by subcontractors and builders, both participating and nonparticipating, regarding the most important factors for energy-efficient homes.

Figure 55. Most Important Subcontractors for Energy-Efficient Homes



Source: CY 2024 Focus on Energy Residential New Construction Participating and Nonparticipating Builder Interviews "What category of subcontractors, such as HVAC contractors, framers, or insulators, are most important to build energy-efficient homes?" (n=10)

Subcontractor Skills, Certifications, or Training

All participant and nonparticipant builders agreed that subcontractors require special skills, certifications, or training to build energy-efficient homes. When asked to identify the subcontractor categories that require specific skills, certifications, or training, builders identified these categories: HVAC (two respondents), electric (two respondents), plumbers (two respondents), and siders (one respondent). One specifically mentioned Tyvek certification, and another noted that "some trades have required permits while others have certifications and/or training."

Ensuring Subcontractors Meet Standards

Builders reported multiple methods to ensure their subcontractors meet energy efficiency standards. Among the 10 participant builders, the most common method was site visits or supervision, with frequencies ranging from daily to three site visits (six respondents). Five participant builders relied on Focus on Energy, their BPCs, the program inspections, and testing scores, while two mentioned internal subcontractor agreements. For five nonparticipant builders, methods included on-site visits (two respondents), trust from longstanding relationships with subcontractors (two respondents), design (two respondents), and inspections (two respondents).

Role of Subcontractors in Changing Building Practices

Two participant builders reported that subcontractors play a minimal role in their decisions to change building practices, with one explaining their role is "minimal, with some input on issues or problems," and the other saying "maybe offer opinions, but not much else." In contrast, eight participant builders indicated a more substantive role, with one describing their role as "important" and another as "significant." Two builders emphasized their longstanding relationships with their subcontractors, with

one noting over 40 years of collaboration. One builder said they "listen to the trade advice; they are the experts," while another credited their subcontractors for the decision to install a heat pump.

Subcontractor Experience with Focus on Energy

Two of the five nonparticipant builders reported that their subcontractors had worked on Focus on Energy program homes. One was unsure of the effect it had on their building practices, while the other believed that the knowledge gained working on program homes "at some point" had helped their building practices.

Challenges Accessing Qualified Subcontractors

When asked about challenges accessing qualified subcontractors in the past three years, five builders reported challenges, while five did not. Among those facing challenges, four highlighted the difficulties of finding framers, citing the lack of apprentice programs and the retirement of framers. Builders also mentioned siding, electric, plumbing, heating, concrete crews, and finishing carpenters. The five builders who had not experienced any recent challenges attributed this to established relationships with reliable companies or crews. One acknowledged the labor shortage but explained, "We work with solid companies and [those] who [can] handle the labor shortage." Another remarked, "Guys good at their craft are busy; we do well with our established list."

For the nonparticipant builders, four of five experienced difficulties in accessing qualified subcontractors, with one noting, "There has been a shortage of labor; a lot of subcontractors are aging out, and the trades are not getting new, younger people." Another nonparticipant builder who did not experience difficulties added that "during COVID, there were issues with supplies."

Reported Building Practices

The evaluation team asked participant and nonparticipant builders about how they built homes, using the Department of Energy's Net Zero Energy Ready Homes Program prescriptive requirements for cold climates as a benchmark for a highly efficient home that is well positioned to meet the program's highest tier: net zero. Table 55 provides Net Zero Energy Ready Homes' requirements and the percentage of homes built by participant and nonparticipant builders who said they adhered to these practices.

Table 55. Participant and Nonparticipant Builder Reported Building Practices

Building Practice: Net Zero Energy Ready Homes Program Prescriptive Requirement	Percentage of Participant Homes Utilized[a]	Percentage of Nonparticipant Homes Utilized[a]
Building Envelope		
Windows with U-Factor ≤0.27	79% (n=8)	93% (n=4)
Wood-framed exterior walls with cavity plus continuous exterior insulation	21% (n=5)	56% (n=4)
Floor insulation ≥R-38	28% (n=5)	48% (n=3)
ACH50 below 2	76% (n=5)	15% (n=2)
Ceiling insulation ≥R-49	37% (n=7)	100% (n=5)
Mechanical Equipment		
Heat or energy-recovery ventilation	19% (n=5)	50% (n=4)

Building Practice: Net Zero Energy Ready Homes Program Prescriptive Requirement	Percentage of Participant Homes Utilized[a]	Percentage of Nonparticipant Homes Utilized[a]
Gas furnace with ≥95% AFUE with ECMs	95% (n=8)	56% (n=4)
Air Source Heat Pump with HSPF2 ≥8	2% (n=5)	4% (n=1)
Cold Climate ASHP HSPF2 ≥8.5	1% (n=2)	N/A
Gas water heaters with ≥0.67 UEF (tank ≤55 gallons)	13% (n=4)	48% (n=2)
Gas water heaters with ≥0.77 UEF (tank > 55 gallons)	N/A	96% (n=4)
Gas instantaneous water heaters	>1% (n=2)	N/A
Electric heat pump water heaters	8% (n=1)	N/A
100% of ductwork and air handler located within home's thermal and air boundary (or similarly optimized location)	30% (n=6)	89% (n=5)
Lighting and Appliances		
≥91% of light bulbs or fixtures are LEDs	96% (n=9)	100% (n=5)
All installed appliances are ENERGY STAR-qualified	28% (n=7)	96% (n=4)
Other		
Smart thermostats	18% (n=6)	100% (n=5)
EV-Ready (a pre-wired 240v outlet)	1% (n=3)	39% (n=5)
On-site renewable energy	>1% (n=1)	N/A
Renewable-ready home features (such as pre-designated areas for solar PV installations or inverters)	10% (n=3)	4% (n=2)

[a] Percentage is weighted by the total homes reported by builders at the time of the interview.

Efficiency Compared to Wisconsin Uniform Dwelling Code

All five nonparticipant builders reported that their homes are typically more efficient than a home built to the Wisconsin Uniform Dwelling Code (UDC). When asked to compare the efficiency of their homes to the Wisconsin UDC, responses varied: one said 15% to 20% more efficient, one said 38% above the Wisconsin code because they follow the Minnesota code, and one said 100% more efficient. Two builders were unsure.

Changes in Building Practices Over the Past Three Years

The team asked both participant and nonparticipant builders if there have been any changes to how they build homes over the past three years, specifically regarding equipment use or construction techniques. All but one participant builder affirmed that they had made changes; the one who did not said, "If any changes occur, it is due to code or efficiency." One builder explained they "evaluate their products annually and make changes." Eight participant builders provided specific examples:

- Building envelope (three builders): One changed from ZIP wall systems to Tyvek house wrap and from wood to fiberglass entry doors: One experimented with panelizing homes but found it less efficient than expected, and one improved their air sealing technique to create a tighter home.
- Water heater upgrades (two builders): One upgraded to a hybrid water heater, and the other to a heat pump water heater.
- Framing techniques (two builders): One changed framing methods and crews, and the other switched from 2x4 to 2x6 walls.

- Ventilation (one builder): One implemented automatic exhaust fans to improve ventilation.
- Heating (one builder): This builder switched to a higher-end heat pump.

Three of the five nonparticipant builders reported making changes to how they build homes in the last three years. One noted a trend toward higher mass density in energy-efficient homes, while another mentioned slight insulation changes. One builder said they are trying to incorporate more induction cooktops, but acknowledged that most buyers still prefer gas. Additionally, one builder improved team coordination by adding an on-site lift for extended periods to aid subcontractors.

Eight participant builders reported a range of influencing factors when making choices to adapt their building practices, including these:

- The BPC (seven respondents)
- Focus on Energy employees, other than the BPC (three respondents)
- Subcontractors (three respondents)
- Warranty requirements (one respondent)
- Incentives, especially for energy recovery ventilators and insulation (one respondent)
- Rising interest rates, which allow more luxurious homes targeted at clients who are not reliant on mortgages (one respondent)

Among the three nonparticipant builders who made changes to building practices, one cited changes to meet customer demand, another credited a strong working relationship with their team, and one attributed their adjustments to new product availability and improved efficiency.

New Homes Market

Builders identified several trends in the Wisconsin new homes market in the last three years:

- **Lack of affordability.** Eleven builders (eight participant builders and three nonparticipants) noted high prices in the housing market. Four participant builders specifically mentioned rising interest rates, with one stating that "tons of people want a house, they are waiting on lower interest rates." One participant builder mentioned the "price increase for materials and labor," and one nonparticipant builder mentioned the "price of land."
- **Demand for smaller homes.** Four builders (three participant builders and one nonparticipant) mentioned increased demand for smaller homes. Two participant builders linked the trend to higher prices and other trends, such as an aging population. One participant started to build a larger number of smaller homes because "it's harder to find affordable housing [and] more people are moving to twin homes." Another participant noted, "people no longer want a 2,400 square foot home." The nonparticipant builder mentioned smaller lot sizes and home footprints, adding that "amenities have been dialed back."
- **Labor shortage.** Three builders (two participants and one nonparticipant) reported a labor shortage, citing "aging subcontractors" and more "entry-level" builders and contractors.

- **Low inventory.** Two builders (one participant and one nonparticipant) noted a general lack of land inventory and building sites. The nonparticipant builder also said that zoning was exacerbating this trend.

Reasons for Emerging Trends

When asked why they think these trends have emerged, eight builders (five participants and three nonparticipants) cited inflation. Two builders (one participant and one nonparticipant) mentioned the pandemic, with one stating it ruined the housing market. Other responses (all only mentioned once) included the increase in interest rates, more expensive homes, shorter build timelines, a changing and aging population, changes in the labor market, not promoting trades, and less demand for larger homes.

Future Market Trends

Looking ahead, builders predicted several trends. Six builders (four participants and two nonparticipants) predicted more demand for affordable housing. Of the four participant builders, one said the market is "moving toward manufactured homes," and another thought demand for condos will continue to increase. Three builders (two participants and one nonparticipant) expected the labor shortage to persist. Another participant builder thought solar would become more popular due to rising energy costs, stating that "one-fifth are installing solar."

> *"It will only continue to get busier; trade people will start retiring, new staff coming (let's hope they are trained well)"*
>
> ***– Participant Builder***

Impact of Market Trends

Six participant builders said these market trends have not impacted their ability to build efficient homes, though one mentioned adapting to higher demand for condos. Of the four builders who were impacted, one cited the "lack of affordability." Two mentioned the labor shortage, with one noting that the labor shortage has increased the building timeline from 90 days to 175 days, and another stating that they "don't work with beginner-level subcontractors." Another builder reported making changes in styles despite staying busy.

Change in Demand for Energy-Efficient Homes

When asked if they had noticed a change in demand for energy-efficient homes over the past three years, six out of nine participant builders had not observed a significant change in demand. Reasons included low energy costs (one builder), and "Focus on Energy and ENERGY STAR are an afterthought" for homebuyers (one builder). Another said that, although they did not notice a change in the past three years specifically, they did notice that awareness and demand increased roughly 10 years ago. Three builders thought demand had increased, with two reporting smaller increases from a "slight uptick" to "maybe a 10%" increase.

Among the five nonparticipant builders, three reported no noticeable change in demand, with one specifying that their customers prioritized aesthetics over energy efficiency. One said that demand for energy-efficient homes had increased. One noted that while they had not seen increased demand for whole-home efficiency, there had been more interest in specific high-end features like heated floors.

Changes in Customer Behavior

The builders who reported an increased demand for energy-efficient homes (three participants and one nonparticipant) observed changes in customer behavior, including increasing demand for solar (two builders), with one adding that "overall, people expect more energy-efficient homes." All four builders attributed this change in demand for energy-efficient homes to greater customer education and awareness, with one noting the influence of "the seasoned home buyer" and another noting the "younger generation" caring more about energy efficiency.

> *"It is a small percentage, but a few homebuyers are requesting more energy efficiency and are willing to pay the cost for this."*
>
> ***– Participant Builder***

Impact of Demand on Building Practices

Of the four participant builders who had noticed a change in demand in energy-efficient homes, three said it did not change their approach. Of those, two mentioned that energy efficiency has always been part of their standard practices. The fourth builder noted that while demand does not impact their construction methods, it can slow down the process. One builder simply noted that customer demand influences their building approach.

Among the five nonparticipant builders, four also said that demand influences their building approach. One noted an increase in demand for EV chargers and better ventilation strategies due to concerns about overly airtight homes. Another stated that cost remains the primary factor in their construction decisions.

Changes in Other Builders' Approaches

Nine of the 10 participant builders and two of the five nonparticipant builders responded to whether they noticed changes in how other builders approach energy efficiency. Four said they had not observed changes, while others reported the following changes:

- More builders trending toward ENERGY STAR or promoting Focus on Energy, specifically larger-volume builders (two respondents)
- More builders using new features in ZIP system construction (one respondent)
- More builders marketing their homes as energy efficient (two respondents)

Market Impact of Residential New Construction Program

Both participant and nonparticipant builders were asked about the Residential New Construction Program's impact on the general market. Eight of the 10 participant builders provided the following insights (two were unsure):

- The program has created a higher standard (three respondents)
- The program is helping the trend of building energy-efficient homes (two respondents), with one clarifying that it "helps larger builders and makes the other builders follow suit."

> *"[The program] is talked about a ton and is becoming code."*
>
> ***– Participant Builder***

- The program "holds builders accountable" and provides a "steady impact on the economy" (two respondents)
- The program helps to build more customer demand for energy efficiency through word of mouth (one respondent)

Two of the five nonparticipant builders responded to the question about the program's impact on the market. One builder said the impact of the program on the general market was "all positive," while the other builder was unsure about the impact.

How Focus on Energy Can Impact the Market

The team asked both participant and nonparticipant builders what else Focus on Energy could do to impact the Wisconsin residential building market. Two of the 10 participant builders provided suggestions, with one emphasizing the need for more education and the other suggesting that the program provide single-sheet, visual energy efficiency reports that can be attached to a home's electrical panel for prospective homebuyers.

Two nonparticipant builders also offered feedback about additional ways Focus on Energy could impact the market. One suggested that Focus on Energy increase awareness among prospective buyers to drive demand and encourage more builders and contractors to work together. Another said the trainings had the most impact, noting that the other aspects of the program provided little return on investment for builders. This builder (who was a previous participant in the program) said they would be more open to the program if it were integrated into the basic construction process rather than requiring additional inspections, as they added unnecessary delays to home closings.

Program Marketing

The team asked builders how they market their homes. Figure 57 shows marketing techniques listed by eight out of 10 participant builders and the five nonparticipant builders.

Table 56. Builder Marketing Techniques

Marketing Method	Participant Builders	Nonparticipant Builders
Company website	4	
Social media	3	3
Parade of Homes	3	3
Focus on Energy certification	2	
Word of mouth	3	1
Traditional marketing (TV, radio, direct mail, etc.)	2	4
Real estate agent networks	1	
Model homes with design studios	1	
Do not actively market	1	1

The team asked builders if they market their homes as energy-efficient and, if so, how. Among the 10 participant builders, eight said yes, one said no, and one did not respond. Three builders who said yes mentioned specific marketing methods, including promoting awards they have received, listing Focus on Energy certification on their home sales, and using specifications to showcase efficiency. The builder who did not market homes as energy efficient said they do emphasize that their homes are fully customizable.

Among the five nonparticipant builders, three said they do not market their homes as energy efficient. One builder said that they did but did not specify how. The other clarified that energy efficiency was brought up more in conversations rather than through formal marketing materials.

The team asked participant builders if the program had provided a competitive advantage in the marketplace, of which eight said yes. Two builders were uncertain about the program's impact; one mentioned it may have had an indirect impact, and the other said it was unclear since they do not typically market their homes. Of the eight builders who thought the program gave them an advantage, six elaborated, with three mentioning it helped with sales. One other mentioned that their standard spec home had improved, and another said that they were helped by the "accountability and tests."

> *"We've become known for the energy-efficient home."*
>
> ***– Participant Builder***

Contractor Interview Results

To conduct contractor interviews for the CY 2024 evaluation, the team used contractor information from the CY 2019 evaluation due to a lack of access to current contact details. These data included subcontractor contact information, type, participation, homes worked on, and the participating builders they worked with. The team compared the reported CY 2019 participating builders in the contractor list to the CY 2024 participating builders in SPECTRUM, removing those who did not participate in CY 2024. After cleaning the contact list, the team interviewed 10 contractors: four framers, three HVAC contractors, and three insulators.

Participant Contractor Characteristics

Eight of the 10 interviewed contractors reported working with several different builders rather than one primary builder. Two of the four framers served as their own builder or general contractor. Table 57 shows the number and types of homes worked on by each contractor type in CY 2024.

Table 57. CY 2024 Home Information by Contractor Type

Type of Contractor	Number Interviewed	Number of Homes Worked on	Types of Homes Worked on
Framers	4	5-50	Custom only (n=3) Custom and spec (n=1)
HVAC	3	50-525	Custom and spec (n=3)
Insulators	3	200-350	Custom and spec (n=3)

The team asked contractors how many new homes their companies expected to work on by the end of CY 2024, how that number compared to CY 2023, and how it aligned with their initial expectations for

CY 2024. Six contractors reported a similar number of projects in both years. Two saw an increase, while two saw a decrease. Six contractors said their workload aligned with their expectations. One mentioned a slow start followed by a later surge, and another saw higher numbers than expected because they had initially anticipated that rising interest rates would reduce demand. One contractor cited personal health issues as a factor limiting their workload.

Program Participation

Work on Certified vs. Non-Certified Homes

The team asked contractors if they work on any homes that are not certified by the program. All but two framers reported working on both certified and non-certified homes. The two framers work exclusively on certified homes. One of the framers who works on both certified and non-certified homes indicated that, regardless of the home, they "always build 25% above code." Seven of the eight contractors working on both types of homes indicated that there is minimal difference between the two. One contractor chose not to comment.

Regarding whether builders typically inform them that the homes they work on will be certified in the Focus on Energy Residential New Construction Program, two framers said they are also the builders and handle framing in-house and were aware of certification status. One framer said they are informed through the certification details included on the stamp page and in the literature packet, while the other exclusively works on certified homes. Among the three insulators, two said they were aware of certification, while one said they were not. Among the three HVAC contractors, two were aware of certification through the builders, and one was not aware.

Building Performance Consultant Engagement

When asked whether builders typically inform them about visits from Focus on Energy BPCs, six contractors (four framers and two insulators) said they were typically informed by the builder. One insulator added that they receive feedback if the energy efficiency performance metrics are low.

All of the framers and two out of three insulators reported engaging directly with Focus on Energy BPCs, while HVAC contractors did not and let the builders handle those interactions. The insulator who was not aware and did not engage with BPCs said that it is standard practice for a home to be certified by Focus on Energy, and although they were not informed, they simply did their job while someone else, typically the framers, engaged with the BPC.

Framers generally reported positive engagements with BPCs, with three out of four highlighting positive outcomes on their framing practices. All four framers mentioned that working with BPCs helped them meet or exceed code requirements or standardize good framing practices. One framer emphasized that their BPC encouraged them to join the program because their homes already met the standards, although their approach had not changed in 15 years. Of the two insulators who engage with BPCs, one said their engagement initially influenced how they air-seal or insulate homes, but now they apply these practices to all homes. The other insulator did not specify whether engaging with BPCs affected how they insulate homes.

Program Influence on Building Practices

The team asked whether contractors' work on certified homes affects their practices on non-certified homes. While some contractors speculated that there could be differences related to builder preferences, all contractors said their work is more or less the same on certified and non-certified homes. Two of the insulators mentioned insulation type is determined more by builder preferences than by the program, with one noting that builders may ask about design options for non-certified homes. The other insulator specified that differences are more apparent in the processes or logistics of a job. One HVAC contractor also said it is largely up to the builder, specifying that while the installation process remains the same, the equipment may vary based on the preferences of the builder or homebuyer.

Reported Building Practices

The team asked trade-specific questions to each type of contractor to better understand their building process and the practices they use to make homes more energy efficient.

Framer Contractor Practices

The team asked framers about their use with 24-inch on-center framing. Three out of four do not use this method, while one framer said they only applied to the roof and possibly exterior walls, and that they also use 16-inch on-center framing. One framer who does not use 24-inch on-center framing exclusively uses structural insulated panels (SIPs).

Regarding non-traditional framing techniques or materials, only one framer reported using traditional methods. One framer who does not use alternative techniques reported relying on engineered wood products like laminated strand lumber. Another framer said they use all the non-traditional practices, including two-stud corners and 2x6-inch framing with exterior sheathing, and another exclusively uses SIPs.

Two framers shared how they learned these non-traditional techniques: One said 23 years of training and professionally trained early in their career, and the other was inspired by a former technical trainer for the Residential New Construction Program to begin using SIPs a decade ago at an energy conference.

When asked about the pros and cons of these non-traditional techniques, one framer noted the advantage of more creativity but mentioned challenges and product availability issues. The framer who works with SIPs only listed pros, including they are 50% to 60% more efficient, provide a .03 to .04 exchange, and qualify as ENERGY STAR and Net Zero Ready.

The team also followed up on how these non-traditional techniques affect the comfort, safety, durability, quality, and energy efficiency of a home. The framer who works with SIPs replied that it has a smaller carbon footprint, makes the home warmer and quieter, and that the panels go up faster.

The team asked framers about air barriers they typically install. One framer mentioned using Tyvek on the exterior with a foam sheet on top. Another described using exterior moisture barriers like old house wrap and zip wall sheathing, along with 4- to 6-mil poly sheeting on the interior. A third framer similarly noted using poly on the inside and Tyvek on the outside, with occasional use of foam. The fourth framer

emphasized mechanical ventilation, maintaining a tight-to-ventilation system, and using 6-mm ceiling spray foams.

When asked what air barriers are most efficient, three framers said foam. One mentioned polys in addition to foam, and one mentioned SIPs.

Regarding the differences between the exterior air barriers installed on Focus on Energy-certified homes and non-certified homes, three framers said they had not noticed any differences, while one mentioned noticing a difference in the air movement through different products.

HVAC Contractor Practices

The team asked HVAC contractors about the types of equipment they install and the percentage installed in both certified and non-certified homes. Table 58 shows the percentage of homes with each type of equipment, weighted by the number of homes built by each contractor. The table shows equipment types for which no responses were received as not being installed by any of the interviewed contractors.

Table 58. Reported HVAC Contractor Practices

Building Practice: Net Zero Energy Ready Homes Program Prescriptive Requirement	Percentage of Participant Homes Utilized[a]	Percentage of Nonparticipant Homes Utilized[a]
Mechanical Equipment		
Heat or energy-recovery ventilation	20% (n=2)	20% (n=2)
Gas furnace with 95% AFUE or greater with ECMs	97% (n=3)	100% (n=3)
Air Source Heat Pump with HSPF2 8 or greater	9% (n=2)	4% (n=2)
Cold Climate ASHP HSPF2 8.5 or greater	5% (n=1)	4% (n=1)
Gas water heaters with 0.67 UEF or greater (tank <= 55 gallons)	-	-
Gas water heaters with 0.77 UEF or greater (tank > 55 gallons)	-	-
Gas instantaneous water heaters	-	-
Electric heat pump water heaters	-	-
100% of ductwork and air handler located within home's thermal and air boundary (or similarly optimized location)	96% (n=3)	96% (n=3)

[a] Percentage is weighted by the total homes reported by the contractor at the time of the interview.

The team asked the three HVAC installers what they consider to be the most energy-efficient ways to install, seal, and insulate HVAC equipment and ductwork. One contractor said they use a combination of forced air and some hydronics, duct seal, taping, caulking, attic insulation, and foil tape with rubber. Another mentioned that certain HVAC models are inherently more efficient, particularly in custom homes with higher-end equipment, but they use the same installation process and increase efficiency with insulation. They also said that while mastic is effective, it is difficult to work with, so they prefer metal tape. The third contractor emphasized keeping ductwork within the building envelope and away from exterior walls, using Aeroseal and mastic for additional sealing.

Regarding the frequency of these HVAC sealing and insulation techniques, one contractor said they are standard practice for their company. Another said these techniques are recent changes in their

approach but now part of every job, setting them apart from competitors. The third contractor, who uses Aeroseal, only employs these methods in higher-end custom homes due to their high cost.

When asked about installing ducts outside of the conditioned space, all three HVAC installers said that they do. One noted they only do so occasionally, depending on the design. Another specified that they apply additional duct sealing in unconditioned spaces like attics and crawl spaces. Regarding insulation of ductwork outside of conditioned spaces, one contractor said they seal joints and then wrap the ductwork in insulation and duct wrap. Another explained that they use insulation wrap on the inside and add bubble wrap on the outside, noting that the pipes come pre-insulated. A third contractor mentioned that the insulation approach depends on the amount of ductwork outside the conditioned space but generally follows their standard insulation methods.

Insulator Contractor Practices

When asked what they consider to be the most energy-efficient type of insulation, all three insulators said spray foam. One clarified one-inch spray foam topped with a blown-in blanket, and another said spray foam with fiberglass or cellulose.

Regarding the use of spray foam in certified homes and non-certified homes, one insulator said they use it often in both types of homes. Another said they use this product on all their homes, noting that "all homes will use a combination of spray foam and fiberglass." One said they typically do not use spray foam in certified homes because they work with only one builder in the program, who uses only batt walls. For non-certified homes, the same insulator said it depends on the builder's preference, though they prefer to use spray foam themselves, as they believe it is a better product.

When asked why builders sometimes do not use spray foam and what they install instead, one insulator said the choice depends on the builder without specifying alternatives. Another said most houses use both spray foam and fiberglass, adding that "it is rare that a home will use 100% spray foam; we do maybe one a year." The third insulator said, "Some builders use fiberglass batts or a hybrid."

Focus on Energy Training

The team asked contractors whether they had participated in any trainings provided by Focus on Energy. Two of the four framers, two of the three HVAC contractors, and two of the three insulators had participated in trainings, but both insulators said they had not participated in recent trainings.

When prompted to share what they found to be most helpful, one framer found the training on building science and air exchange most helpful, particularly the information about how a building breathes and how to control it to prevent issues like mold, condensation, and poor indoor air quality. The other framer found information from a former technical trainer for the program, as well as "any BPC's information," to be most valuable. Among HVAC contractors, one appreciated hearing about the updates and changes to the program, and the other found the information on rebates helpful, especially government rebates. One insulator remembered attending training on air handling and ventilation five years ago, which they found beneficial.

Regarding the influence of the training on how the contractors build homes, the two framers mentioned that it directly affected their practices. One incorporated I-joist studs into their builds because of the training, and the other developed an interest in SIPs. Among HVAC contractors, one said they may have started using heat pumps more, and the other changed practices based on the rebates and related criteria they learned about during the training. For the insulators, both reported that the training did not directly affect their practices, but one found the education on better practices helpful.

When asked what could be improved about these types of trainings, contractors offered these suggestions:

- More trainings on certified building components (one framer)
- In-person trainings for better engagement compared to webinars and online (one HVAC contractor)
- No changes are necessary (one HVAC contractor)
- More energy efficiency training for designers and architects (one insulator)
- Increased availability of trainings, particularly for the rater program (one insulator)

The team asked all contractors if they had participated in building performance trainings by other organizations. Of the four framers, two remembered participating in other trainings. One earned 12 credits every two years and had participated in Occupational Safety and Health Administration's safety days, continued education for licensing, and vendor training through the Associated General Contractors of Wisconsin. The fourth framer participated in training through the Structural Insulated Panel Association, Associated Builders and Contractors of Wisconsin, and the International Builders Show. For the HVAC contractors, two participated in trainings offered by other organizations: one in webinars and trade-related publications, including HVAC contractor content, and the other had attended a BPI energy audit training. For the insulators, two had not participated in trainings offered by other organizations, while the third had attended a supplier training to learn about different products, such as damp wall spray and spray foam.

Market and Building Trends

The team asked contractors about the Wisconsin new homes market and market trends that they have seen emerge in the last three years. Their responses are summarized below.

- **Rising costs (two framers):** One framer specifically cited rising costs of engineered framing for custom homes due to the cost of high-end products, and the other reported increased utility costs due to inflation.
- **Increase in home prices and emphasis on entry-level homes (one HVAC and one insulator):** Builders are opting for smaller, more affordable homes. The HVAC contractor noted that they are seeing builders request the cheapest systems and equipment available. Both contractors attributed these trends to the economy, inflation, and higher interest rates.
- **Delays in scheduling (one framer):** One framer cited labor shortages, changing demographics, and people moving to the suburbs.

- **Stronger push for inspections and tighter insulation sealing and ductwork (one HVAC contractor):** One contractor noted this particularly at the state level and said this trend is linked to outdated building codes.
- **Decrease in quality of spec homes (one HVAC contractor):** One contractor said builders are trying to build spec homes as quickly as possible and attributed this trend to labor shortages, a lack of skilled contractors, and a lack of accountability.
- **Increase in the installation of smart thermostats (one HVAC):** This contractor did not specify the factors driving that particular trend.
- **Increase in builders enrolling in the Focus on Energy programs (one insulator):** This insulator thought these builders were more motivated by incentives rather than energy efficiency, explaining, "Energy efficiency is not attractive enough for the public."

The team asked all contractors if these trends affect their building or installation practices. All five framers and insulators who provided information on market trends said they have not affected their trade practices. Only one of three HVAC contractors said that these trends impacted the equipment they install, but not the installation methods.

Contractors shared the following expectations on market trends going forward:

- An increase in multifamily buildings as homebuyers are increasingly unable to afford single-family homes (two framers).
- More contractors are becoming aware of SIPs (one framer).
- The need for more air exchange (two HVAC), with one emphasizing continuous air exchange to improve indoor air quality, and the other highlighting issues with overly tight homes and the need for code changes.
- An increased demand for energy-efficient homes due to more customer education (two insulators), with one explaining that some buyers prioritize an energy-efficient home, but others do not.
- A focus on building smaller, more affordable homes on smaller lots due to the limited availability of land (one insulator).

When asked about changes in their practices over the last three years, two of the three framers answered. One mentioned using more equipment, such as cranes, to speed up jobs. The other adopted rain screens for better water protection and focused more on duct sealing. Both framers reported making these changes to improve their practices. One HVAC contractor reported overhauling their practice to be more efficient and meet customer demand. The other two HVAC contractors and all three insulators said they had not made other changes in the last three years.

Demand for Energy-Efficient Building Practices

The team asked contractors if they noticed a change in demand for energy-efficient building practices over the past three years. Three framers noticed a change, citing an increase in customer awareness of energy efficiency, an increase in customer willingness to pay for energy-efficient features, and changes

in subcontractor behavior, specifically a need for ongoing education to keep up with energy-efficient practices. They attributed this demand to the internet and increased customer knowledge and awareness.

Of the three HVAC contractors, two reported increased demand, with a growing focus on energy efficiency among customers and builders. One mentioned increased awareness and adoption of heat pumps in new homes. They attributed this demand to regulatory and industry improvements and customer awareness. One HVAC contractor reported demand was steady.

All three insulators observed a growing trend in demand for energy-efficient building practices. One mentioned a builder who only does certifications for spec homes and thought it was a good method. Another insulator working on higher-end homes said that customers are more willing to pay for these energy-efficiency features. One suggested that builders are reluctant to make changes without incentives, proposing a significant incentive, such as $1,000 off closing costs, to encourage buyers to choose energy-efficient homes. The remaining insulator observed a rise in demand for air exchanges and smart home features. Contractors attributed this increased demand to education, builder experience, and customer demand.

Housing Market Influence

The team asked contractors if recent changes to the housing market affect how they build homes. One framer said that sometimes, since they build to customer specifications, and the other three framers said no. Among HVAC contractors, one said it depends on the builder and energy source, another mentioned that they stay current with industry trends and standards, and the third said yes without elaborating. One insulator said yes without elaborating, and the other two said no.

Regarding changes in how others approach building efficient homes, three of the four framers said yes, with one explaining they do not have enough time to see what others are doing in the industry, and another saying that many framers are stuck in outdated practices. The framer who did not notice changes observed that many framers are rushing through projects, compromising quality in the process. All three of the HVAC contractors gave nondefinitive answers, with one reporting that HVAC contractors are collectively progressing, one reporting that many older companies are resistant to change, and the third observing that many contractors are compromising on quality installations due to the housing shortage. None of the insulators said they had noticed changes, with one noting that other companies are not sharing information on building efficient homes.

Competition and Market Demand

The team asked contractors how competition and market demand influence their decisions about their practices and whether there are conflicting demands from the market and builders. Three of the four framers reported some influence. One said they prefer to stay out of the way and focus solely on their own builds. Another framer mentioned that schedule and builder demands are more impactful. One pointed out that some builders prioritize getting people into homes quickly, which conflicts with their focus on quality work.

Two of the three HVAC contractors identified how competition and market demand influence their decisions. One stated that price is the most important consideration when dealing with competition. The other emphasized that while competition does not affect their work, builders and their specific project needs do influence their practices.

Among the three insulators, one mentioned they had been in the business for 34 years and did not let those influences affect their practice. Another noted that Wisconsin's new home code does not require much energy efficiency, unlike the surrounding states. The third insulator acknowledged that competition influences their work.

The team asked contractors who said they experienced influence from the market to describe how they deal with competing demands. Although none of the framers felt much influence from the market, one framer who identified schedule and builder demands said they respond to competing demands by following the design. Of the two HVAC contractors who experienced market influence, one said they responded by increasing their stock of equipment, and the other said they acquiesced to builder demands as high competition makes them unable to negotiate. The insulator who acknowledged that competition influences their work said they respond to competing demands by spending more time air sealing and negotiating with builders to upgrade their insulation.

Program Effect on the Wisconsin New Homes Market

The team asked contractors about the program's effect on the overall Wisconsin new homes market. Three framers, two HVAC contractors, and one insulator noted positive impacts on the market. Of these, one framer emphasized the program's educational value, one HVAC contractor noted that the program has increased the use of heat pump water heaters, and another highlighted the program's role in raising awareness among builders and homeowners.

The remaining contractors were unsure of the program's impact or reported that it had minimal impact. One insulator noted that it takes a particularly educated buyer to understand the program, and one HVAC contractor commented that homeowners are generally unaware of it, and only some builders take advantage of it.

The team asked contractors for feedback on how the program can further impact the Wisconsin new homes market and general suggestions for program improvement. Contractors' responses covered several themes, including the following.

- Improve marketing and outreach to the general public (two framers, one HVAC, one insulator)
- Target more rural areas (one framer)
- Become more involved in subcontractors' training and education (one framer)
- Include lumber yards in programs and trainings to expand industry involvement (one framer)
- Increase incentives for builders (one framer)
- Improve communication about qualified equipment with more consistent messaging (one HVAC)
- Simplify paperwork for builders and contractors (one HVAC)

- Get involved at the state level to potentially influence code changes (one HVAC)
- Recruit more people to work in the industry (one insulator)
- Increase presence at training sessions and builder associations to provide education about the program and energy efficiency (one insulator)

Regarding Focus on Energy trainings, contractors offered the following feedback:

- More training opportunities (one framer)
- Collaborate on planning sessions with builders and contractors (one HVAC)
- Increase the number of trainings that are relevant to HVAC (one HVAC)
- More education to clarify the branding (one insulator who still associates the program with ENERGY STAR Homes)

Building Performance Consultant Interviews

The role of BPCs in the Focus on Energy Residential New Construction Program is to serve as third-party building-science professionals, certified as RESNET Home Energy Rating System (HERS) Raters, who are hired and paid directly by builders to ensure that new homes meet energy-efficiency, safety, comfort, and durability requirements.

To enroll in the program, builders must partner with a local participating BPC. Throughout construction, BPCs review plans, conduct at least two on-site visits (framing/insulation and post-construction), and perform diagnostic tests (blower-door, combustion-safety, etc.) to verify compliance with program specifications.

Once construction is complete, they use approved energy-modeling software to calculate savings, carry out final performance testing, and certify the home for incentives. Finally, BPCs submit all necessary documentation on behalf of the builder or homeowner so that incentives can be issued.

The evaluation team interviewed 10 BPCs who represent 1,587 of the 2,138 certified new homes in the CY 2024 program data. Three of the BPCs reported that the number of homes they certified in CY 2024 was higher than the last three years, and three said it was similar. The remaining four said CY 2024 certifications were lower for various reasons:

- One was ramping down ahead of retirement
- One had built fewer homes since COVID
- One no longer worked with the builder they had previously worked with
- One noted that some homes were pushed to 2025

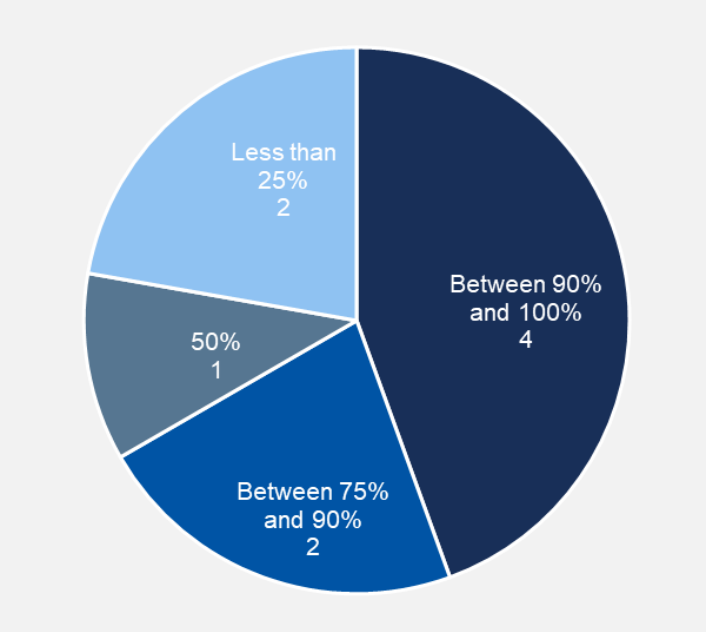
All of the BPCs interviewed had participated in the program for over four years. When asked when they began participating as a BPC for the Residential New Construction Program, six said they had participated for over 20 years, two had participated between 10 and 20 years, and the remaining two had participated for four and five years, respectively.

Building Performance Consultant Workload

Nine BPCs reported what percentage of their time is spent on Residential New Construction projects and how this compares with their overall revenue. As shown in Figure 56, six of the BPCs reported that over 75% of their time is spent on Residential New Construction projects. All six of these BPCs said that the amount of revenue generated by Residential New Construction projects is proportionate to the amount of time spent on these projects.

The remaining three BPCs reported spending 20% to 50% of their time on Residential New Construction projects. The BPC who reported 50% of their time explained that the revenue from the program was disproportionately lower than the time they spent on it. One of the remaining two estimated that their time spent and revenue collected were proportional, while the other estimated they were not, but did not indicate if the revenue was higher or lower than the time spent.

Figure 56. Time Spent on Residential New Construction Projects



Source: CY 2024 Focus on Energy Residential New Construction BPC Interviews "Thinking about all of the different types of work you do, roughly what percentage of your time is spent on projects for the New Construction Program?"

The team asked BPCs who do not work full-time on Focus on Energy projects what types of work they do outside of the program. BPCs provided the following examples. Each bullet represents one respondent unless otherwise specified:

- Duct testing (three respondents)
- ENERGY STAR certification (two respondents)
- Home inspection (two respondents)
- LEED certification
- Green Built certification

- Program management
- Marketing consulting

Benefits and Challenges of the Residential New Construction Program

When asked to identify the most valuable aspects of the program, BPCs most frequently noted raising building or product quality standards, with four mentioning this as the most valuable aspect. Four mentioned the value the program provides in relation to their work with builders, with two reporting that it has improved their relationships with the builders, and the other two reporting that the program requirements make it easier for the BPCs to provide direction to builders and reduce issues. Of the 10 BPCs interviewed, only one said they received no value from the program.

Additional program aspects that BPCs identified as providing value included the following:

- Program rewards
- Builder introduction/referrals
- Annual BPC meeting
- Certification process
- Legitimizes quality construction
- Increased interest from buyers

When asked if their partnership with the Residential New Construction Program has provided benefits to other aspects of their business, eight BPCs said yes. BPCs most frequently cited increased knowledge as a benefit (four respondents). One of these respondents also mentioned that they apply this knowledge in a city outside of the program area. The remaining three respondents provided unique benefits: the program provides information on the market, ENERGY STAR, and one (who had indicated the program provided no value previously) said the program "creates a niche market… also allows you to see new things."

All of the BPCs identified challenges that they have faced with the Residential New Construction Program. Responses included the following challenges. Each bullet represents one respondent unless otherwise specified:

- Being informed of and understanding program changes (six respondents)
- BPC rates (two respondents), with one explaining that it is an issue when the award amount for the builder does not cover the BPC rate, and the other mentioning that BPC rates have not kept up with inflation
- Scheduling complexities
- Paperwork
- New BPCs entering the program
- Communication from Focus on Energy

- Insufficient advertising
- Homebuyer perception

Eight BPCs provided the following suggestions to address these challenges. Each bullet represents one respondent unless otherwise specified:

- Provide advanced notice or additional communication about program changes (four respondents)
- Provide an in-state staff person to support the program (two respondents)
- Recruit "good" BPCs
- Increase advertising
- Implement a base rate charge
- Provide business coaching
- Differentiate between contractors and Focus on Energy staff

Program Support

When asked about the frequency of their interactions with Focus on Energy staff, five of the 10 BPCs said they had infrequent interactions with Focus on Energy staff. Of these five, three preferred to receive additional support or communications, and two said the level of interaction was adequate. The remaining five BPCs reported interacting with Focus on Energy staff monthly (three respondents), weekly (one respondent), and as needed (one respondent). These five BPCs indicated that the frequency of interaction was adequate for them.

All BPCs interacted with Focus on Energy staff through phone, email, or both; two BPCs also mentioned interacting with staff online. When asked about their preferred method of communication, five BPCs said the current methods were adequate, three preferred phone calls and in-person meetings, and two preferred phone calls exclusively.

Rater Certification Training

Before becoming a BPC, raters must complete rater certification training. Four of the 10 BPC respondents reported that they completed rater certification through Focus on Energy. When asked to rate their satisfaction with the Focus on Energy training on a scale of 1 (*not at all satisfied*) to 5 (*very satisfied*), three said *very satisfied,* and one provided a rating of three, stating that the training lacked a business aspect.

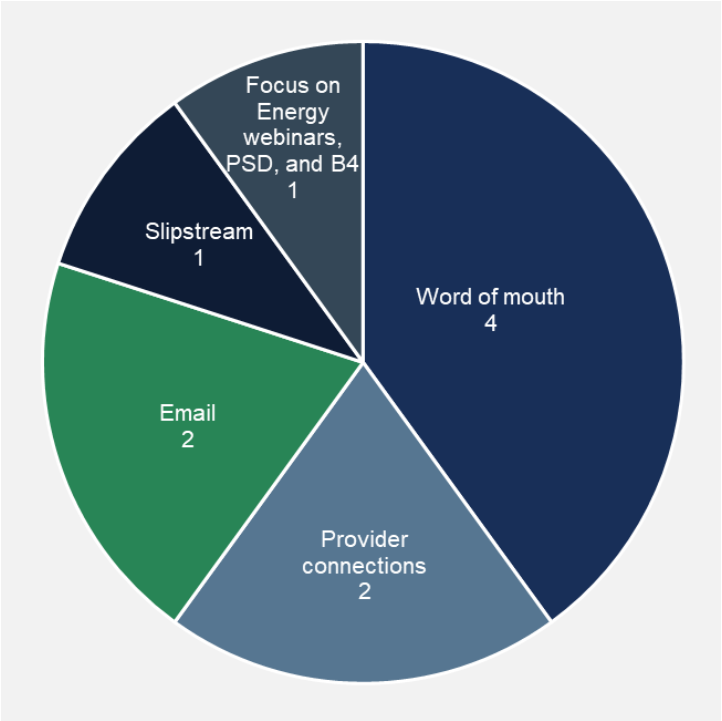
BPCs who recently completed training through Focus on Energy received a complementary blower door kit, duct blaster kit, pressure plate, and manometer after completion of training. The evaluation team asked if this equipment influenced their decision to become a BPC. Three of the four BPCs who completed training through Focus on Energy said that they did not receive this equipment because they completed the training before the equipment component was offered. The other BPC confirmed receiving the equipment and said that it did not change their decision. None of the four BPCs who

received training through the Focus on Energy program reported any challenges with meeting the training and certification requirements.

Five of the six BPCs who were not certified through Focus on Energy identified various sources for their rater training. All five BPCs named PSD Consulting, the B4 Conference, and Slipstream as training sources. Other sources included ENERGY STAR, the Western Electricity Coordinating Council, and the International Code Development Alliance. These five BPCs received HERS Rater certification through these trainings, and two received ENERGY STAR certification.

Figure 57 shows how builders learned about training opportunities. The most frequently cited source was word of mouth (four respondents), followed by a provider connection (two respondents).

Figure 57. Sources of Training Awareness



Source: CY 2024 Focus on Energy Residential New Construction BPC Interviews: "Where did you hear about these training sessions?

When asked to identify professions that would gain the most knowledge from trainings, nine BPCs named specific professions that would benefit. Each bullet represents one respondent unless otherwise specified:

- Home inspectors (three respondents)
- HVAC contractors or technicians (three respondents)
- HERS raters
- State certificates

- Remodelers
- Builders
- Insulators
- Modelers

When asked which professions the training would be less beneficial for, responses included HVAC trades, insulators, and HERs raters.

Two BPCs noted that existing training through the B4 Conference and PSD is sufficient for their needs, while the remaining eight BPCs said they would like to see more training opportunities. These eight BPCs identified the following areas for additional training. Each bullet represents one respondent unless otherwise specified:

- Changes to buildings, materials, markets, technologies, or programs (four respondents)
- HVAC, including duct and air flow testing (three respondents)
- Heat pumps (two respondents)
- Mechanical equipment (two respondents)
- Water heaters
- Software training
- Recruitment training

When asked to identify ways, beyond training, that the program can better support BPC skill development, all of the BPCs provided suggestions, with some identifying more than one topic:

- More support for new BPCs (three respondents)
- More information/communication learning materials (three respondents)
- Shadowing or in-field support (two respondents)
- Dedicated staff to provide support (two respondents)
- Bonuses (one respondent)

Responses were similar when BPCs were asked how the program could help foster stronger relationships between Focus on Energy staff, builders, and BPCs, with four BPCs indicating that having dedicated staff to provide support would be helpful. BPCs also recommended the following methods:

- In-person events (three respondents)
- Additional communication, opportunities, or training (two respondents)
- Builder introductions (one respondent)
- Builder recruitment (one respondent)

Building Performance Consultant Recruitment

The evaluation team asked a series of questions about Focus on Energy's efforts to recruit new BPCs into the Residential New Construction Program. Out of the 10 BPCs interviewed, nine were familiar with Focus on Energy's prior efforts. Four of these respondents agreed that existing efforts were using appropriate avenues to recruit BPCs. Three of the BPCs thought the avenues being used were somewhat appropriate, and the remaining two did not think they were appropriate. Of the two that did not agree with the avenues Focus on Energy has used to recruit BPCs, one mentioned that efforts to use advertising were not effective and that the subsequent focus on colleges and technical schools was an improvement, but that retention was poor. The other BPC said there was not much outreach in their area and that the focus seemed to have been placed on recruiting builders.

Nine BPCs offered suggestions for other avenues through which the program could recruit BPCs. Of these, BPCs provided the following trade and trade school suggestions. Each bullet represents one respondent unless otherwise specified:

- Home inspectors (two respondents)
- Rating field inspector program
- Business owners, coaches, and managers
- Lumberyards
- HVAC

> *"I suggest recruiting more [rating field inspectors] instead of full HERS raters or BPCs. Try reaching out to existing home inspectors, early retirees—maybe even union workers, firefighters, or police officers who want to stay in fieldwork."*
>
> ***– BPC***

The remaining BPCs offered suggestions to enhance the recruitment and support of BPCs:

- Seek recommendations from BPCs
- Prioritize growing the current BPCs' business over recruiting new ones
- Continue current efforts and provide Focus on Energy staff dedicated to BPC engagement
- Have experienced BPCs provide training or shadowing to new BPCs and make equipment available on a loan basis

BPCs also identified ideal characteristics for a new BPC. In addition to specifically mentioning that a background in the industry would make someone a good candidate, the BPCs suggested the following characteristics. Each bullet represents one respondent unless otherwise specified:

- Computer skills (two respondents)
- Physical capability (two respondents)
- Organization skills (two respondents)
- Work flexibility
- Ability to drive
- Personable
- Communication skills

The evaluation team asked BPCs what barriers might prevent someone from becoming a BPC. All respondents noted that starting a new business is difficult, with some specifically mentioning the lack of upfront capital and the amount of time needed to build a business. BPCs also mentioned the following challenges. Each bullet represents one respondent unless otherwise specified:

- Being a solo proprietor (three respondents)
- Finding business (two respondents)
- Making time for training (two respondents)
- Lack of builder connections or connections (two respondents)
- Lack of business training
- Low wage
- Lack of support

BPCs noted that existing training and free equipment from Focus on Energy help to address these barriers. When asked how else Focus on Energy could address the barriers, respondents provided the following ideas. Each bullet represents one respondent unless otherwise specified:

- Additional recruitment or builder recruitment (three respondents)
- More training (three respondents)
- BPC apprenticeships (two respondents)
- Outreach to less-populated areas of the state
- Create connections between BPCs and builders
- More advertising
- Ensure the program is lucrative for BPCs
- Offer a retention bonus
- Focus on Energy staff dedicated to BPC support
- Program representatives located throughout the state
- Builder referrals

> *"Focus on Energy needs to help connect BPCs with builders in the program. We used to have to get our own builders, market ourselves, and find jobs."*
>
> ***– BPC***

General Feedback

Seven of the BPCs offered additional suggestions when asked if there was anything else that Focus on Energy could improve about the program. Three BPCs suggested bringing in a regional resource or representative, and two recommended a dedicated Focus on Energy staff person for support. One of the BPCs who made both of those suggestions mentioned that they currently use the implementer website for support. However, they find it less helpful than having a regional resource due to a lack of regional awareness. They also noted that there used to be more in-person trainings. Other BPC suggestions included the need for continued support for BPCs, the continuation of collaboration and growth within the existing BPC population, and the provision of additional financial support.

> *"Most of the past several years we have had regional, in person, one-day Tech Exchanges presented by [A former technical trainer for the program]. For example, he did an on-site duct leakage training one year, and there have been a couple of REM/Rate mechanical systems modeling trainings with hand-outs (which I still refer to when needed). I'm sure everyone learned a lot at these in-person trainings, [The implementer] was always there to provide any program updates, and we even got a few RESNET continuing education credits. [The former trainer] put a lot of time into these, and virtually everyone went to whichever session was closest (three or four around the state)."*
>
> ***– BPC***

New Manufactured Homes Pilot Retailer and Community Interviews

To gain insights into the broader manufactured homes market and feedback on the first year of the New Manufactured Homes Pilot, the evaluation team interviewed one retailer and two communities who participated in the pilot in CY 2024. These discussions explored their experiences with the pilot and Residential New Construction Program, examined freeridership, and identified key successes and challenges. The conversations also explored what is working well within the pilot and any obstacles they have encountered.

Participant Characteristics

The team asked New Manufactured Homes Pilot participants a few questions about their roles and responsibilities within their company or community and the Wisconsin markets they operated in.

The interviewed retailer was the financial controller and had worked for the company for 24 years. The company primarily operates in southeast Wisconsin and employs 10 people. The retailer estimated that their company sells five to six new manufactured homes each year, all within Wisconsin, and 50% of which are in rural areas characterized by low population density, greater open spaces, and fewer developed properties versus those in urban areas.

Among the manufactured home communities, one respondent was the director of infill, responsible for overseeing the team and project manager, and the other was a sales manager for their organization. Both have worked in their respective communities for three and two years, respectively.

Both organizations manage multiple communities. The first operates 38 communities nationwide, including three in Wisconsin: one in northern Wisconsin with 147 homes, one in southwest Wisconsin

with 100 homes, and one in southeast Wisconsin with 230 homes. The second organization manages approximately 60 communities that can vary in size from 20 to 250 homes, but their largest community currently includes 175 homes. The second organization indicated that their communities are spread throughout Wisconsin and some extend beyond the state, but did not specify the exact number, size, or locations within Wisconsin.

When asked how often their communities replace existing homes with new ones or add new homes to an existing community, the first organization indicated that they were all new and that they typically add one new home to a community annually. The second community said they add homes more sporadically, typically 15 to 20 at a time, with 50 to 100 added to existing communities over the past two years.

Both communities indicated that they primarily sell the new homes that they add to their communities. However, the first organization added that they lease about 95% of homes with a lease-to-sell approach.

When asked specifically how these organizations are utilizing homes from the Focus on Energy program in their communities, the first organization stated that the homes have primarily been used as rentals, with only one home being sold so far. The second organization discussed its progress in the Focus on Energy certification process. Although they have nine homes that qualify, six of these homes are still undergoing certification.

Pilot Awareness and Participation

To explore pilot awareness and participation, the team asked participants how they heard about the pilot and what motivated their company or organization to participate in the Focus on Energy pilot.

When asked how they became aware of the Focus on Energy program, the retailer noted that they received an email from the housing association, while one community said they were informed by their manufacturer. The other community explained that a family member who previously worked for Focus on Energy had informed them about the new pilot.

Participants were asked whether they had received sufficient information and training from Focus on Energy regarding the benefits of ENERGY STAR-certified manufactured homes. The retailer and one of the communities said they had. The community added that the Focus on Energy representative had sent a video and joined the organization on site to walk through an informational slideshow together. The other community was not aware that these resources were available.

When asked about their initial expectations upon deciding to participate in the pilot, the retailer expected it would not be too complicated, and thanks to the help of the Focus on Energy representative, they found that to be true. One community expected a learning curve and confirmed that it had been the case with the paperwork process. The same community also suggested that the rebate turnaround time has been an issue, explaining, “Unfortunately, it isn't considered complete until it is sold and a tenant has moved in. Sometimes we have homes sit until then.” The other community organization did not have any specific expectations initially.

All three participants said that the rebates were the most valuable aspect of the program. When asked about other motivating factors, the retailer noted a promotion by the housing association. One community saw it as an opportunity to certify more ENERGY STAR homes and emphasized that utility rebates help offset the high costs involved in certification.

All three of the participants said their company or organization would seek out additional rebates or pilot support for future sales and purchases.

Baseline Practices and Program Impact

The evaluation team asked questions to understand participants' experiences with ENERGY STAR homes prior to participating in the pilot. The retailer estimated that 50% of all the manufactured homes their company had sold to customers in the previous year met or exceeded the performance standards required by the New Manufactured Homes Pilot. However, the retailer noted that not all homes would qualify for participation in the pilot because they would not be purchased directly from the manufacturer. The retailer also indicated that all qualifying manufactured homes have been submitted for certification through the pilot.

One of the two communities reported that all of the new homes they have purchased in the past three years would qualify for the pilot. The other community estimated that 50% of their homes would qualify. The second organization explained that their non-ENERGY STAR-certified homes are still energy efficient, and they will continue to do business with the manufacturer that supplies them. Both communities also indicated that all the qualifying homes they have purchased have been submitted for the Focus on Energy rebate.

The team asked participants to describe the impact of the New Manufactured Homes Pilot on the volume of ENERGY STAR-certified manufactured homes they offer or sell in Wisconsin. The retailer said that participation in the program is increasing the volume of ENERGY STAR-certified manufactured homes that they get. The other explained that the homes they receive from a specific manufacturer are now built to be ENERGY STAR-certified.

When asked how often they promoted or sold ENERGY STAR-certified homes before participating in the program, all three participants indicated that it was rare for them to do so. One community specifically mentioned that prior to joining the program, they worked with a different manufacturer, and it was uncommon for their homes to be ENERGY STAR-certified.

Before participating in the pilot, neither the retailer nor one of the communities promoted or educated customers about energy efficiency in manufactured homes. The other community said their promotion and education only went as far as to inform the customer that the home was ENERGY STAR-certified. When asked what impact the program had on their business practices, such as marketing, customer engagement, or inventory management, and why, the retailer said they are getting more ENERGY STAR-certified homes and promoting them more often. One of the communities said, "It has definitely been a selling point, especially those smart thermostats. We continue to expand our inventory." The other community organization said it had a smaller impact but that they do market energy-efficient homes.

Barriers, Opportunities, and Satisfaction

The evaluation team asked participants what barriers, beyond cost, make customers hesitant to purchase or make retailers and communities hesitant to offer ENERGY STAR-certified manufactured homes. None of the participants could identify barriers beyond cost.

Participants were given the opportunity to identify what Focus on Energy could do to better serve manufactured home retailers or communities. One community organization suggested that Focus on Energy should offer "an additional incentive for inflated skirting on the home, which would increase home insulation."

The survey asked questions to assess participants' satisfaction with various aspects of the pilot using a scale from 1 to 5, where 1 means *not at all satisfied* and 5 means *extremely satisfied.* Regarding satisfaction with support and communication from pilot staff, all participants gave ratings of 5. Regarding satisfaction with the pilot overall, the retailer and one of the community organizations gave a rating of 5, and the other said, "4 to 5." One community said that improving the verification process, particularly their frequent difficulties with third-party verification, would increase their satisfaction.

When asked which aspects they found most beneficial, the retailer highlighted the ease of completing paperwork. Both communities cited the rebates as a significant benefit, with one community additionally praising the responsiveness of their Focus on Energy representative.

5.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test.

Table 23 lists the CY 2024 incentive costs for the Residential New Construction.

Table 23. CY 2024 Residential New Construction Incentive Costs

Offering	Incentive Costs
New Construction	$3,005,535
Manufactured Homes	$96,750
Total	**$3,102,285**

The evaluation team found that the CY 2024 Residential New Construction Program was cost-effective (7.23). Table 24 lists the evaluated costs and benefits.

Table 24. CY 2024 Large Industrial Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$153,003
Delivery Costs	$1,656,597
Incremental Measure Costs	$32,715
Total Non-Incentive Costs	**$1,842,314**
Benefits	
Electricity Benefits (kWh)	$263,097
Capacity Benefits (kW)	$706,018
T&D Benefits (kW)	$201,471
Gas Benefits	$7,301,662
Emissions Benefits	$4,855,640
Total TRC Benefits	**$13,327,888**
Net TRC Benefits	**$11,485,574**
TRC Benefit/Cost Ratio	**7.23**

5.5. Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations for the Residential New Construction Program.

Outcome 1. The program continued to see an increase in overall savings per program home and an increasing share of homes certified at higher levels of performance above code in CY 2024; however, adoption and implementation of ENERGY STAR and Zero Energy Ready Certifications remain low. Savings per program home have steadily increased since CY 2019. Homes at 40% or more better than code have also increased since this data was tracked in CY 2021. While these trends are positive, the majority of homes remain at the lowest certification level (30% above code), and the program continues to see low activity in the new ENERGY STAR and Zero Energy Ready levels. The program administrator reported that limited participation in the higher certification levels is due to the added cost of achieving those certifications.

Recommendation 1. Monitor participation by certification level and consider adjusting incentives for upper tiers if participation does not increase. There may be an opportunity to continue refining the per MMBtu incentive rates to increase participation at higher certification levels.

Outcome 2. An increasing share of higher-efficiency program homes resulted in higher NTG ratios for the program in CY 2024. The CY 2019 billing analysis found higher NTG ratios in homes built to higher certification levels. By applying the CY 2019 tiered NTG ratios to CY 2024 program homes, the team calculated an overall natural gas NTG ratio of 22% with market effects, compared to 18% in CY 2023. The

larger share of efficient homes also resulted in a positive electric NTG ratio of 10%, the first positive NTG result since the CY 2019 evaluation. Both net fuel savings are trending more positively as more efficient homes continue to be built.

Outcome 3. Participation in the Residential New Construction Program has been stable over the last 19 years and is disproportionately concentrated in southern Wisconsin and urban areas. Since CY 2004, the number of homes certified by Focus on Energy and the regional concentration has remained relatively consistent despite great fluctuations in statewide market activity. The program has a stable group of core participating builders who construct a large share of the Focus on Energy-certified homes. To increase the number of participating builders and expand the program's reach, Focus on Energy continues to conduct targeted outreach and has gained membership in Home Builder Associations across the state. Focus on Energy also continues to use BPC training to recruit BPCs in underserved areas of the state and provide builder support in those areas.

Outcome 4. The program continues to encourage more efficient building practices via BPC education and program support; however, low participant builder awareness of new certification levels and cost are key barriers to achieving higher certification levels. Builders said that the third-party verification, support, and education from BPCs encourage more energy-efficient building practices, enhance credibility, and help sell homes. However, builders' awareness of new certification levels and incentive changes remains low, and cost continues to be a key barrier to certifying more homes at higher levels, such as ENERGY STAR and Zero Energy Ready.

Recommendation 4. Consider ways to improve communication about recent program updates, including new certification levels and incentives. Additional support could include increasing inspector and BPC availability, expanding outreach to subcontractors, and offering clearer technical guidance. Adding more financial incentives to address cost-related concerns can also help more builders pursue higher certification levels and increase overall program impact.

Outcome 5. Contractors offered mixed opinions about the program's overall impact on the Wisconsin new homes market. Several contractors noted positive effects from the program, such as increased awareness, education, and adoption of energy-efficient technologies. However, others said the program's visibility and influence were limited, particularly among homeowners and some builders. Common concerns included a lack of public awareness and the need for more outreach and education within the building industry.

Recommendation 5. Expand outreach and education efforts to enhance the program's market impact. These additional efforts could include improving marketing to homeowners, increasing presence and awareness in rural areas, involving more industry professionals, and strengthening communication about qualified equipment and program requirements. Additionally, simplifying paperwork, offering more builder incentives, and participating in industry training and policy discussions could further extend the program's reach and effectiveness.

Outcome 6. BPCs expressed satisfaction with the program overall but highlighted a need for improved program support and communication. Throughout interviews, BPCs said they felt uninformed about program changes and requested support from dedicated, local Focus on Energy staff. Specific requests included increased communication from program staff, more in-person trainings, and Focus on Energy staff attendance at training. Builders highlighted the critical value BPCs provide, noting their expertise, guidance during site visits, and long-standing relationships. All builders interviewed shared positive feedback, with many citing their BPCs as trusted resources when implementing energy-efficient practices. Strengthening program support for BPCs is essential to maintaining this high level of builder engagement and home performance. Lack of timely and clear communication may impact the BPCs' ability to effectively support builders and ensure homes meet current program standards.

Recommendation 6. Enhance communication and technical support for BPCs to promote consistent program delivery and stronger partnerships, including clear advance notice of upcoming program changes and opportunities for in-person engagement. Regular technical updates, such as quarterly webinars, concise bulletins, and a centralized resource portal, should be paired with in-person engagement opportunities, including regional trainings, workshops, and site visits. These face-to-face interactions will not only help reinforce program updates but also foster stronger relationships between program staff and BPCs, encourage two-way feedback, and support greater alignment in the field.

Outcome 7. Barriers to new BPCs extend beyond financial and technical limitations. BPCs identified key barriers to success for new BPCs, including the challenges of starting a business, finding clients, limited builder connections, and a lack of business experience. While some BPCs acknowledged that existing support (such as training and free equipment) is helpful, many cited a need for more focused business development resources. They also reported a lack of time, upfront capital, and mentorship as limiting factors.

Recommendation 7. Enhance support for new BPCs by introducing targeted business training and consulting, such as the following:

- Practical training on pricing, marketing, and client management
- A mentorship or apprenticeship program for new BPCs
- Access to one-on-one business consulting or dedicated staff support
- Networking events to connect BPCs with builders
- Flexible, user-friendly training formats, both in person and online
- Retention incentives to reward longevity in the program

Outcome 8. New Manufactured Homes Pilot participants were highly satisfied with the pilot overall. Most participants found the offering manageable, especially with support from Focus on Energy representatives. However, one community organization was unaware of available training resources, and some raised concerns about rebate delays and challenges with third-party verification.

Recommendation 8. Review participant documentation to ensure all participants receive clear, consistent onboarding materials, training, and support. Regular check-ins during the initial stages could ensure participants stay informed and understand pilot processes. Additionally, offering more structured guidance or support for navigating third-party verification will help reduce confusion and enhance the overall experience.

6. Trade Ally Solutions Program

Through the Trade Ally Solutions Program, certified trade allies encourage residential customers to make energy-saving home improvements and assist them in making those improvements. In CY 2024, the program provided rebates to single-family and multifamily customers who made efficiency upgrades through two statewide offerings and a targeted tribal offering:

- The **Insulation and Air Sealing offering** provided rebates for contractor-assisted or do-it-yourself residential insulation and air sealing improvements. Higher incentives were available to eligible limited-income customers.
- The **Heating and Cooling offering** provided rebates for qualified residential HVAC equipment improvements by participating contractors until Focus on Energy shifted the residential-sized HVAC equipment to the Instant Discount Program in June 2024. Like the Insulation and Air Sealing offering, the Heating and Cooling offering provided higher incentives to eligible limited-income customers. This offering also provided rebates for smart thermostats purchased through participating retailers for the full year.
- The **Tribal offering** engages with tribal communities and provides higher rebates for the completion of weatherization, HVAC, and renewable energy projects.

APTIM administered the Trade Ally Solutions Program in CY 2024, and the implementer, CLEAResult, conducted the day-to-day operations. Additional details about each offering are provided in the *Process Evaluation* section of this chapter.

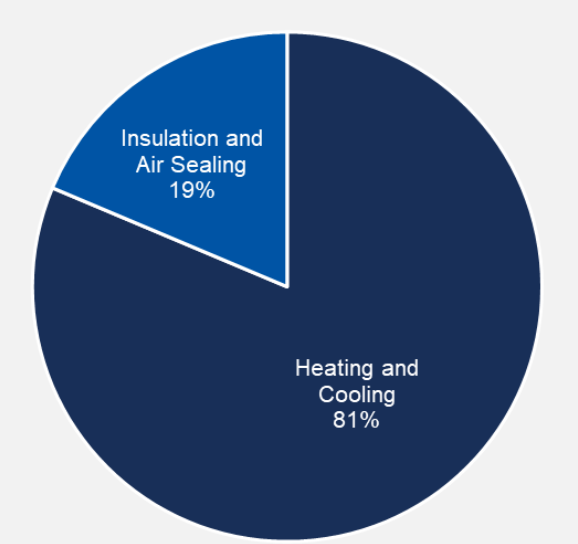
Table 59 presents the CY 2024 impacts for the Trade Ally Solutions Program, including impacts for statewide and tribal offerings.

Table 59. CY 2024 Trade Ally Solutions Summary

Item	Units	CY 2024
Rebate Spending	$	$8,144,101
Participation	Number of Participants	19,363
Verified Gross Lifecycle Savings	kWh	-94,339,985
	kW	984
	therms	53,244,825
Verified Gross Lifecycle Realization Rate	% (MMBtu)	103%
Annual NTG Ratio	% (MMBtu)	69%
Net Annual Savings	kWh	-3,097,902
	kW	865
	therms	1,880,591
Net Lifecycle Savings	MMBtu	3,420,747
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	0.95

Figure 58 shows the percentage of savings for Trade Ally Solutions by offering. The Heating and Cooling offering contributed 81% of gross lifecycle MMBtu savings to the program.

Figure 58. Allocation of CY 2024 Trade Ally Solutions Gross Lifecycle Savings by Offering

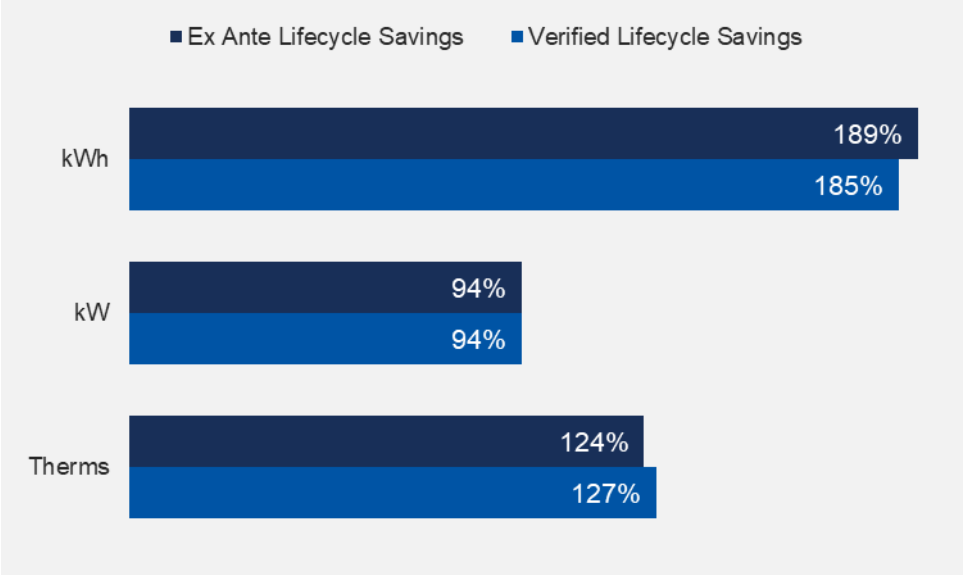


Note: Savings from the Tribal offering are rolled into Heating and Cooling and Insulation and Air Sealing offerings.

6.1. Achievement Against Goals

Figure 59 shows the percentage of gross lifecycle savings goals achieved by the Trade Ally Solutions Program in CY 2024. Overall, the program exceeded its therm savings goals. The program had a negative kWh savings goal to account for customers installing air-source heat pumps that replace gas heating systems, which significantly increases the electric load. The program exceeded its kWh goal, meaning that the *ex ante* and verified kWh were more negative than the goal.

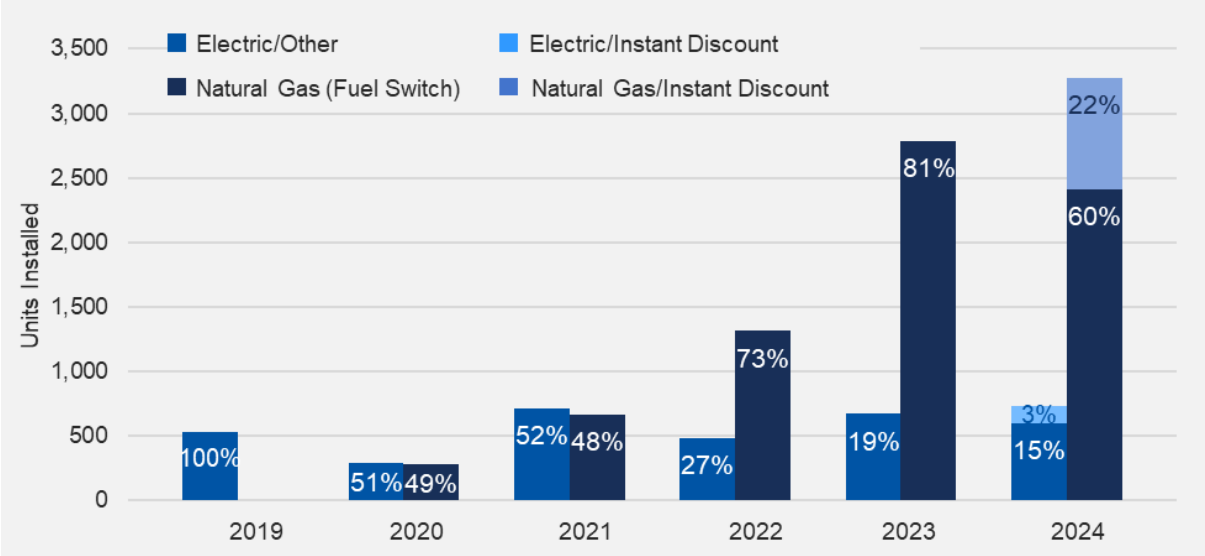
Figure 59. CY 2024 Trade Ally Solutions Program Achievement of Gross Lifecycle Savings Goals



Notes: The 100% *ex ante* gross lifecycle savings reflect the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

Figure 60 shows that the number of rebated residential air-source heat pumps dramatically increased from CY 2019 to CY 2024. The Trade Ally Solutions Program rebated nearly the same number of heat pumps in CY 2024 as it did in CY 2023, despite only offering incentives for the first half of the year. However, across the CY 2024 Trade Ally Solutions and Instant Discount Programs, Focus on Energy rebated more than 550 heat pumps compared to CY 2023. Since CY 2022, the majority of rebated units have replaced natural gas heating systems, which is when heat pumps have the most negative impact on kWh because they add a significant electric heating load to the home. However, these measures achieved substantial therm savings, which resulted in overall positive MMBtu savings for the measure.

Figure 60. Residential Air-Source Heat Pump Participation (CY 2019-CY 2024)



Source: CY 2019-CY 2024 Focus on Energy SPECTRUM Data

Notes: Heat pumps have been offered under multiple residential programs in recent years. Installations shown here are not specific to the Trade Ally Solutions Program but illustrate broader statewide adoption trends. For most heat pumps discounted through the Instant Discount Program in CY 2024, the replaced heating systems are unknown, so a weighted electric and natural gas baseline is assumed for both new construction and retrofits. This baseline (8% electric, 92% natural gas) is based on Focus on Energy's CY 2023 air source heat pump unit count analysis using CY 2023 SPECTRUM data.

6.2. Impact Evaluation

This section contains the findings for the CY 2024 impact evaluation at the Trade Ally Solutions Program level, followed by a discussion of results for each offering.

Impact Evaluation Methodology

The evaluation team conducted an impact evaluation of the CY 2024 Trade Ally Solutions Program using a combination of primary and secondary data. Table 60 lists specific data collection activities and sample sizes used in the CY 2024 evaluation. Additional details about these activities and their findings can be found in the offering-specific discussions below and in Appendix H. Net Savings Analysis in Volume III.

Table 60. CY 2024 Trade Ally Solutions Impact Evaluation Activities and Sample Sizes

Activity	Heating and Cooling	Insulation and Air Sealing	Tribal	Total
Tracking Database Review	Census	Census	Census	Census
Billing Analysis	N/A	Census	N/A	Census

Verified Gross Savings Results for Trade Ally Solutions

Table 61 lists the first-year and lifecycle realization rates for CY 2024 by offering, and Table 62 lists verified first-year and verified lifecycle savings. Overall, Trade Ally Solutions achieved a first-year evaluated realization rate of 102%, weighted by total (MMBtu) energy savings. Detailed findings for each offering, including factors affecting the realization rates, are provided in the following sections.

Table 61. CY 2024 Trade Ally Solutions First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Heating and Cooling, Standard	97%	100%	103%	103%	98%	103%	104%
Heating and Cooling, Income Qualified	100%	N/A	81%	81%	100%	81%	82%
Heating and Cooling, Total	**97%**	**100%**	**102%**	**103%**	**98%**	**103%**	**103%**
Insulation and Air Sealing, Standard	100%	100%	100%	100%	100%	100%	100%
Insulation and Air Sealing, Income Qualified	100%	100%	100%	100%	100%	100%	100%
Insulation and Air Sealing, Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Tribal, Standard	98%	100%	100%	100%	99%	100%	100%
Tribal, Income Qualified	100%	100%	100%	100%	100%	100%	100%
Tribal, Total	**96%**	**100%**	**100%**	**100%**	**97%**	**100%**	**100%**
Overall Realization Rate	**96%**	**100%**	**102%**	**102%**	**98%**	**102%**	**103%**

Table 62. CY 2024 Trade Ally Solutions First-Year and Total Lifecycle Verified Gross Savings

Offering	Verified First-Year Savings				Verified Lifecycle Savings		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Heating and Cooling, Standard	-6,348,860	74	2,386,150	216,953	-143,640,964	44,681,476	3,978,045
Heating and Cooling, Income Qualified	42,144	0	32,094	3,353	969,312	745,572	77,864
Heating and Cooling, Total	**-6,306,716**	**74**	**2,418,244**	**220,306**	**-142,671,652**	**45,427,048**	**4,055,909**
Insulation and Air Sealing, Standard	1,685,357	784	253,456	31,096	42,136,823	6,343,736	778,144
Insulation and Air Sealing, Income Qualified	256,011	124	49,290	5,803	6,400,275	1,232,250	145,063
Insulation and Air Sealing, Total	**1,941,368**	**908**	**302,746**	**36,899**	**48,537,098**	**7,575,986**	**923,207**
Tribal, Standard	-36,133	-6	5,228	400	-668,646	93,816	7,100
Tribal, Income Qualified	18,825	7	6,105	675	463,215	147,975	16,378
Tribal, Total	**-17,308**	**1**	**11,333**	**1,074**	**-205,431**	**241,791**	**23,478**
Overall Savings	**-4,382,656**	**984**	**2,732,323**	**258,279**	**-94,339,985**	**53,244,825**	**5,002,594**

Heating and Cooling: Verified Gross Savings Results

For the CY 2024 Heating and Cooling offering, the evaluation team conducted a database review and a TRM review to inform verified gross savings. The offering had a gross lifecycle MMBtu realization rate of 103%.

Table 63 lists the CY 2024 *ex ante* and verified gross first-year and lifecycle savings for the Heating and Cooling offering. Appendix E. Detailed Findings in Volume III details savings by measure.

Table 63. CY 2024 Heating and Cooling *Ex Ante* and Verified Gross Savings

	Ex Ante Gross				Verified Gross			
	kWh	kW	therms	MMBtu	kWh	kW	therms	MMBtu
Heating and Cooling offering, Standard								
First-Year Gross Savings	-6,524,933	74	2,322,101	209,947	-6,348,860	74	2,386,150	216,953
Lifecycle Gross Savings	-146,017,384	74	43,230,414	3,824,830	-143,640,964	74	44,681,476	3,978,045
Heating and Cooling offering, Income Qualified								
First-Year Gross Savings	42,144	0	39,716	4,115	42,144	0	32,094	3,353
Lifecycle Gross Savings	969,312	0	920,878	95,395	969,312	0	745,572	77,864
Heating and Cooling offering, Total								
First-Year Gross Savings	-6,482,789	74	2,361,817	214,062	-6,306,716	74	2,418,244	220,306
Lifecycle Gross Savings	-145,048,072	74	44,151,292	3,920,225	-142,671,652	74	45,427,048	4,055,909

The gross kWh savings for the Heating and Cooling offering's standard-income track are negative because of the high volume of heat pumps (air-source, ground-source, and ductless) replacing natural gas furnaces. These heat pumps produce negative kWh savings because they add to the home's electric load, but produce positive therms savings because the home eliminates or reduces the use of the gas furnace. The heat pumps' overall MMBtu impact is positive because of the large positive therm savings.

Smart Thermostats

For smart thermostats, the program claimed savings for six legacy smart thermostat MMIDs that were processed before the 2024 TRM retired these MMIDs. For these measures, the evaluation team applied CY 2022 smart thermostat billing analysis results, which are the basis of smart thermostat savings in the 2024 TRM. *Ex ante* applied deemed savings from the 2023 TRM, which did not reflect the CY 2022 smart thermostat billing analysis. These six smart thermostat measures had measure-level realization rates either below or above 100%, and an overall MMBtu realization rate of 110%, due to discrepancies between the two savings sources.

Air-Source Heat Pumps

In CY 2022, the implementer identified that many air-source heat pump systems are not verifiable in the AHRI database. These systems are not tested for two primary reasons: the heat pump market is growing so quickly that AHRI has not had a chance to catch up with the new models, and heat pumps can be installed with older air handlers that AHRI does not include in its verification testing. This same observation was made during CY 2024.

Because these systems are not tested by AHRI, the implementer and evaluation team do not have a way to verify the efficiency of the installed units. However, significant MMBtu savings for these systems exist for customers who are replacing a natural gas furnace. To accommodate these untested systems, the evaluation team, administrator, and implementer agreed to adjust savings for rebated air-source heat

pumps that are not AHRI-certified. These uncertified heat pumps were tracked under the same MMID as standard air-source heat pumps and identified under an optional equipment field in the tracking data. To calculate savings for these measures, the team assumed that the new heat pump is 10% less efficient than a federal baseline unit—this allowed the implementer to claim natural gas savings for switching from natural gas heat, but acknowledges that there was some uncertainty in the new system's efficiency.

The evaluation team and the implementer agreed to monitor the number of rebated heat pump systems receiving this adjustment in the future. The implementer will continue efforts to minimize the need for an adjustment by training contractors about the importance of verifying system combinations in AHRI and by providing AHRI navigation assistance. The team will monitor the prevalence of non-certified heat pump systems in the Heating and Cooling offering. If non-certified systems represent growing shares of Heating and Cooling savings, the team will consider additional research to determine actual system efficiencies and savings.

In CY 2024, this adjustment impacted only 0.33% (six out of 1,796) of the air-source heat pump units, which is significantly lower than the 2.3% (45 out of 1,989) impacted in CY 2023.

Natural Gas Furnaces

In CY 2023, the evaluation team conducted a study to understand the baseline efficiency of furnaces offered to Wisconsin customers. The 2024 TRM reflects the results from that study in the furnace calculation. Most notably, the 2024 TRM's single-family income-qualified furnace baseline AFUE increased about 8% from the 2023 TRM baseline, and the multifamily standard furnace baseline AFUE decreased about 5% (see Table 64).

Table 64. CY 2024 Heating and Cooling Updated Furnace Baseline AFUEs

	Home Type	2024 TRM Baseline AFUE	2023 TRM Baseline AFUE
Single-Family	Low/Limited Income (Income Qualified)	88.3%	80.0%
	Standard Income	90.6%	92.8%
Multifamily	Low/Limited Income (Income Qualified)	80.7%	80.0%
	Standard Income	81.8%	86.7%

For the CY 2024 evaluation, the evaluation team applied 2024 TRM savings to all furnaces within the Heating and Cooling offering. *Ex ante* savings continued to apply 2023 TRM savings to some program furnaces. Differences between the two savings sources resulted in measure-level realization rates being low for income-qualified furnaces and high for standard-income furnaces, with overall MMBtu realization rates of 78% and 111%, respectively.

Insulation and Air Sealing: Verified Gross Savings Results

For the Insulation and Air Sealing offering, the team conducted a database review and consulted the 2024 TRM to inform verified gross savings. The offering had a gross lifecycle MMBtu realization rate of 100%.

The evaluation team calculated energy and demand savings for most measures following guidance in the 2024 TRM. Sill box insulation with the MMID 10094 and foundation insulation with MMID 10097 were not in the TRM; therefore, the team followed the work papers approved in CY 2024.

Table 65 lists the CY 2024 *ex ante* and verified gross first-year and lifecycle savings for the Insulation and Air Sealing offering. Savings by measure can be found in Appendix E. Detailed Findings in Volume III.

Table 65. CY 2024 Insulation and Air Sealing *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
Insulation and Air Sealing, Standard						
First-Year Gross Savings	1,685,357	784	253,456	1,685,357	784	253,456
Lifecycle Gross Savings	42,136,719	784	6,343,736	42,136,823	784	6,343,736
Insulation and Air Sealing, Income Qualified						
First-Year Gross Savings	256,011	124	49,290	256,011	124	49,290
Lifecycle Gross Savings	6,400,275	124	1,232,250	6,400,275	124	1,232,250
Insulation and Air Sealing, Total						
First-Year Gross Savings	1,941,368	908	302,746	1,941,368	908	302,746
Lifecycle Gross Savings	48,536,994	908	7,575,986	48,537,098	908	7,575,986

Tribal: Verified Gross Savings Results

For the measures that were delivered through the Tribal offering, the evaluation team conducted a database review and consulted the 2024 TRM to inform verified gross savings. Measures delivered through the Tribal offering had a gross lifecycle MMBtu realization rate of 100%. Table 66 shows the *ex ante* and verified savings for Tribal offering measures.

Table 66. CY 2024 Tribal *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
Tribal, Standard						
First-Year Gross Savings	-36,799	-6	5,234	-36,133	-6	5,228
Lifecycle Gross Savings	-674,640	-6	93,924	-668,646	-6	93,816
Tribal, Income Qualified						
First-Year Gross Savings	18,825	7	6,105	18,825	7	6,105
Lifecycle Gross Savings	463,215	7	147,975	463,215	7	147,975
Tribal, Total						
First-Year Gross Savings	-17,974	1	11,339	-17,308	1	11,333
Lifecycle Gross Savings	-211,425	1	241,899	-205,431	1	241,791

For the Tribal offering's standard-income track, the verified kWh and therms savings differ from *ex ante* savings because *ex ante* savings applied deemed savings for smart thermostats from the 2023 TRM, while the evaluation team applied 2022 smart thermostat billing analysis results, which are the basis of smart thermostat savings in the 2024 TRM (see explanation in the *Heating and Cooling: Verified Gross Savings Results* section above). These differences resulted in a slightly lower kWh realization rate of 98%, but an overall MMBtu realization rate of 100%.

For the Tribal offering's income-qualified track, which included furnaces, boilers, and whole home completion measures, verified kWh, kW, and therms savings do not differ from *ex ante* savings, resulting in realization rates of 100%.

Verified Net Savings Results for Trade Ally Solutions

The evaluation team used a variety of NTG analyses to calculate measure-level NTG ratios for offerings in the Trade Ally Solutions Program. The team selected the NTG approach based on the project type and the data available for measures in the offering, as shown in Table 67. The team's analyses are further detailed in the following sections.

Table 67. CY 2024 Trade Ally Solutions NTG Approaches

Offering	NTG Approach
Heating and Cooling, Standard	Self-report responses from CY 2023 participant surveys
Heating and Cooling, Income Qualified	Assumed 100% NTG
Insulation and Air Sealing, Standard	CY 2024 billing analysis
Insulation and Air Sealing, Income Qualified	CY 2024 billing analysis
Tribal, Standard	Measure-level NTG ratios from the standard Heating and Cooling
Tribal, Income Qualified	Measure-level NTG ratios from the income-qualified Heating and Cooling and income-qualified Insulation and Air Sealing offerings

Table 68 shows the weighted average NTG ratio by offering as well as the total first-year verified gross and net savings. The evaluation team calculated an overall lifecycle NTG estimate of 69% for CY 2024.

Table 68. CY 2024 Trade Ally Solutions First-Year Net Savings and NTG

Offering	Total First-Year Verified Gross Savings (MMBtu)	Total First-Year Net Savings (MMBtu)	NTG Ratio
Heating and Cooling, Standard	216,953	140,167	65%
Heating and Cooling, Income Qualified	3,353	3,353	100%
Heating and Cooling, Total	**220,306**	**143,520**	**65%**
Insulation and Air Sealing, Standard	31,096	28,430	91%
Insulation and Air Sealing, Income Qualified	5,803	4,648	80%
Insulation and Air Sealing, Total	**36,899**	**33,078**	**90%**
Tribal, Standard	400	286	72%
Tribal, Income Qualified	675	605	90%
Tribal, Total	**1,074**	**891**	**83%**
Total Trade Ally Solutions	**258,279**	**177,489**	**69%**

Heating and Cooling Offering, Standard

To calculate net savings for standard measures in the CY 2024 Heating and Cooling offering, the evaluation team applied NTG results from the CY 2023 participant survey. These surveys informed freeridership and spillover estimates for all standard measures in the Heating and Cooling offering.

Table 69 shows the NTG ratios applied to the Heating and Cooling offering's standard measures in CY 2024 based on the CY 2023 participant survey.

Table 69. CY 2024 Heating and Cooling Standard Income NTG Ratios

Measure Group	Freeridership	Spillover	NTG (1 – Freeridership + Spillover)
Air-Source Heat Pump	27%	0%	73%
Boiler	46%	0%	54%
Ductless Mini-Split Heat Pump	33%	0%	67%
Furnace	47%	0%	53%
Ground-Source Heat Pump	32%	0%	68%
Smart thermostat	28%	0%	72%
Water Heater	46%	0%	54%

The CY 2024 Heating and Cooling standard offering included a few measures that were not surveyed in CY 2023. For these measures, the team selected the NTG estimate of the most appropriate similar measure. For example, the team applied the furnace NTG estimate to the AC tune-up, furnace tune-up, and furnace ECM motor measures, and the boiler NTG estimate to the boiler tune-up measure.

Insulation and Air Sealing

In CY 2024, the evaluation team conducted a billing analysis of whole-home completion projects in the Insulation and Air Sealing offering to assess verified net savings. These completion projects included insulation and air sealing work that could be performed in multiple areas of a home, such as the attic, walls, foundation, and ductwork. The improvements can be completed in any combination but are treated as a single measure with combined energy savings. Because these improvements impact the whole home, savings are often realized for all energy sources in the home (electricity and fuel). Electric energy savings result from reduced electric heating or cooling demand, less frequent system cycling, and reduced fan or blower run times. Natural gas savings result from reduced demand for natural gas heating.

Table 70 shows the project completion measures available through the standard and income-qualified tracks of the offering. The natural gas heat and natural gas heat-only completion measures represent two participant groups: those for whom both natural gas and electric energy savings are claimed, and those for whom only natural gas savings are claimed, respectively. Therefore, both electric and natural gas savings are available for all of these measures, except the natural gas heat-only measure.

Table 70. CY 2024 Project Completion Measures

Tracks	Project Completion Measures
Standard Income and Income Qualified	Natural Gas Heat
	Natural Gas Heat Only
	Do-it-Yourself (DIY) Installation Gas Heat
	Electric Heat

The team's CY 2024 billing analysis focused on CY 2023 project completion participants, which allowed a comparison of one-year pre-participation to one year of post-participation billing data. The team used weather-normalized regression models to measure the impact of energy efficiency measures on consumption for CY 2023 participants and compared them to *ex ante* estimates. By evaluating the pre- and post-installation energy consumption and accounting for variables, such as weather, the team measured impacts for offering-related installations.

The analysis included a control group of nonparticipants, which allowed the billing analysis to provide an estimate of net savings by comparing the change in energy consumption for participants to the results of a similar analysis conducted for nonparticipants. This difference resulted in total verified net savings from the Insulation and Air Sealing offering. The team identified the nonparticipant group by sampling future offering participants—that is, customers who participated *after* the analysis period. Sampling from this group helped account for exogenous factors that might have occurred simultaneously with offering activities.

The evaluation team conducted eight separate billing analyses—one for each project completion measure in Table 70 for both standard and income-qualified participants. The team used PRInceton Scorekeeping Method (PRISM) models to estimate NTG rates and the standard errors around the savings estimates for each offering. For more details on the billing analysis, refer to Appendix H. Net Savings Analysis in Volume III.

As shown in Table 71, the team found that deemed electric and gas savings for homes tended to be overstated, with the largest overstatement occurring for DIY installations.

Table 71. CY 2024 Insulation and Air Sealing NTG Results

Track	Project Completion Measure	Savings Type	NTG	Precision at 90% Confidence
Standard	Natural Gas Heat	Electricity	92%	±17%
Standard	Natural Gas Heat	Natural Gas	92%	±3%
Standard	Natural Gas Heat Only	Natural Gas	92%	±3%
Standard	Electric Heat	Electricity	76%	±30%
Standard	DIY Installation Gas Heat[a]	Electricity	49%	±61%
Standard	DIY Installation Gas Heat[a]	Natural Gas	83%	±24%
Income Qualified	Natural Gas Heat	Electricity	96%	±17%
Income Qualified	Natural Gas Heat	Natural Gas	77%	±10%
Income Qualified	Natural Gas Heat Only	Natural Gas	77%	±10%
Income Qualified	Electric Heat[b]	Electricity	76%	±30%
Income Qualified	DIY Installation Gas Heat	Electricity	49%	±61%
Income Qualified	DIY Installation Gas Heat	Natural Gas	83%	±24%

[a] The team applied the income-qualified DIY NTG ratios to standard DIY measures because of the small analysis sample size for standard measures.
[b] The team applied the standard electric heat NTG ratio to income-qualified measures because of the small sample size for income-qualified measures.

Billing Analysis for Electric Savings

The evaluation team used PRISM models to estimate NTG rates and the standard errors around the savings estimates for each offering. Table 72 shows the *ex ante* and verified electric net energy savings as well as the NTG rates for each track. The PRENAC variable in the table represents the pre-installation weather-normalized annual consumption.

Table 72. Insulation and Air Sealing Offering
Verified Electric Net Energy Savings from Billing Analysis

Track	Project Completion Measure	*Ex Ante* Savings per Participant (kWh)	Verified Net Model Savings (kWh)	NTG	PRENAC	*Ex Ante* Savings Per Customer	Verified Savings Per Customer
Standard	Natural Gas Heat	854	782	92%	9,248	9.2%	8.5%
Standard	Electric Heat	2,395	1,831	76%	17,478	13.7%	10.5%
Standard	DIY Installation Gas Heat	N/A	N/A	49%[a]	N/A	N/A	N/A
Income Qualified	Natural Gas Heat	945	904	96%	8,213	11.5%	11.0%
Income Qualified	Electric Heat	N/A	N/A	76%[b]	N/A	N/A	N/A
Income Qualified	DIY Installation Gas Heat	543	266	49%	7,562	7.2%	3.5%

[a] The team applied the income-qualified DIY NTG ratios to standard DIY measures because of the small analysis sample size for standard measures.

[b] The team applied the standard electric heat NTG ratio to income-qualified measures because of the small sample size for income-qualified measures.

On average, standard-income completion participants with gas heat saved 782 kWh, compared to the *ex ante* savings estimate of 854 kWh, representing an NTG of 92% and an 8.5% reduction in usage from the pre-installation period. Standard-income participants with electric heat saved 1,831 kWh, compared to the *ex ante* savings estimate of 2,395 kWh; this represents an NTG of 76% and a 10.5% reduction in usage from the pre-installation period.

On average, income-qualified completion participants with gas heat saved 904 kWh, compared to the *ex ante* savings estimate of 945 kWh; this represents an NTG of 96% and an 11.0% reduction in usage from the pre-installation period. Income-qualified participants with DIY installations saved 266 kWh, compared to the *ex ante* savings estimate of 543 kWh; this represents an NTG of 49% and a 3.5% reduction in usage from the pre-installation period.

Billing Analysis for Gas Savings

The evaluation team used PRISM models to estimate NTG and the standard errors around the savings estimates for each offering track. Table 73 shows the *ex ante* and verified gas net energy savings as well as the NTG rates for each track.

Table 73. Insulation and Air Sealing Offering
***Ex Ante* and Verified Natural Gas Net Energy Savings**

Track	Project Completion Measure	*Ex Ante* Savings per Participant (therms)	Verified Net Model Savings (therms)	NTG	PRENAC (therms)	*Ex Ante* Expected Savings Per Customer	Verified Savings Per Customer
Standard	Natural Gas Heat	135	124	92%	968	14.0%	12.8%
Standard	DIY Installation Gas Heat	N/A	N/A	83%[a]	N/A	N/A	N/A
Income Qualified	Natural Gas Heat	186	144	77%	986	18.9%	14.6%
Income Qualified	DIY Installation Gas Heat	101	84	83%	848	11.9%	9.9%

[a] The team applied the income-qualified DIY NTG ratios to standard DIY measures because of the small analysis sample size for standard measures.

On average, standard-income completion participants saved 124 therms, compared to the *ex ante* savings estimate of 135 therms; this represents an NTG of 92% and an approximate 12.8% reduction in usage from the pre-installation period.

On average, income-qualified completion participants saved 144 therms, compared to the *ex ante* savings estimate of 186 therms; this represents an NTG of 77% and a 14.6% reduction in usage from the pre-installation period. Income-qualified DIY install participants saved 84 therms, compared to the *ex ante* savings estimate of 101 therms; this represents an NTG of 83% and a 9.9% reduction in usage from the pre-installation period.

The natural gas savings and NTG ratios for standard-income and income-qualified completion participants are specifically for sites with natural gas heat only and therefore apply to both the natural gas heat completion and natural gas heat-only completion measures shown in Table 71.

6.3. Process Evaluation

In CY 2024, Focus on Energy made minimal adjustments to the design of offerings within the Trade Ally Solutions Program. Focus on Energy discontinued HVAC equipment incentives through the Heating and Cooling offering in June 2024, when it began offering midstream incentives for residential-sized HVAC equipment through the Instant Discount Program. Therefore, the CY 2024 process evaluation was designed to focus on the Insulation and Air Sealing offering. Specifically, evaluation activities focused on participant and trade ally experiences with the Insulation and Air Sealing offering.

Process Evaluation Methodology

Table 74 lists the data collection activities and sample sizes for the Trade Ally Solutions Program process evaluation. A description of process evaluation activities and a discussion of findings are provided below. The Heating and Cooling offering activities related to understanding Q1 and Q2 activity only; the team did not perform any additional process evaluation activities for the offering in CY 2024.

Table 74. CY 2024 Trade Ally Solutions Process Evaluation Activities and Sample Sizes

Activity	Heating and Cooling	Insulation and Air Sealing	Total
Implementation Plan Review and Program Staff Interviews	✓	✓	**N/A**
In-Depth Trade Ally Interviews	-	10	**10**
Participant Surveys	-	243	**243**
Customer Satisfaction Surveys[a]	-	-	**1,010**
Customer Satisfaction Surveys, Retail Thermostats[a]	-	-	**138**

[a] Customer satisfaction surveys are for the overall Trade Ally Solutions Program; responses do not indicate the specific offering in which the customers participated.

Implementation Plan Review and Program Staff Interviews

The evaluation team reviewed the implementation plan and conducted program staff interviews for the Trade Ally Solutions Program to understand how the program operated in CY 2024. The implementer developed the implementation plan to document programmatic details, such as eligible measures, targeted participants, and delivery channels, and to illustrate how the program design generates energy savings. The team conducted staff interviews to explore areas of research interest, identify any program changes since the beginning of the year, and address any gaps in an understanding of program details.

In-Depth Trade Ally Interviews

In October 2024, the evaluation team conducted in-depth interviews with trade allies who participated in the Insulation and Air Sealing offering between January 1 and August 31, 2024. These interviews aimed to gather insights into program awareness and satisfaction, feedback on the program's incentive structure and delivery, the impact of the IRA on the program, customer barriers, and the effect of customer HVAC participation on Insulation and air sealing project completion.

Participant Surveys

During October and November 2024, the evaluation team contacted a random sample of customers who participated in the Insulation and Air Sealing offering between January 1 and August 31, 2024. Survey topics included awareness of Focus on Energy, decision-making processes, and program satisfaction.

Ongoing Customer Satisfaction Surveys

Throughout CY 2024, the administrator emailed Trade Ally Solutions participants links to the web-based satisfaction survey. There were two objectives for the survey:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help to facilitate timely follow-up with customers to clarify and address service concerns

Using contact information stored in SPECTRUM, the administrator fielded the web-based satisfaction survey throughout the year to CY 2024 participants. The survey covered several topics, including overall

satisfaction, satisfaction with offering staff and trade allies, and the likelihood of recommending Focus on Energy.

Design and Delivery

In 2024, the Trade Ally Solutions Program provided downstream rebates to help reduce the upfront cost of installing energy-efficient heating and cooling equipment and making efficient building shell upgrades. The following sections describe the design and delivery of the three Trade Ally Solutions offerings that were available in CY 2024.

Heating and Cooling Offering

In the first half of 2024, this offering provided downstream rebates to customers in single-family homes who installed high-efficiency HVAC equipment. Multifamily dwellings of four or more units under a single roof were also eligible if the heating or cooling equipment was for a single unit. Eligible equipment included furnaces, dual-fuel heat pumps, air-source heat pumps, boilers, geothermal or ground-source heat pumps, and smart thermostats. Customers worked with trade allies to identify eligible equipment and apply for a downstream rebate by completing an application and submitting supporting documentation.

Focus on Energy discontinued this offering in June 2024, when it began offering midstream incentives for residential heating and cooling through the Instant Discount Program. To begin the transition to the Instant Discount Program, Focus on Energy began ramping down Heating and Cooling downstream rebates on May 31; the final day to apply for a downstream rebate was June 30, 2024.

Table 75 shows rebates for the Heating and Cooling offering as they stood in Q1 and Q2 2024. As in past years, different incentives were available for standard-income and income-qualified customers. Customers were eligible for income-qualified rebates if their household income was at or below 80% of the area median income by household size.

Table 75. Q1-Q2 2024 Heating and Cooling Measures and Rebates

Measure	Standard Rebate	Income-Qualified Rebate
Smart Thermostats		
ENERGY STAR Smart Thermostat	$50	$50
Natural Gas Furnaces		
97%+ AFUE Multistage Furnace	$150	$550
96% AFUE Furnace	$100	$450
95% AFUE Furnace	$50	$350
ECM Blower Fan Replacement (must replace existing permanent split capacitor motor)	$25	$25
Natural Gas Boilers		
95%+ AFUE Combination Boiler	$500	$700
90-94% AFUE Combination Boiler	$400	$600
95%+ AFUE Standard Boiler	$400	$550
90-94% AFUE Standard Boiler	$300	$450
Indirect Water Heater (installed at the same time as a qualifying boiler)	$100	$150

Measure	Standard Rebate	Income-Qualified Rebate
Heat Pumps		
Air-Source Heat Pump (existing primary heating fuel: natural gas or electric) Minimum Requirements: Ducted 15.2 SEER2 | 10.0 EER2 | 8.1 HSPF2 Ductless 16.0 SEER2 | 9.0 EER2 | 9.5 HSPF2	$1,000	$1,000
Air-Source Heat Pump (existing primary heating fuel: propane, oil, etc.) Minimum Requirements: Ducted 15.2 SEER2 | 10.0 EER2 | 8.1 HSPF2 Ductless 16.0 SEER2 | 9.0 EER2 | 9.5 HSPF2	$400	$400
Certified Geothermal Heat Pump (with natural gas service to home)	$1,000	$1,000
Certified Geothermal Heat Pump (with no natural gas service to home)	$750	$750
Multifamily-Only Equipment	**Standard Rebate**	
Single Package Vertical Unit (natural gas, 90%+ thermal efficiency, 11.0+ EER cooling)	$150	
Single Package Vertical Unit (natural gas, 90%+ thermal efficiency)	$100	
Packaged Terminal Heat Pump	$100	

Insulation and Air Sealing Offering

In CY 2024, the Insulation and Air Sealing offering provided rebates for installing efficient building shell measures, providing homeowners in one- to three-unit buildings with two paths for participation:

- **Trade Ally Installed.** In this path, customers hired a Focus on Energy registered trade ally (contractor) to conduct a home energy assessment and identify areas for improvement. Following the energy assessment, customers selected which insulation and air sealing improvements to make and worked with their contractor to complete the project and apply for rebates. Customers could opt to forego the assessment and air sealing rebate and still receive a rebate for having insulation installed by a registered trade ally. However, customers who wished to receive a rebate for completing ENERGY STAR–qualified air sealing had to complete an energy assessment.
- **Do-It-Yourself (DIY).** On this path, customers could self-install attic insulation and air sealing to receive a $200 cashback rebate. Customers had to install the attic insulation and air sealing according to Focus on Energy's DIY Guide to Insulation and Air Sealing and improve at least 600 square feet of attic to an insulation level of R-38 or greater (R-50 recommended) to receive the rebate. The program implementer, CLEAResult, verified the installation through photos provided by the homeowner.

In CY 2024, Focus on Energy removed the requirement that foundation insulation or duct sealing must be completed as part of a larger project that includes attic or wall/framed door insulation. In addition, Focus on Energy split the foundation insulation incentive into a "sill box" incentive and a "foundation wall" incentive (still called "foundation insulation") and added a verified duct sealing measure, which includes leakage testing.

Like the Heating and Cooling offering, the Insulation and Air Sealing offering provided two rebate tiers: standard and income-qualified. Customers were eligible for income-qualified rebates if their household

income was at or below 80% of the area median income by household size. Qualifying customers in single-family homes or who own multifamily buildings with three or fewer units under one roof were eligible for a flat rebate for each measure. Table 76 shows measures and tiered rebates for eligible customers in CY 2024.

Table 76. CY 2024 Insulation and Air Sealing Measures and Rebates

Measure	Standard Rebate	Income-Qualified Rebate
ENERGY STAR-Qualified Air Sealing	$675	$1,125
Attic Insulation	$525	$675
Foundation Insulation[a]	$75	$110
Sill Box Insulation	$75	$110
Wall Insulation	$450	$450
Duct Sealing and Insulation	$75	$75
Verified Duct Sealing and Insulation	$150	$150
DIY Attic Insulation and Air Sealing	$200	$200

[a] A trade ally contractor had to install foundation insulation in combination with attic insulation improvements.

Tribal Offering

The Tribal Nations Pilot was created in CY 2022 to engage with tribal communities and provide higher rebates for the completion of weatherization, HVAC, and renewable energy projects. In 2023, Focus on Energy transitioned the Tribal Nations Pilot to become the Tribal offering. To participate in the offering in 2024, Focus on Energy requested that tribes submit documentation by April 28, 2024, that identified upgrades they could complete in homes owned by the tribe or its members by December 2024, as well as projects planned but estimated to be completed after 2024. Tribes had to complete project planning workbooks before the purchase of equipment for planned projects to participate in the offering. Six of the 11 federally recognized tribes in Wisconsin submitted potential project documentation in 2024. The offering will continue through the rest of the CY 2023-CY 2026 quadrennium.

At the start of 2024, Focus on Energy reduced the Tribal offering heat pump incentive from $8,000 to $4,000 per system. Reducing the per-unit incentive allowed the program to allocate incentive dollars to more tribal communities, resulting in a greater number of projects completed. The program also added incentives for furnaces and boilers in tribal-owned multifamily properties. As of December 31, 2024, the addition of furnace and boiler incentives had not resulted in any increased projects in this category of building.

After heating and cooling equipment transitioned to midstream incentives through the Instant Discount Program in the second half of the year, incentive funding sources were sometimes split between the Trade Ally Solutions and the Instant Discount Programs. If tribes purchased equipment from a distributor participating in the Instant Discount Program, they received an instant discount through the Instant Discount Program and the remainder of the Tribal offering incentive from the Trade Ally Solutions Program. If tribes did not purchase equipment from a participating distributor, the full incentive came from the Trade Ally Solutions Program.

In addition, Focus on Energy offered BPI trainings to tribal communities continue to generate interest. In CY 2024, this program trained four tribal staffers as energy assessors.

Insulation and Air Sealing Customer Experience

The evaluation team assessed customer experience with the Insulation and Air Sealing offering using results from the CY 2024 participant survey. This section presents the survey results.

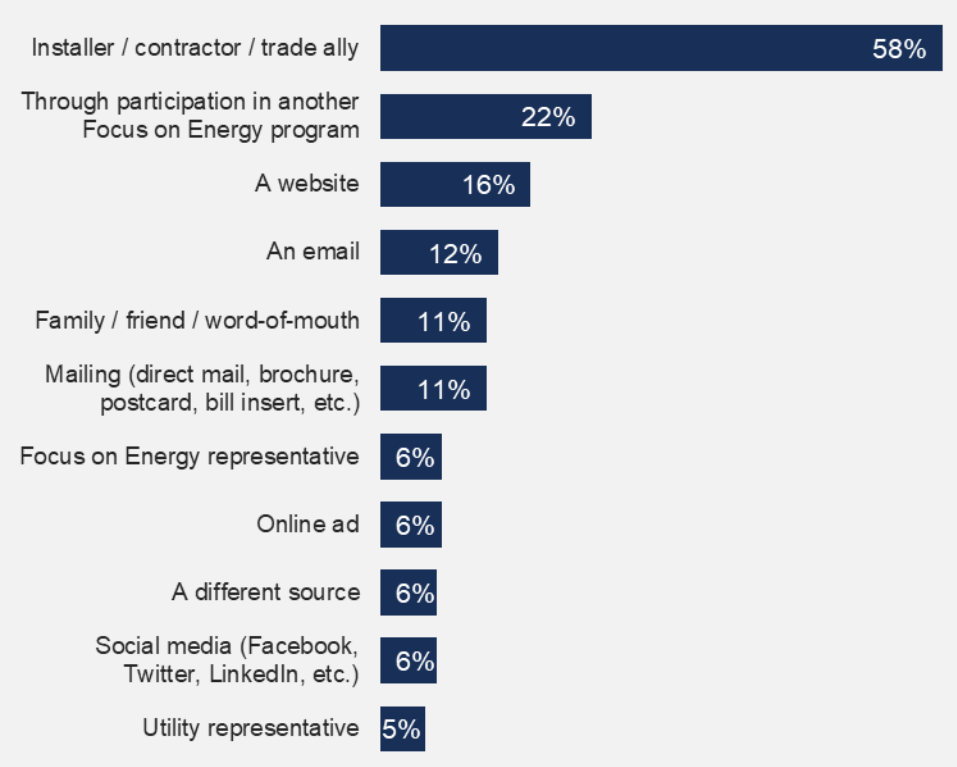
Participant Awareness and Motivation

In CY 2023 and CY 2024, how customers heard about Focus on Energy rebates was captured in the SPECTRUM data to understand sources of awareness for different program offerings. During the CY 2023 evaluation, the team used the data captured in SPECTRUM to report on sources of awareness, finding that 88% of Insulation and Air Sealing participants (n=2,385) learned about the Focus on Energy rebate through their contractor or trade ally. In the CY 2024 Insulation and Air Sealing participant survey, when asked who completed the rebate application, only 6% of participants (n=192) reported doing so themselves, while 82% indicated that their contractor completed and submitted the application on their behalf.

Furthermore, a comparison between participants' reported sources of awareness in the survey and those recorded in SPECTRUM revealed a discrepancy. In the survey, 58% (n=238) of participants cited their contractor or trade ally as their source of awareness, compared to 90% (n=2,178) in the CY 2024 SPECTRUM data. This suggests that the sources of awareness recorded in insulation and air sealing applications may not accurately reflect participants' actual sources of awareness, likely because contractors or trade allies who complete most applications may not be consistently collecting that information from participants.

Figure 61 shows where participants reported hearing about Focus on Energy rebates for their installed insulation and air sealing measures in the CY 2024 participant survey. Hearing about Focus on Energy rebates from trade allies or contractors remained the most common source of awareness (58%), followed by participation in another Focus on Energy program (22%), a website (16%), and an email (12%).

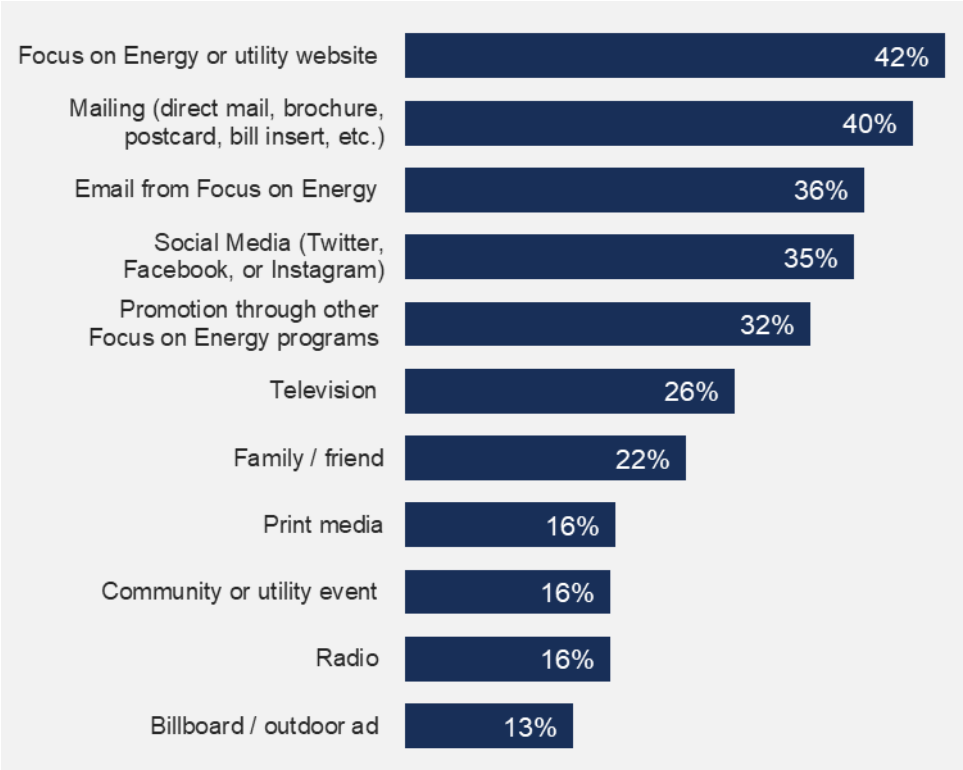
Figure 61. How Participants Heard about Focus on Energy's Rebates



Source: Wisconsin Focus on Energy - Insulation and Air Sealing Offering 2024 Participant Survey: "Where have you heard about Focus on Energy's rebates for [LIST OF MEASURES]? Select all that apply" (n=238)

When asked about their preferred way to learn about Focus on Energy programs, 42% of survey respondents reported that Focus on Energy or the utility website was the preferred source (Figure 62). This method was only marginally ahead of mailing (40%), emails from Focus on Energy (36%), social media (35%), and promotion through other Focus on Energy programs (32%). Figure 62 shows a full breakdown of respondents' preferred outreach methods.

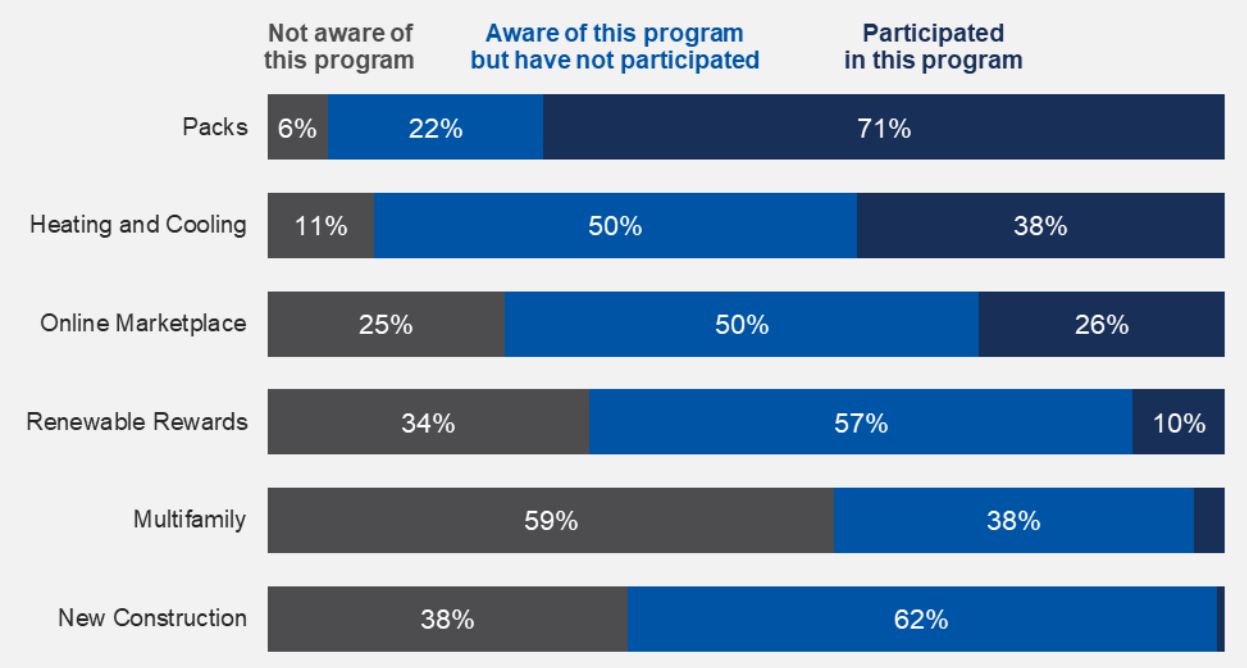
Figure 62. Preferred Outreach Methods



Source: Wisconsin Focus on Energy - Insulation and Air Sealing Offering 2024 Participant Survey: "What is the best way for Focus on Energy to inform people about energy efficiency programs? Select all that apply." (n=237)

Over half of the Insulation and Air Sealing survey respondents (58%, n=216) reported that they were aware of other Focus on Energy programs. As shown in Figure 63, 71% of those who were aware of other Focus on Energy programs had previously participated in the Packs offering, the highest participation rate by far compared to other program offerings. This was followed by 38% of respondents who participated in the Heating and Cooling offering. These results are similar to those of the last Insulation and Air Sealing participant survey, conducted during CY 2020, where Packs and Heating and Cooling were also the two programs respondents were most aware of and participated in.

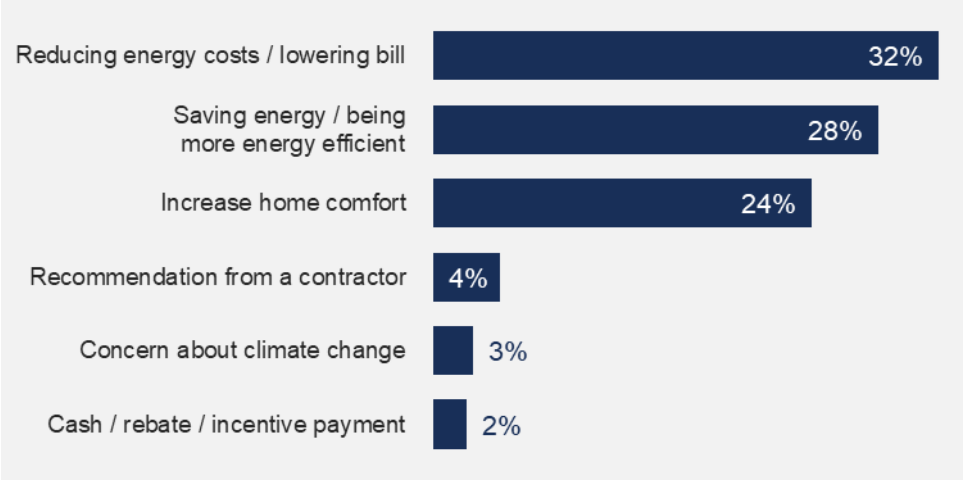
Figure 63. Awareness of and Participation in Other Focus on Energy Programs



Source: Wisconsin Focus on Energy - Insulation and Air Sealing Offering 2024 Participant Survey: "Other than Focus on Energy's Insulation and Air Sealing offering, are you aware of any other Focus on Energy programs or rebates?" (n=125)

When asked about their motivations for participating in CY 2024, most respondents said they were motivated by a desire to lower their bill (32%), save energy (28%), or increase the comfort of their home (24%). Less than 5% of participants reported contractor recommendations, concern about climate change, or rebates as their top motivator. Four percent of respondents cited other reasons, which included addressing excessive moisture and replacing/improving insufficient or damaged insulation. These results are different from those of CY 2020, where increased home comfort was identified as the top motivation by over 36% of respondents, followed by being more energy efficient, reducing energy costs, and the rebate. Figure 64 shows a full breakdown of the top motivations. Based on these results, it is possible that broad inflationary pressure has caused customers to focus more on cost and energy savings.

Figure 64. Top Motivations for Participating in the Insulation and Air Sealing Offering



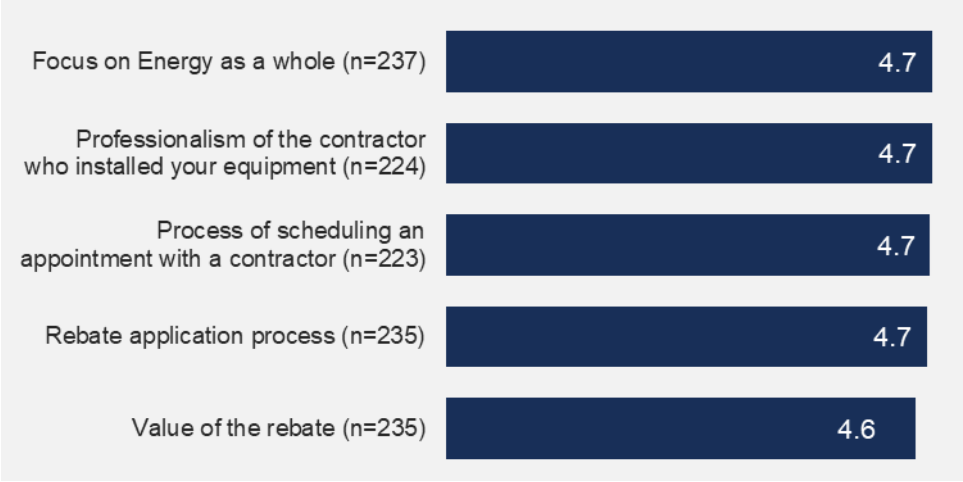
Source: CY 2024 Insulation and Air Sealing Participant Survey: "What factor was the most important motivation for you to install [LIST OF MEASURES]?" (n=239)

Participant Satisfaction

The survey asked participants about their satisfaction with Focus on Energy as a whole and several aspects of the program. Participants were asked to rate their satisfaction on a five-point scale, where 1 indicated *very dissatisfied* and 5 indicated *very satisfied*. Overall, participants were generally satisfied with the program, with each aspect receiving a high rating of 4.7, except for the value of the rebate, which was rated slightly lower at 4.6.

Among those who expressed some dissatisfaction with the rebate value, most said it was relatively small compared to the overall cost of the project. Figure 65 shows the average satisfaction rating for each aspect.

Figure 65. CY 2024 Insulation and Air Sealing Participant Satisfaction

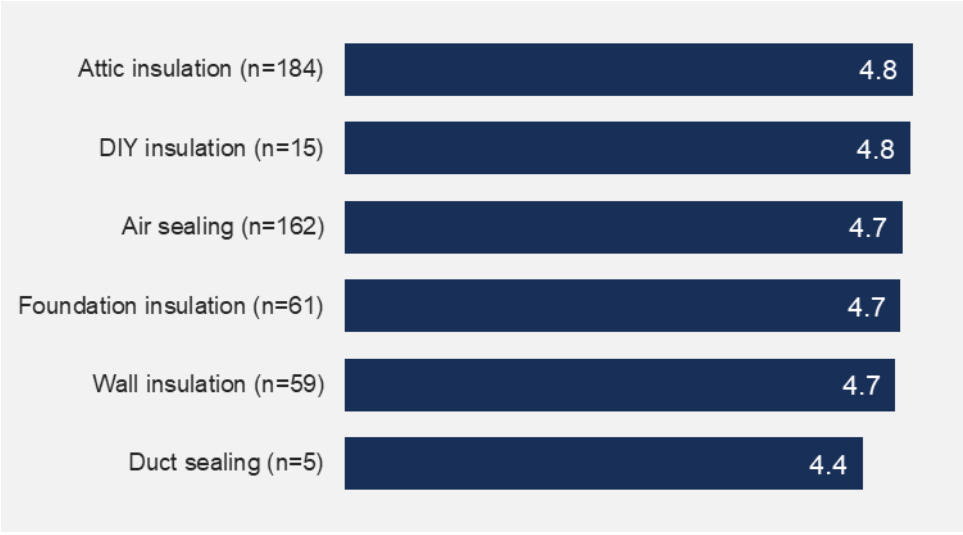


Source: CY 2024 Insulation and Air Sealing Participant Survey: "How satisfied are you with the following aspects of the Insulation and Air Sealing program?"

The survey also asked participants about their satisfaction with the measures they installed. Similar to overall offering satisfaction, participants were generally *very satisfied* with each of the offering's measures (ranging from 4.7 to 4.8), with the exception of duct sealing, which had a small number of responses. While still *satisfied* with the duct sealing measure, participant satisfaction was lower (4.4) due to one participant's difficulties with achieving a full seal upon project completion.

Figure 66 shows the average satisfaction rating of each of the Insulation and Air Sealing measures.

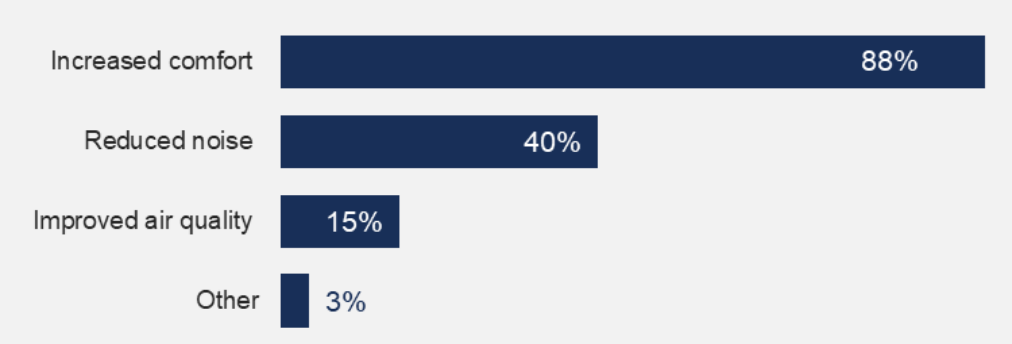
Figure 66. CY 2024 Insulation and Air Sealing Measure Satisfaction



Source: CY 2024 Insulation and Air Sealing Participant Survey: "How satisfied are you with [MEASURE]?"

When participants were asked about observed non-energy benefits (NEBs) besides energy cost savings, increased comfort was the most commonly observed improvement (88%), as shown in Figure 67. For participants who observed more than one benefit (n=66), 90% of participants identified increased comfort as the greatest improvement. Other frequently mentioned benefits included reduced noise (40%) and improved air quality (15%), while some participants (two out of 5) who reported "other" benefits cited added pest control as a notable advantage.

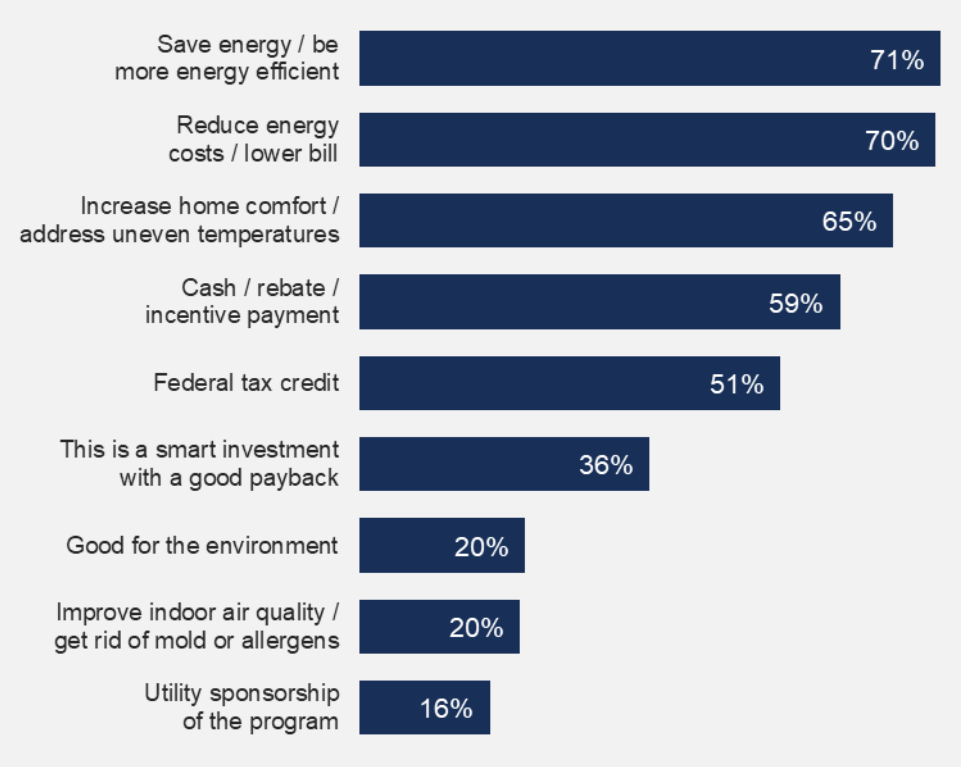
Figure 67. Observed Non-Energy Benefits



Source: CY 2024 Insulation and Air Sealing Participant Survey: "Besides saving on energy costs, which of the following benefits have you observed in your home since the installation of your [Field-MEASURE_LIST]? Select all that apply" (n=202)

Participants were asked what benefits their contractor mentioned that convinced them to complete an upgrade (Figure 68). Respondents reported that the most influential benefits were being more energy efficient (71%), reducing energy costs (70%), and increasing home comfort (65%). These were followed by the incentive itself (59%) and the federal tax credit (51%). In contrast, the least influential benefits were environmental benefits (20%), improved air quality (20%), and utility sponsorship of the program (16%). In CY 2020, survey respondents reported that the incentive was the most convincing benefit, followed by home comfort, reducing energy costs, and being more energy efficient.

Figure 68. Benefits Mentioned by Contractor or Installer



Source: CY 2024 Insulation and Air Sealing Participant Survey: "What benefits did the contractor or installer mention that convinced you to install the [MEASURE_LIST]? Select all that apply." (n=138)

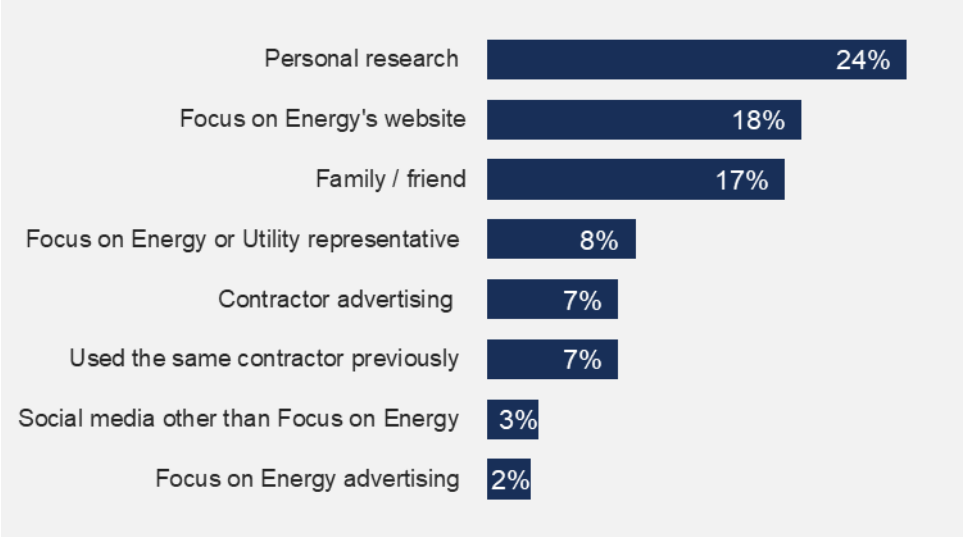
Trade Ally Selection and Application Process

Of the 218 respondents, 94% said that they had worked with a contractor. Thirteen respondents only installed DIY insulation and, therefore, did not engage with trade allies.

Insulation and Air Sealing respondents used several pathways to find their contractor. Most respondents reported conducting personal research (24%), followed by Focus on Energy's website (18%) and referrals from family or friends (17%). Ninety percent of participants who used Focus on Energy's website to find contractors said that it was *very easy* (67%) *or somewhat easy* (13%).

Figure 69 shows a breakdown of how respondents found their contractors.

Figure 69. How Participants Found Their Contractors



Source: CY 2024 Insulation and Air Sealing Participant Survey: "How did you find the contractor who installed your new equipment?" (n=204)

Thirty percent of respondents selected their contractor because they appeared to provide the best quality or seemed to be the most trustworthy, which was also the top reason CY 2020 survey respondents chose their contractor. This was followed by the contractor being listed on the Focus on Energy website or that they were the most responsive or easiest to communicate with (13%).

Figure 70 shows a full breakdown of why respondents chose their contractors.

Figure 70. Top Reasons for Choosing a Contractor



Source: CY 2024 Insulation and Air Sealing Participant Survey: "What was the top reason for choosing your contractor who installed your equipment?" (n=200)

When asked to rate their experience working with the contractor that installed their equipment, 95% (n=202) of respondents were either *somewhat satisfied* or *very satisfied.* Of the remaining 5%, 2% reported they were *neither satisfied nor dissatisfied,* and 3% were *somewhat dissatisfied* or *very dissatisfied.* The survey asked respondents who reported being somewhat dissatisfied or very dissatisfied with their contractor if they had any feedback. Four of these respondents said that one or more of the jobs were either incomplete or not done well.

Surveys also asked respondents about their experience with the application process. Most respondents (82%, n=192) said their contractor filled out the application, 12% said they filled out the application with their contractor, and 6% said they filled out the application on their own.

Of all respondents who filled out an application (Figure 71), 83% found it *very easy* or *somewhat easy* to fill out the application, 13% found it *neither easy nor difficult*, and 4% found it *somewhat difficult* or *very difficult*. The respondents who found it somewhat or very difficult indicated that it was hard to find the application form or that they were initially unsure how to fill it out.

Figure 71. Ease of Filling Out the Application



Source: CY 2024 Insulation and Air Sealing Participant Survey: "How would you rate the ease of filling out the application?" (n=48)

Impact of Incentive Stacking

The survey included questions to help understand the impact of incentive stacking or receiving incentives from multiple sources for the same equipment. Participants were asked whether they received or planned to receive any other rebates or financing for the Insulation and Air Sealing measures they installed. Forty-nine percent (n=215) received or planned to receive a tax credit, another 7% received or planned to receive a manufacturer discount, and 3% planned to receive another kind of funding not listed, while 41% did not plan to receive any additional funding. Among the six participants who planned to receive another type of funding, three mentioned the Zonolite Attic Insulation Trust rebate, two mentioned low-interest or interest-free loans, and one cited the "HOMES Act."

Of those participants who received or planned to receive additional funding (Figure 72), 89% said the additional funding was *very influential* or *somewhat influential* in their decision to install Insulation and Air Sealing measures, with an additional 6% saying they would not have installed any measures without the additional funding.

Figure 72. Influence of Incentive Stacking



Source: CY 2024 Insulation and Air Sealing Participant Survey: "How influential would you say the additional funding was in your decision to install your [Field-MEASURE_LIST]?" (n=114)

Impact of HVAC Installation

To understand the impact of HVAC installation on participation in the Insulation and Air Sealing offering, the survey asked participants if they had also installed any high-efficiency heating or cooling equipment for which they received a Focus on Energy rebate in their home within the past year. For those who had, the survey asked whether that installation and rebate had any influence on their installation of the

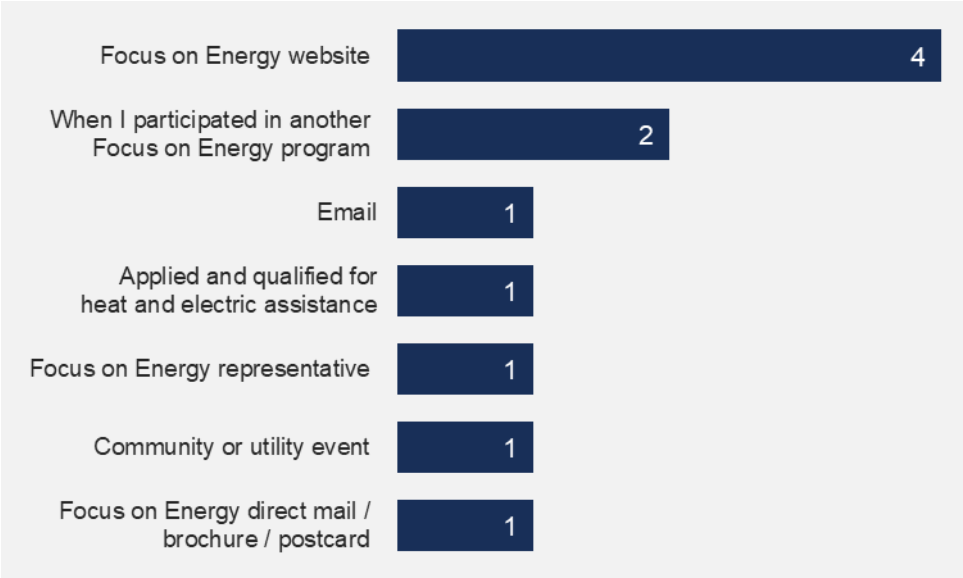
Insulation and Air Sealing measures. Seventeen percent of Insulation and Air Sealing participants (n=221) received a Focus on Energy rebate or instant discount for installing high-efficiency heating or cooling equipment in their home within the past year. Of those participants, 67% said that the Heating and Cooling rebate or instant discount was *very influential* (36%) or *somewhat influential* (30%) in their decision to install the Insulation and Air Sealing measures. An additional 12% said they would not have installed the Air Sealing or Insulation measures if they had not participated in the HVAC installation offering, while 21% said that it had no influence on their decision to install Insulation and Air Sealing measures. When followed up and asked what about the Heating and Cooling rebate or instant discount process was most influential, most respondents cited the combination of rebates, added energy savings, and the extra incentive to complete all energy efficiency upgrades at once. Some became aware of the insulation and air sealing program from the HVAC installer, while others replaced an old HVAC unit and also needed insulation updates.

Income-Qualified Awareness

The survey asked Insulation and Air Sealing respondents who received higher income-qualified rebates how they learned they qualified for the rebates. Of the 16 income-qualified survey respondents, 11 were aware that they had received a higher rebate amount before responding to the survey, and 10 were interested in the Focus on Energy rebates before they learned they were eligible for higher rebates.

As shown in Figure 73, four income-qualified respondents learned that they were eligible for higher rebates from the Focus on Energy website, while another two learned when they participated in another Focus on Energy program.

Figure 73. How Income-Qualified Participants Learned They Qualified for Rebates



Source: CY 2024 Insulation and Air Sealing Participant Survey:
"How did you learn that you qualified for the higher rebates?" (n=11)

Participant Feedback and Suggestions for Improvement

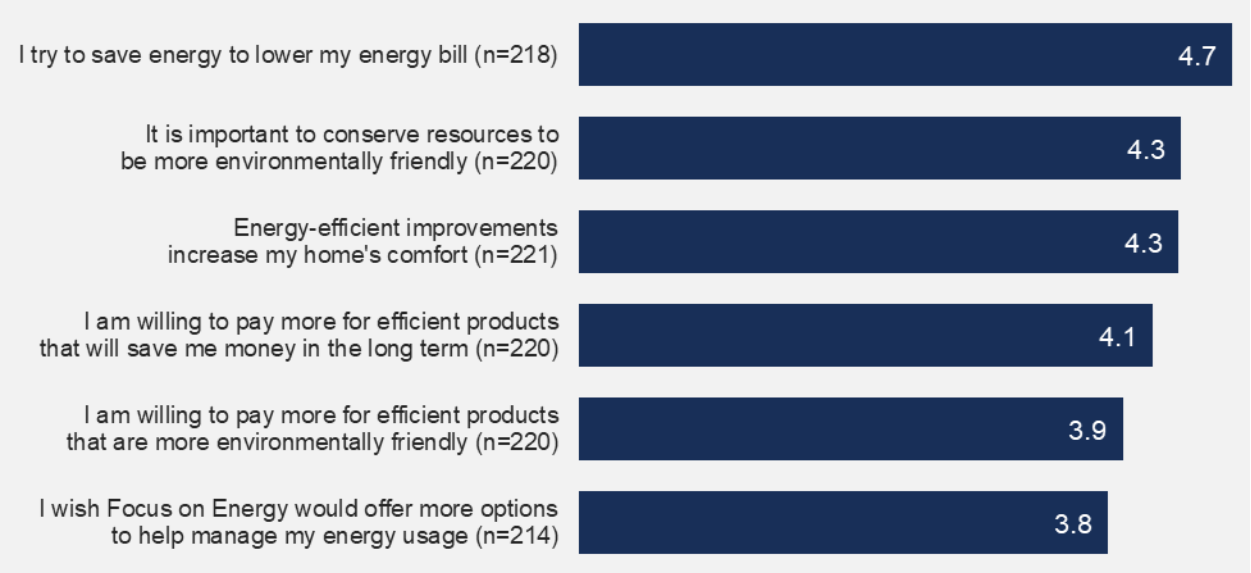
The participant survey asked respondents if they had any additional comments about their experience with Focus on Energy. Of the 219 participants who responded, 14% provided open-ended feedback, which the team categorized into two groups.

Fifteen participants provided positive or complimentary comments (48%), while 16 provided suggestions for improvement (51%). Three of the suggestions mentioned that participants found the application process—and specifically, how it intersected with the IRA—confusing. Three participants also reported not having received their rebate yet, while two others said that the rebate amount was not high enough. The most common concrete suggestion for improvement was to enhance communication about the rebates. Better communication and increased incentives were also suggested in CY 2020.

Energy Use Motivations

All Insulation and Air Sealing survey respondents rated statements about attitudes concerning energy use on a scale of 1 to 5, where 1 meant *strongly disagree* and 5 meant *strongly agree*. The statements that received the highest levels of agreement were "I try to save energy to lower my energy bill" (97% rated 4 or 5, n=218), "Energy efficient improvements increase my home's comfort" (85% rated 4 or 5, n=221), and "It is important to conserve resources to be more environmentally friendly" (84% rated 4 or 5, n=220). These were also the statements that received the highest level of agreement in CY 2020. Also similar to CY 2020, over half of respondents (59%, n=219) *strongly* or *somewhat agreed* with the statement that they wish Focus on Energy would offer more options to help manage energy usage. Figure 74 shows the overall average level of agreement for each energy-use statement.

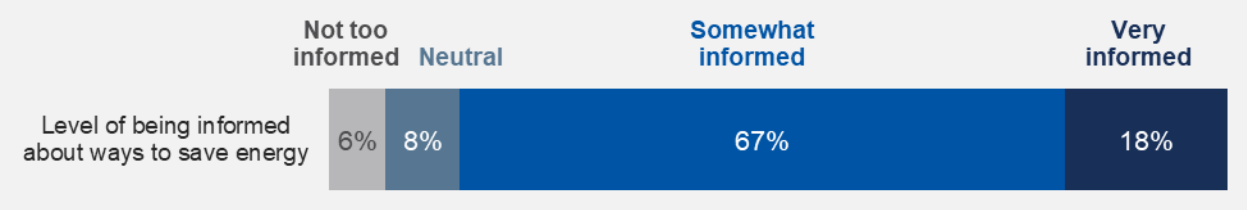
Figure 74. Level of Agreement with Energy-Use Statements



Source: CY 2024 Insulation and Air Sealing Participant Survey: "How much do you agree with the following statements?"

When asked about how informed they felt about all the ways they can save energy, 86% of all survey respondents reported they felt s*omewhat* or *very informed*, 8% felt *neutral*, and 6% felt *not too informed.* None of the respondents felt *not at all informed* (Figure 75).

Figure 75. How Informed Participants Feel About How to Save Energy

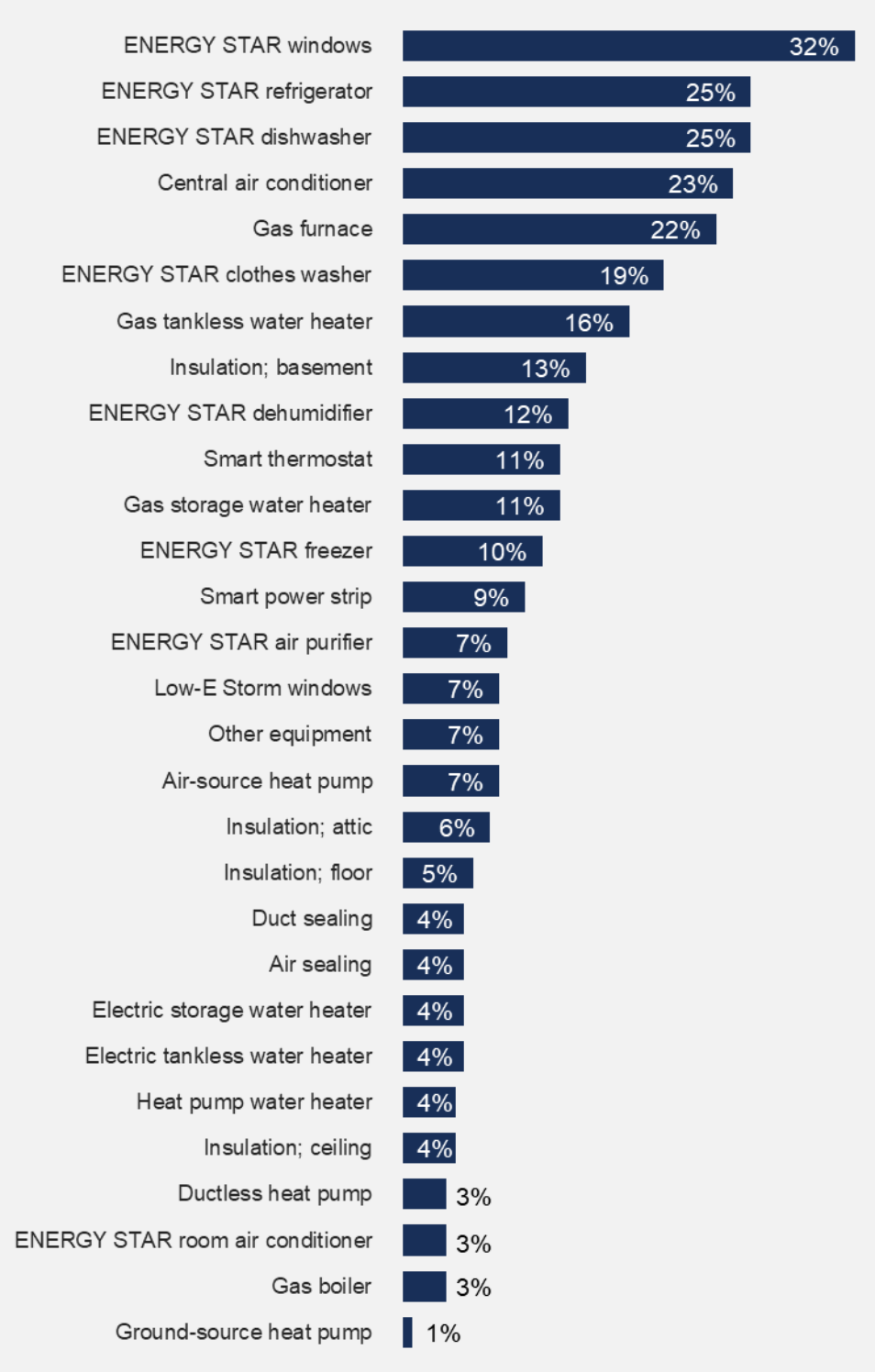


Source: CY 2024 Insulation and Air Sealing Participant Survey: "How informed do you feel about all the ways you can save energy, including buying and using energy-efficient appliances and equipment?" (n=221)

Eighty-one percent of all survey respondents (n=221) said they pay *a fair amount* or *very close attention* to the energy usage in their homes. When asked about planned energy improvements, 74% of all participants said they plan to make specific energy improvements to their homes in the next five to 10 years, while the remaining 26% were unsure.

As shown in Figure 76, of those respondents who planned to make specific energy improvements, the top three energy improvements respondents planned to make were ENERGY STAR windows (32%), ENERGY STAR refrigerators (25%), and ENERGY STAR dishwashers (25%).

Figure 76. Planned Energy Improvements



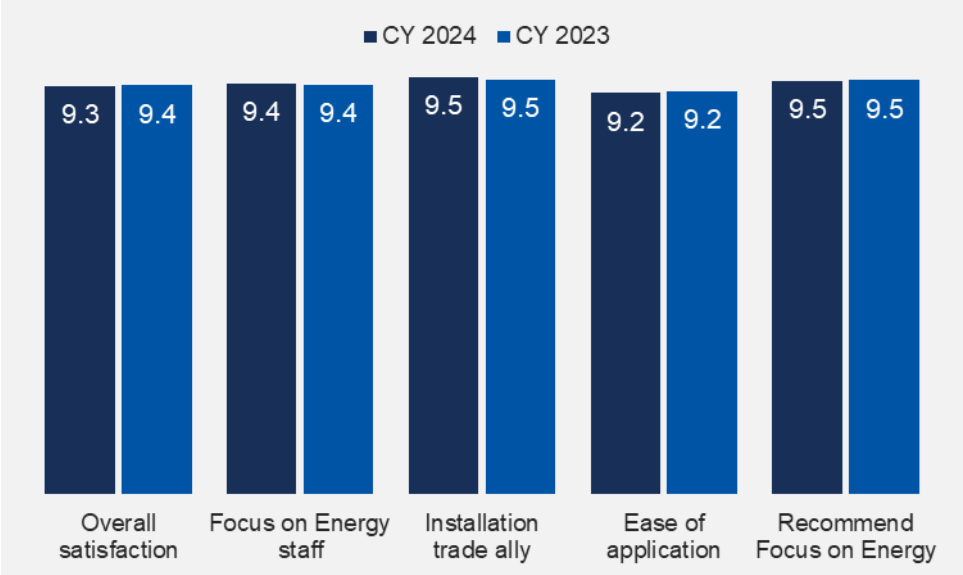
Source: CY 2024 Insulation and Air Sealing Participant Survey: "What other energy improvements do you plan to make to your home over the next 5 to 10 years? Select all that apply." (n=162)

Ongoing Participant Satisfaction Surveys

Throughout CY 2024, the Trade Ally Solutions administrator invited participants in the three main offerings to take a web-based satisfaction survey (Trade Ally Solutions survey respondents). The administrator also surveyed customers who received rebates for purchasing smart thermostats through retailers (Retail Smart Thermostat respondents). Respondents to both surveys answered questions related to satisfaction and the likelihood to recommend Focus on Energy on a scale of 0 to 10, where 10 indicated the highest degree of satisfaction or likelihood to recommend and 0 the lowest.[14]

As Figure 77 shows, Trade Ally Solutions survey respondents gave the offerings they participated in an average overall satisfaction rating of 9.3 in CY 2024, which was statistically equivalent to the average rating of 9.4 in CY 2023. From CY 2023 to CY 2024, participants gave high average satisfaction ratings across all program aspects. The lowest-rated program aspect was 9.2 for ease of filling out and submitting the application, which is still considered high satisfaction.

Figure 77. CY 2024 Trade Ally Solutions Satisfaction Ratings



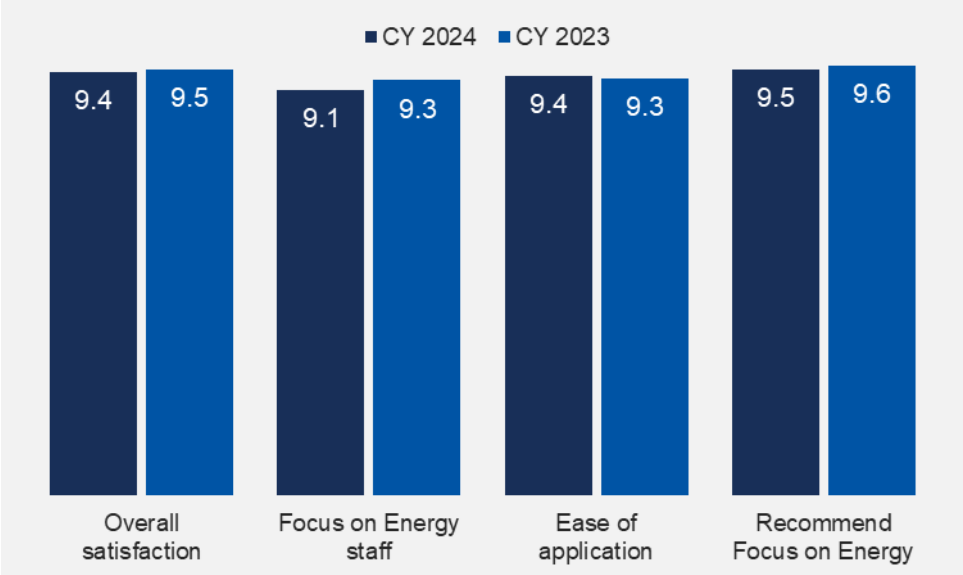
Source: Trade Ally Solutions Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=1,007; CY 2023 n=1,180). "How satisfied are you with the Focus on Energy staff member who assisted you with your project?" [15] (CY 2024 n=378; CY 2023 n=406). "How satisfied are you with the contractor(s) that you worked with on this project?" (CY 2024 n=939; CY 2023 n=1,111). "How satisfied are you with the ease of submitting your rebate application?" (CY 2024 n=995; CY 2023 n=1,172). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=1,006; CY 2023 n=1,178).
None of the differences between years are statistically significant.

[14] The number of participants who completed a survey does not always match the number of responses for each question because some participants skipped or did not know the answers to questions.

[15] All surveys gave respondents the opportunity to rate staff, though they were not required to give a rating since their participation in an offering may not have involved any contact with staff.

As Figure 78 illustrates, CY 2024 Retail Smart Thermostat respondents were highly satisfied, giving the offering an average overall rating of 9.4, which is statistically equivalent to the average rating of 9.5 in CY 2023. From CY 2023 to CY 2024, participants gave high average satisfaction ratings across all program aspects. The lowest average satisfaction rating in CY 2024 was for Focus on Energy staff at 9.1, though only 20 of 138 survey respondents offered ratings for staff (most participants in this offering do not interact with staff).

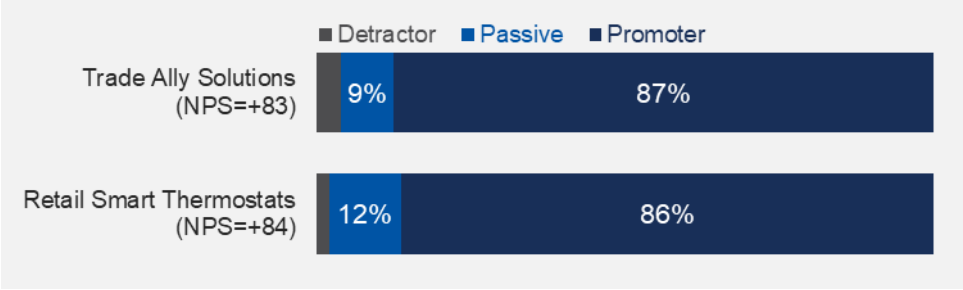
Figure 78. CY 2024 Retail Smart Thermostats Satisfaction Ratings



Source: Retail Smart Thermostats Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=138; CY 2023 n=222). "How satisfied are you with the Focus on Energy staff member who assisted you with your application?" (CY 2024 n=20; CY 2023 n=43). "How satisfied are you with the ease of submitting your rebate application?" (CY 2024 n=137; CY 2023 n=221). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=138; CY 2023 n=220). None of the differences between years are statistically significant.

CY 2024 participants gave high ratings for their likelihood to recommend Focus on Energy, averaging 9.5 for both Trade Ally Solutions and Retail Smart Thermostats. Using these survey data, the evaluation team calculated an NPS based on customers' likelihood to recommend Focus on Energy. The NPS is expressed as an absolute number between -100 and +100 that represents the difference between the percentage of promoters (respondents giving a rating of 9 or 10) and detractors (respondents giving a rating of 0 to 6). Trade Ally Solutions NPS of +83 in CY 2024 was equivalent to the CY 2023 score of +84. The NPS for Retail Smart Thermostats was also high, at +84 in CY 2024, which is similar to the score of +86 it received in CY 2023. Net promoter scores and the distribution of promoters and detractors for CY 2024 are shown in Figure 79.

Figure 79. CY 2024 Trade Ally Solutions and Retail Smart Thermostats Net Promoter Scores

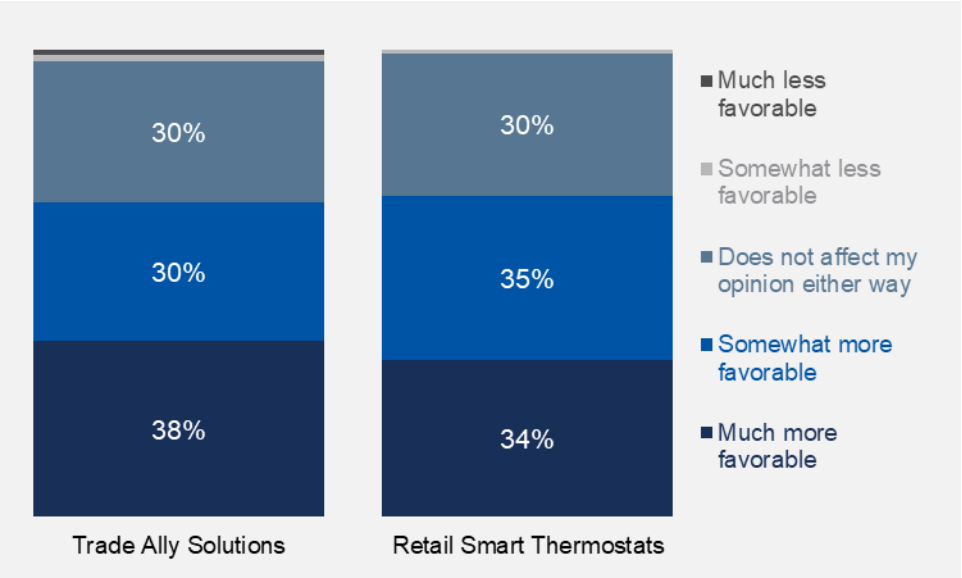


Source: CY 2024 Trade Ally Solutions and Retail Smart Thermostats Participant Satisfaction Survey Question: "How likely are you to recommend Focus on Energy to others?" (Trade Ally Solutions n=1,006; Retail Smart Thermostats n=138). Note: Unlabeled segments represent 4% or less of respondents.

Most respondents were aware that the offering in which they participated was delivered in partnership with their local utility before receiving the satisfaction survey. Sixty-one percent (n=1,000) of Trade Ally Solutions survey respondents were aware of the utility partnership in CY 2024, which aligns with the awareness of respondents in CY 2023 (62%, n=1,174). Among Retail Smart Thermostat respondents, 72% (n=138) were aware of the utility partnership in CY 2024, similar to the previous year (73%, n=221).

Surveys asked participants if Focus on Energy offerings affected their opinion of their utilities (Figure 80), and 68% of Trade Ally Solutions and 69% of Retail Smart Thermostat respondents reported that their opinion had become *much more favorable* or *somewhat more favorable*. Very few respondents indicated that their opinion of their utility became less favorable; for both offerings, only 1% or 2% of respondents' opinions became *much less favorable* or *somewhat less favorable*.

Figure 80. Trade Ally Solutions' Influence on Participants' Opinions of Utilities



Source: CY 2024 Trade Ally Solutions and Retail Smart Thermostats Participant Satisfaction Survey Question: "How have these offerings affected your opinion of your energy utility, if at all?" (Trade Ally Solutions n=925, Retail Smart Thermostats n=128). Note: Unlabeled segments represent 1% or less of respondents.

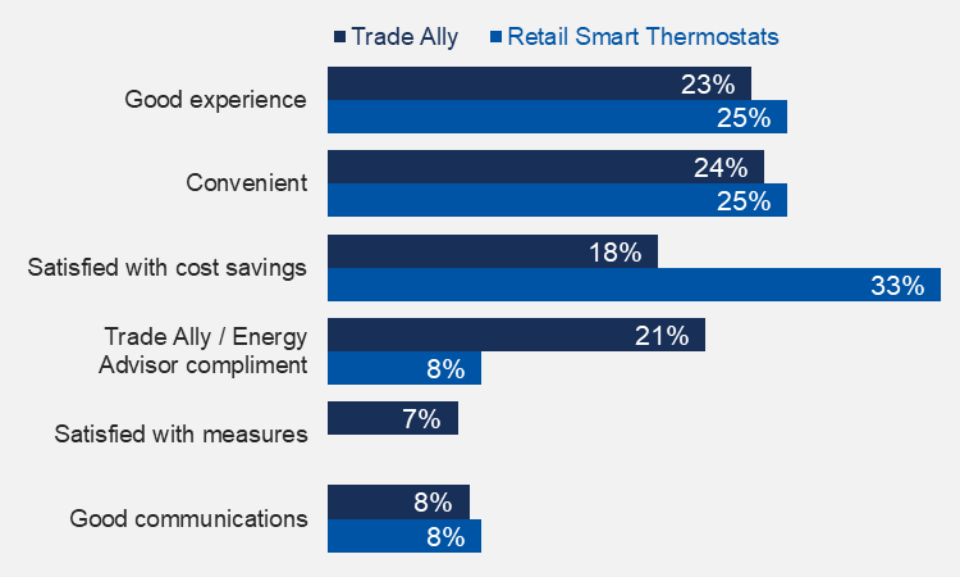
Participant Feedback and Suggestions for Improvement

The customer satisfaction survey asked participants if they had any comments or suggestions for improving Trade Ally Solutions. Of the 1,010 participants who responded, 24% provided open-ended feedback, which the team coded into a total of 303 mentions. Of these mentions, 156 were positive or complimentary comments (51%), and 147 were suggestions for improvement (49%). Of the 138 participants who responded to the Retail Smart Thermostat survey, 17% provided open-ended feedback, which the team coded into a total of 26 mentions. Of these mentions, 12 were positive or complimentary comments (46%), and 14 were suggestions for improvement (54%).

The most common responses from Trade Ally Solutions respondents reflected a generally good experience (23%), the convenience and simplicity of participating in the offerings (24%), and good experiences with trade allies and staff (21%), consistent with previous years. Among Retail Smart Thermostat respondents, the most common positive comments reflected satisfaction with cost and energy savings (33%), as well as ease and convenience, and a generally positive experience (both 25%).

Figure 81 summarizes the positive responses for both surveys.

Figure 81. Trade Ally Solutions and Retail Smart Thermostats—Positive Comments



Source: Trade Ally Solutions and Retail Smart Thermostats Participant Satisfaction Survey Question: "Please tell us more about your experience and any suggestions for improvement."
(Total positive mentions Trade Ally n=156, Retail Smart Thermostats n=12)

When asked for suggestions for improvement, the most common suggestion from Trade Ally Solutions respondents was to improve communications about the offering (38%), which was also the most common suggestion in CY 2023 (33%). Reducing delays for rebate payments was the second-most frequently mentioned suggestion in CY 2024 (19%) and in CY 2023 (22%).

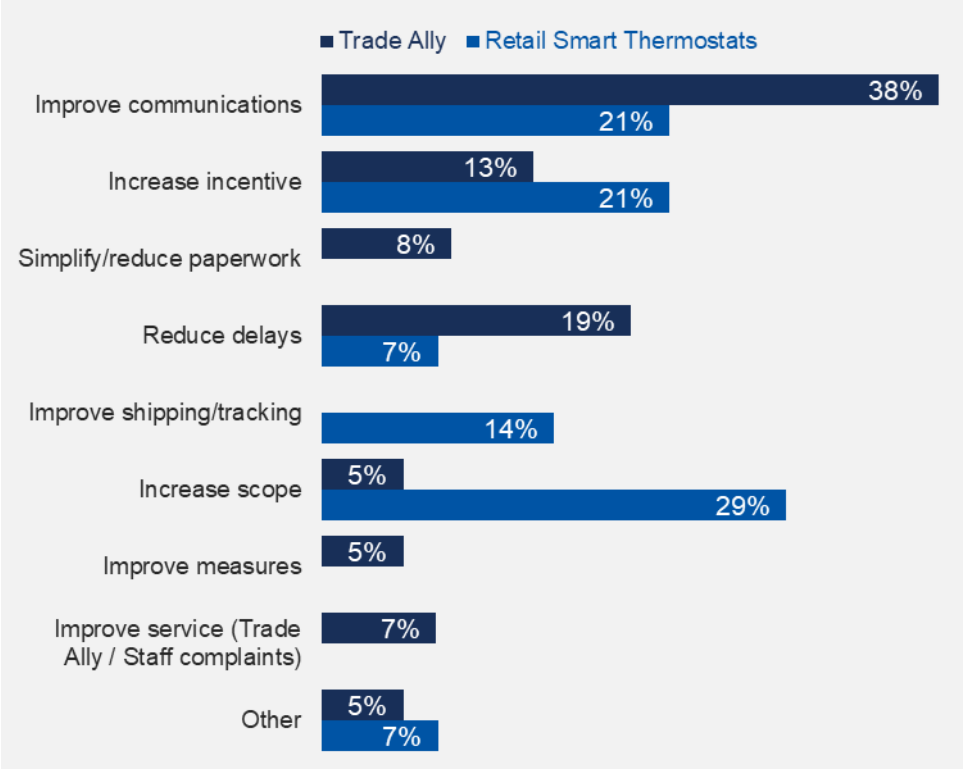
Retail smart thermostat respondents in CY 2024 most often suggested increasing the scope of offerings (29%) to include more kinds of efficient equipment. In CY 2023, their most common suggestions had been to improve communications and reduce delays with rebate payments (23% for both). Improving communications remained a common suggestion in CY 2024 (21%), but only 7% mentioned delays in rebate payments.

Suggestions about improving communications typically focused on follow-up communication about rebate applications, amounts, and qualifications. Other common themes included requests for more information about saving energy, specific technologies, and more promotion for Focus on Energy offerings.

Most suggestions to increase the scope of offerings were general, though some specific requests included incentives for EV chargers, solar panels, induction cooktops, and special offers for home-based businesses.

Figure 82 summarizes the suggestions for improvement from both surveys.

Figure 82. Trade Ally Solutions and Retail Smart Thermostats—Suggestions for Improvement

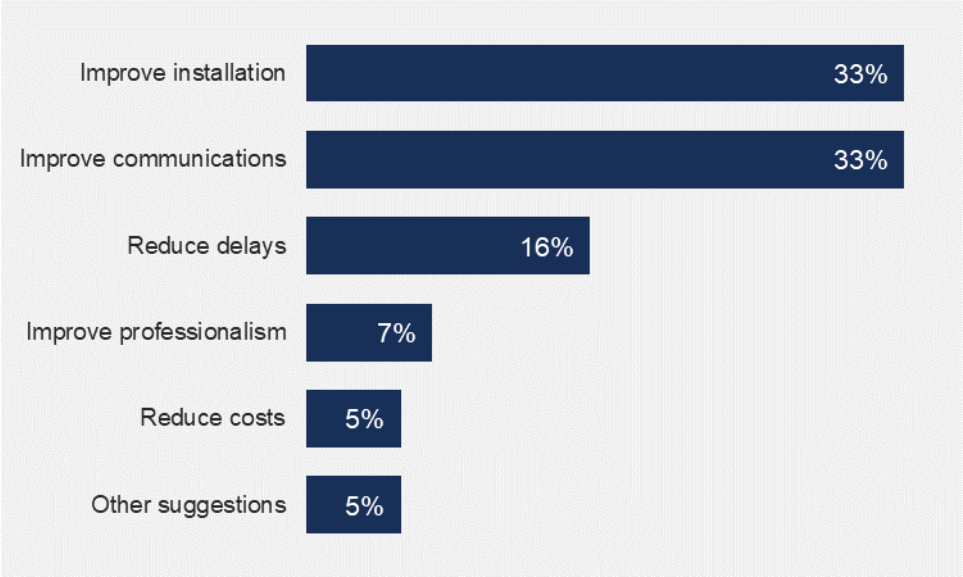


Source: CY 2024 Trade Ally Solutions and Retail Smart Thermostats Participant Satisfaction Survey. "Please tell us more about your experience and any suggestions for improvement."
(Total suggestions for improvement mentions Trade Ally n=147, Retail Smart Thermostats n=14).

The customer satisfaction survey also asked respondents if they had any feedback on their experience with the trade allies who worked on their project. The majority of these comments praised the contractors for doing a good job, consistent with their high average satisfaction rating of 9.5 for the contractors who performed the installations. Fifty respondents (5% of participants surveyed) who rated their installation contractor an 8 or less out of 10 provided suggestions for improvement, which the evaluation team coded into 57 mentions. The most common issues in CY 2024 involved problems with communications and with the installation work performed (each 33% of mentions), which were also the most common issues mentioned by CY 2023 respondents. Suggestions about communications frequently focused on providing more follow-up after installation, more information on equipment options and operation, and better communications about incentive applications. Suggestions to improve installation processes mainly related to installations that were not completed properly and required additional work, damage to homes caused by installers, and installers not cleaning up the worksite upon completion.

Figure 83 summarizes respondents' suggestions for improving the contractor experience.

Figure 83. Trade Ally Solutions — Suggestions for Improving Contractor Experience



Source: Trade Ally Solutions Participant Satisfaction Survey Question: "Please tell us more about your experience with the contractor(s) you worked with on this project. Any feedback provided shall remain anonymous." (Total suggestions for improvement mentions by respondents who rated their contractor 8 or less out of 10: n=57).

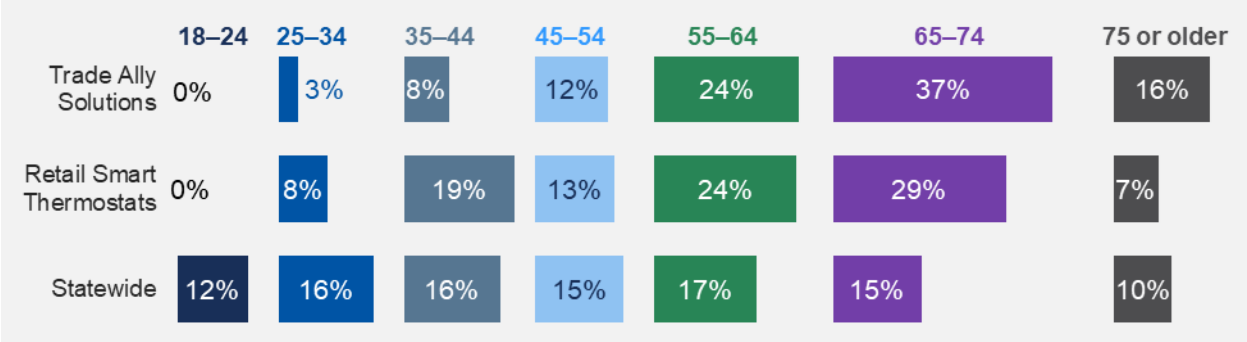
Demographics

The customer satisfaction survey asked respondents for their age and income. The self-reported age distribution of CY 2024 Trade Ally Solutions participants was very similar to the distribution in previous years, with respondents reporting a median age between 65 and 74. Seventy-seven percent of Trade Ally Solutions respondents were age 55 or older, indicating that participants tended to be older than the statewide average (42% age 55 or older). Retail Smart Thermostat respondents also reported age distributions very similar to previous years and tended to be older than the statewide average (60% age 55 or older compared to 42% statewide), although their median age of 55 to 64 was younger than Trade Ally Solutions respondents.

Trade Ally Solutions respondents' self-reported household income distribution was higher in CY 2024 than CY 2023, with a median income between $75,000 and $100,000, higher than the statewide median of $50,000 to $75,000. Retail Smart Thermostat respondents reported an even higher median income between $100,00 and $150,000.

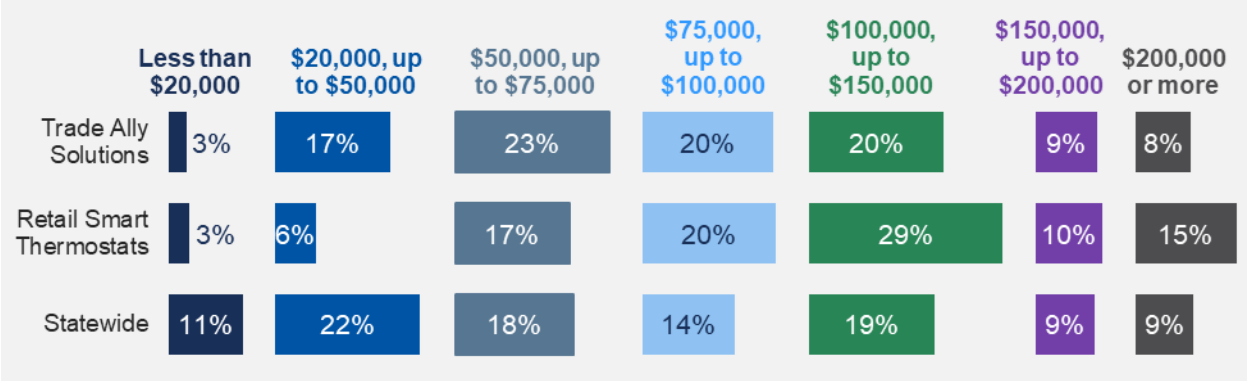
Figure 84 and Figure 85 summarize respondents' age and income, respectively.

Figure 84. Trade Ally Solutions and Retail Smart Thermostats—Participant Age



Source: Trade Ally Solutions and Retail Smart Thermostats Participant Satisfaction Survey Question: "Which of the following categories best represents your age?" (Trade Ally n=982, Retail Smart Thermostats n=135). U.S. Census 2023 ACS, Selected Social Characteristics in the United States.

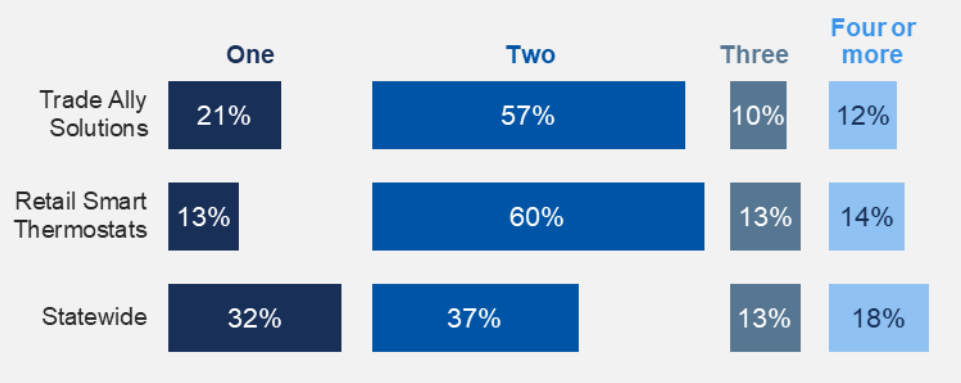
Figure 85. Trade Ally Solutions and Retail Smart Thermostats—Participant Income Level



Source: Trade Ally Solutions and Retail Smart Thermostats Participant Satisfaction Survey Question: "Which category best describes our total household income before taxes?" (Trade Ally n=753, Retail Smart Thermostats n=100). U.S. Census 2023 ACS, Selected Social Characteristics in the United States.

Most respondents lived in two-person households (57% Trade Ally Solutions, 60% Retail Smart Thermostat), which was higher than the statewide rate (37%), as shown in Figure 86.

Figure 86. Trade Ally Solutions and Retail Smart Thermostats—Participant Household Size



Source: CY 2024 Trade Ally Solutions and Retail Smart Thermostats Participant Satisfaction Survey. "Counting yourself, how many people live in your household on a full-time basis today? Please include everyone who lives in your home and exclude anyone just visiting or children who may be away at college or in the military." (Trade Ally n=969, Retail Smart Thermostats n=131).
U.S. Census 2023 ACS, Selected Social Characteristics in the United States.

Insulation and Air Sealing Trade Ally Experience

The evaluation team conducted in-depth interviews with 10 trade allies who participated in the Insulation and Air Sealing offering between January 1 and August 31, 2024. Nearly all (nine out of 10) completed both insulation and air sealing projects during this period, and each of these nine trade allies completed at least twice as many insulation projects as air sealing projects. Interviews aimed to understand trade allies' participation experience, gain insight into their understanding of weatherization markets, and gauge their awareness of federal IRA offerings. Findings from trade ally interviews are detailed in the following sections.

Firmographics

The 10 interviewed trade allies serve mostly urban customers, with seven primarily serving urban customers, two serving an even mix of rural and urban customers, and one primarily serving rural customers. Eight of the 10 trade allies said they generally work in the southeast or south-central part of the state, while the other two said they serve the western areas of Wisconsin.

Seven of 10 trade allies reported having 30 or fewer employees, while the remaining three reported having between 31 and 48 employees. Trade allies reported that the majority of their customers were at the standard-income level, with the highest proportion of low- or limited-income customers being 30%.

Five out of 10 trade allies reported that 100% of the insulation and air sealing projects they complete in Wisconsin meet or exceed the performance standards required by Focus on Energy to qualify for participation. Of the remaining five, two said "most" of the projects they complete meet or exceed the performance standards, one said 50%, and one said that they do not typically participate in Focus on Energy.

Participation and Awareness

When asked why they participate in the Focus on Energy Insulation and Air Sealing Program, four out of 10 trade allies said they do so to help customers receive rebates or reduce project costs, with one noting that the incentive serves as a selling point. Three trade allies said the program benefits their customers by educating them about upgrades or helping them improve their homes. One trade ally mentioned participating to help customers achieve energy savings, while another said they participate because Focus on Energy provides them with valuable education on various aspects of the industry.

When asked which aspects of the program they found most valuable, three trade allies cited customer education, with two also mentioning the importance of working with customers to save energy and money. Two trade allies highlighted the program's role in ensuring projects meet high-quality standards, while another noted that it helps make their customers happy. One trade ally valued its positive impact on home value, another mentioned helping people complete jobs that qualify for incentives, and one emphasized the benefits of energy upgrades and savings.

Nine trade allies reported on the program's impact on their business. Six trade allies said the program has a significant positive impact on their business, two said it helps to some degree, and one said "not sure."

When asked if they had completed any qualified insulation and air sealing projects that were not submitted to Focus on Energy for a rebate, two trade allies said they had. Of these, one clarified, "maybe a couple of projects," some of which were just inquiries with no actual work. The other trade ally said 90%. The other trade ally estimated that 90% of their projects were not submitted, although they noted that this figure could be lower since customers might submit projects independently, and they do not follow up to confirm. When asked why they did not submit more projects for Focus on Energy rebates, this trade ally expressed general dissatisfaction with the program.

When asked about their familiarity with income-qualified rebates, nine of the 10 interviewed trade allies were *familiar* or *very familiar* with income-qualified requirements; one trade ally was *somewhat familiar*. Five trade allies said they were *comfortable* or *very comfortable* discussing the income-qualified program with their customers; four said they were *not very comfortable*, and one did not respond. When asked why they were not comfortable discussing this topic, trade allies gave the following answers:

- Finances are a touchy subject
- Some people think "cheaper" means "lower quality"
- There are too many steps to get the rebate
- Some people have a hard time understanding the process
- Incentives are too low

Payment Process and External Funding Sources

When asked about the payment process and rebate structure, nine out of 10 trade allies said they did not have any complications with the rebate payment process. The remaining trade ally said that training their internal staff can be difficult.

All 10 trade allies said that their customers use other sources of funding besides Focus on Energy, including the following:

- The IRA (four respondents)
- Non-IRA tax credits (two respondents)
- Xcel Energy incentives (one respondent)
- ME2 (one respondent)
- Discounts offered by their business (one respondent)

Participation Barriers

When asked about obstacles to homeowners completing Insulation and Air Sealing projects, seven out of 10 trade allies said that cost was the only barrier. Of the remaining three, one mentioned confusion about what work needs to be done, one mentioned weather/climate and the possibility of selling the home in the near future, and one mentioned the possibility that homes with vermiculite insulation do not participate due to the difficulty of getting it removed.

Regarding barriers for specific customer demographics, three out of 10 said that older homes had more barriers, one said rural populations and older populations were less likely to enroll, and one just indicated that demographic-specific barriers exist without giving details. When asked how other organizations are addressing these barriers, two trade allies mentioned the IRA, and two trade allies mentioned vermiculite removal services.

When asked how Focus on Energy could better serve standard and income-qualified customers, three out of 10 trade allies responded that they did not see any need for improvement. Of the remaining seven, their suggestions included:

- Increase rebates (3 respondents)
- Increase the amount of advertising (1 respondent)
- Follow the design of New York's rebate program (1 respondent)
- Increase the amount of community education (1 respondent)
- Provide a rebate for vermiculite removal (1 respondent)
- Remove the income-qualified track (1 respondent)

Inflation Reduction Act Observations

When asked about their personal familiarity with the IRA, eight out of 10 interviewed trade allies reported being *somewhat* or *very familiar* with it. When asked about their customers' familiarity with the IRA, five trade allies said their customers were aware of it, while the remaining five reported that either a small percentage or none of their customers were familiar with it.

Nine out of the ten interviewed trade allies reported that the IRA has not significantly impacted their 2024 sales. The remaining trade ally mentioned that the IRA has had both positive and negative effects: it has helped by prompting customers to inquire about IRA incentives, but it has also hurt because applying for these incentives causes project delays.

Offering Satisfaction

When asked about their overall satisfaction with the Insulation and Air Sealing offering, nine out of 10 interviewed trade allies said they were extremely satisfied. However, one trade ally expressed extreme dissatisfaction with the program. When asked why, this contractor listed several frustrations with his experience, including a lack of assistance in recertifying as a registered trade ally, customers' reluctance to share their income information, confusion with the website and the application process, turnover among Focus on Energy representatives, and the absence of standards for quality of work.

When asked what Focus on Energy can do to increase their satisfaction, only three trade allies responded, and one response included three elements. Suggestions included the following:

- Give higher rebates (2 respondents)
- Place greater emphasis on energy audits (1 respondent)
- Adopt the New York or Minnesota approach to energy efficiency (no specifics given; 1 respondent)
- Require audits specifically to prevent contractors from improperly installing insulation over vermiculite (1 respondent)

6.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test.

Table 20 lists the CY 2024 incentive costs for Residential Trade Ally Solutions.

Table 20. CY 2024 Residential Trade Ally Solutions Incentive Costs

Offering	Incentive Costs
Insulation and Air Sealing	$2,537,095
Heating and Cooling	$5,158,858
Retail Smart Thermostats	$102,780
Tribal	$345,368
Total	**$8,144,101**

The evaluation team found that the CY 2024 Residential Trade Ally Solutions was cost-effective (.95). Table 21 lists the evaluated costs and benefits.

Table 21. CY 2024 Residential Trade Ally Solutions Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$401,662
Delivery Costs	$4,348,889
Incremental Measure Costs	$21,387,204
Total Non-Incentive Costs	**$26,137,755**
Benefits	
Electricity Benefits (kWh)	-$1,342,175
Capacity Benefits (kW)	$3,307,788
T&D Benefits (kW)	$946,239
Gas Benefits	$16,213,734
Emissions Benefits	$5,590,467
Total TRC Benefits	**$24,716,054**
Net TRC Benefits	**-$1,421,701**
TRC Benefit/Cost Ratio	**0.95**

6.5. Outcomes and Recommendations

The evaluation team presents the following outcomes and recommendations based on the CY 2024 evaluation.

Outcome 1. For some furnaces in the CY 2024 evaluation, *ex ante* applied 2023 TRM deemed savings, while verified savings used 2024 TRM values for all furnaces, resulting in low realization rates for income-qualified furnaces and high realization rates for standard-income furnaces.

Recommendation 1. To improve accuracy in savings estimates and avoid discrepancies in realization rates, ensure timely alignment with the current program year's TRM. Review and update projects that transition between calendar years promptly to reflect the most current deemed savings values.

Outcome 2. Participant awareness of other Focus on Energy programs remains relatively low, which is possibly reflective of differences between participants' actual and preferred awareness channels. Besides learning about the Insulation and Air Sealing rebates from installers, contractors, or trade allies, participants also heard about the rebates through other Focus on Energy programs, the website, and email. However, the most preferred communication channels were the Focus on Energy or utility website, direct mail, and email from Focus on Energy.

Recommendation 2. Prompt applicants to apply for other programs upon submitting their first application. Sending an automatic follow-up email or including a link to other programs after

applications are submitted online will help participants be more aware of other Focus on Energy programs.

Outcome 3. A large majority of Insulation and Air Sealing participants pay close attention to their energy use and plan to make additional efficiency improvements. This presents an opportunity to educate customers about their options for further energy upgrades, promote tools like HiSense smart apps or smart thermostats to help them better understand and control their energy usage, increase awareness of time-of-use rates, support informed decision-making, and encourage engagement with other Focus on Energy programs.

Recommendation 3. Enhance existing program communications to capitalize on participants' desire to understand their energy use and future efficiency improvements. Emphasize actionable steps for continued savings in education materials, including the benefits of smart technologies like HiSense smart apps and smart thermostats. Collaborate with utility partners to promote ways for customers to better understand their usage and include clear, accessible information on time-of-use rates in program outreach, helping customers understand how shifting their energy use can lower costs. Additionally, highlight other relevant Focus on Energy offerings in promotional material to encourage continued engagement and deeper participation across programs.

Outcome 4. High participant satisfaction continued through CY 2024, with survey results from both Trade Ally Solutions and Retail Smart Thermostat participants showing consistently strong ratings across all program aspects and an overall satisfaction score of 9.3, which is similar to CY 2023 (9.4). However, in addition to expressing high satisfaction, participants also identified areas for improvement, most commonly citing a need for better communication and follow-up. Trade Ally Solutions respondents emphasized the need for improved communication (38%), particularly regarding follow-up on rebate applications, amounts, and qualifications. Retail Smart Thermostat participants also suggested better communication (21%), focusing on clearer and more frequent updates about rebates and energy-saving opportunities.

Recommendation 4. To address commonly cited areas for improvement, prioritize enhancing communication with participants. Specifically, improve follow-up on rebate applications, including status updates, rebate amounts, and eligibility requirements, to respond directly to participant feedback. Additionally, providing more detailed and accessible information about energy savings and program qualifications, along with increasing promotional efforts across channels, will help raise awareness of available offerings and ensure participants are fully informed and engaged throughout their experience with Focus on Energy.

Outcome 5. Although Focus on Energy rolled out a new income-qualified tool in CY 2024 to encourage contractor engagement and raise awareness among potential participants, uncomfortable income discussions are still preventing trade allies from promoting income-qualified incentives. Similar to findings in the CY 2023 Heating and Cooling contractor survey, four out of 10 CY 2024 Insulation and Air Sealing trade allies said they were uncomfortable discussing income levels with customers, which prevented some from presenting the income-qualified incentives to potentially eligible customers.

Recommendation 5. Gather feedback from trade allies about their awareness of the tool and whether they directed participants to the tool in CY 2024 and future evaluation years. Continue using the following strategies to promote the tool:

- Provide trade allies with leave-behind materials that highlight income-qualified incentives and direct customers to the income-qualified tool. This will help trade allies inform customers about the opportunity, but avoid an uncomfortable income discussion.
- In trade ally trainings, introduce the new tool and explain how it can help trade allies avoid uncomfortable income discussions with their customers.
- Advertise the new tool as a way to elevate awareness of income-qualified incentives. Messaging can highlight how the new tool makes it easier than ever to receive higher incentives and increase a home's efficiency.

7. NONRESIDENTIAL PROGRAMS

This section presents the evaluation results for CY 2024 for these nonresidential programs and their offerings by chapter.

Agribusiness Program

- Agribusiness

Business and Industry Program

- Commercial and Industrial
- Energy Design Assistance/Energy Design Review

Large Industrial Program

- Large Industrial
- Energy Design Assistance/Energy Design Review

Schools and Government Program

- Schools
- Government
- Energy Design Assistance/Energy Design Review

Nonresidential Cross-Cutting Research

- Trade Ally Response to the Trade Ally Bonus
- Non-Energy Benefits for Program Participants

8. Agribusiness Program

Through the Agribusiness Program, Focus on Energy offers technical assistance and prescriptive and custom incentives to businesses engaged in growing and producing grain, livestock, milk, poultry, fruits, vegetables, bees and honey, fish, shellfish, or other common agricultural products. Processors of agricultural products, such as grain elevators, feed mills, or cheese producers, are not classified as agricultural production and are served through other nonresidential programs. Prior to CY 2023, Focus on Energy included Agribusiness incentives as an offering under the Business and Industry Program. Beginning in CY 2023, with the start of a new quadrennium, Focus on Energy moved the offering for these customers into a separate program. The program is administered by APTIM and implemented by CESA 10.

The Agribusiness Program consists of one primary offering to agricultural businesses, which comprises prescriptive and custom incentives. New construction projects are also eligible for prescriptive and custom incentives. In addition to the prescriptive and custom incentives, the program provides secondary participation opportunities:

- **Project Assessment Incentive (January 2014-Present):** The project assessment incentive (PAI) provides customers with the opportunity to cost-share the development or engineering of complex energy-saving projects where energy savings are not immediately known. In CY 2024, the incentive was available to all Agribusiness customers and covered 50% of the assessment costs or 20% of the estimated annual energy cost savings, up to $15,000. This represents an increase of $7,500 compared to CY 2023. This opportunity requires pre-approval by Focus on Energy.
- **Dairy Refrigeration Tune-Ups (April 2022-Present):** Registered trade allies may perform tune-ups at dairy farms of all sizes to ensure refrigeration equipment is operating at peak efficiency. In CY 2023, trade allies received 100% of the tune-up cost, up to $40 per compressor, to pass on to the customer. Trade allies and customers are encouraged to conduct tune-ups annually.
  - **Grain Dryer Tune-Ups:** Grain Dryer Tune-Ups were originally launched in 2021 and were re-launched in 2023 with the trade ally passing on the incentive to the customer. Starting in June 2023, registered trade allies may perform tune-ups on grain dryers to ensure equipment is operating at peak efficiency. In CY 2024, trade allies received 100% of the tune-up cost, up to $100 per dryer, to pass on to the customer. Trade allies and customers are encouraged to conduct tune-ups annually. Trade allies had to be registered to receive the bonus, though not prior to completing the tune-up.
  - **Compressed Air Survey:** Starting in August 2023, registered trade allies may perform a compressed air leak survey and repair audible leaks at dairy farms that are customers of a participating electric utility to ensure equipment is operating at peak efficiency. Prior to CY 2023, trade allies could apply for the compressed air offering. In CY 2024, trade allies received 100% of the survey and leak repair costs, up to $200 per air compressor system, to pass on to the customer. Eligible customers may participate in this incentive once per year.

Trade allies had to be registered to receive the incentive, though not prior to completing the survey.

- **Pump Assessment and Variable-Speed Drive Bonus (January 2021-Present):** The pump assessment identifies pumping system inefficiencies within municipal water, wastewater, and agriculture irrigation systems. In CY 2024, agricultural customers who purchase pumps of 40 horsepower or greater could receive an incentive equal to 100% of the assessment cost, up to $500, per pump assessed. Participants could additionally receive a 50% bonus for any variable-speed drive pumps installed as a result of the pump assessment (up to $2,000).

Table 77 summarizes the performance and savings impacts of the Agribusiness Program in CY 2024.

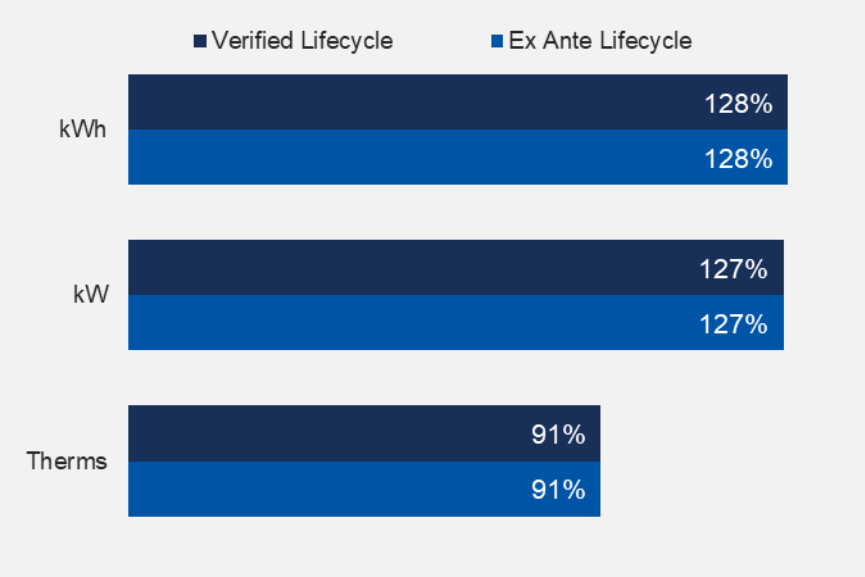
Table 77. CY 2024 Agribusiness Program Summary

Item	Units	CY 2024
Incentive Spending	$	$2,098,173
Participation	Number of Participants	803
Verified Gross Lifecycle Savings	kWh	500,428,759
	kW	4,478
	therms	5,241,071
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	78%
Net Annual Savings	kWh	25,650,244
	kW	3,493
	therms	247,170
Net Lifecycle Savings	MMBtu	1,740,625
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	4.77

8.1. Achievement Against Goals

In CY 2024, the Agribusiness Program achieved 128% of its electric energy savings goal, 127% of its peak demand savings goal, and 91% of its therms savings goal based on verified lifecycle savings at the program level. Figure 87 summarizes these results.

Figure 87. CY 2024 Agribusiness Program Achievement of Gross Lifecycle Savings Goals



Note: 100% *ex ante* gross lifecycle savings reflect the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

8.2. Impact Evaluation

This section presents the findings from the CY 2024 impact evaluation of the Agribusiness Program.

Impact Evaluation Methodology

The evaluation team designed its CY 2024 impact evaluation, measurement, and verification approach to integrate multiple perspectives into its assessment of program performance. The team used the following approaches to measure the impact of the Agribusiness Program:

- Tracking database review
- Engineering desk reviews
- Virtual verification site visits and interviews
- Engineering savings calculations
- Participant surveys

Table 78 lists the specific sample sizes used for the impact evaluation of the Agribusiness measures. A discussion with additional details about these activities and their findings follows.

Table 78. CY 2024 Agribusiness Program Impact Evaluation Activities and Sample Sizes

Total Measures	Impact Evaluation Sample		
	Desk Reviewed Measures	Virtually Verified Measures	% Sampled (by *Ex Ante* MMBtu savings)
2,374	45	22	7.1%

[a] Total measure count includes one Farmhouse Kit that was carried over from the CY 2023 offering. The evaluation team did not sample Farmhouse Kits as part of the standard desk review process. Instead, the team calculated verified savings using deemed savings in the 2024 TRM.

Engineering Desk Reviews

The evaluation team reviewed all available project documentation in SPECTRUM for a sample of 45 measures offered through the CY 2024 Agribusiness Program. This review included an assessment of the implementer's savings calculations and methodology. The team relied on the applicable TRM and other relevant secondary sources as needed. Secondary sources included energy codes and standards, case studies, and energy efficiency program evaluations of comparable measures (based on geography, sector, measure application, and date of issue).

For prescriptive measures, the team used the Focus on Energy 2024 TRM and associated work papers as the primary sources to determine methodology and data in nearly all cases. For hybrid and custom measures, the team reviewed the SPECTRUM savings analysis workbooks and adjusted inputs and methodologies as necessary based on engineering judgment and project documentation.

To conduct the impact analysis of the program, the evaluation team selected a representative sample of measures to evaluate and then extrapolated the random sample findings to the larger population. In CY 2024, this process used purposive and proportional sampling by the following process:

- **Census sampling** selected the measures with the largest savings by offering (called census measures) and used a percentage distribution analysis to determine the threshold of savings, since this varied by offering. The census sample included most measures larger than 5% of the program's lifecycle MMBtu savings. Because these measures were sampled with certainty (100% of eligible highest saving measures were sampled), the team did not extrapolate the results to the offering's population.
- **Random sampling** randomly selected measures from the offering's measure population (called randomly sampled measures). The team stratified the population by reported savings, fuel type, and potentially measure type to ensure the overall representativeness of the sample selected and then extrapolated the cumulative realization rate of randomly sampled measures by offering to the remainder of each offering's population.

Virtual Verification Site Visits

The evaluation team conducted 22 virtual verification site visits, including interviews with the site contact. Virtual site visits were conducted for sampled measures where the savings impact was high, the measure type was either hybrid or custom, or when there were outstanding questions and clarification needed to complete the evaluation of the measure. The evaluation team verified the type and quantity of equipment installed, determined how the installed equipment is controlled, and documented the operating hours of the installed equipment. The team then verified the savings calculation input parameters based on operational and occupancy schedules, reported and observed setpoints, trend data, utility data, and any other relevant details identified before contact with the site.

Verified Gross Savings Results for the Agribusiness Program

Table 79 lists the first-year and lifecycle realization rates for the CY 2024 Agribusiness Program. Table 80 lists verified first-year and lifecycle savings for the program. The sampled projects represent 7% of the program lifecycle MMBtu savings. Overall, the program achieved a first-year evaluated realization rate

of 100%, weighted by total energy savings (MMBtu). Note that at the measure level, there was variability between fuel types in terms of the realization rates. The team determined realization rates by strata, such as census and sample strata, and summed reported and verified savings at the offering level to arrive at savings and realization rates. Detailed findings, including factors affecting the realization rates, are discussed in the next section of this chapter.

Table 79. CY 2024 Agribusiness Program First-Year and Lifecycle Realization Rates

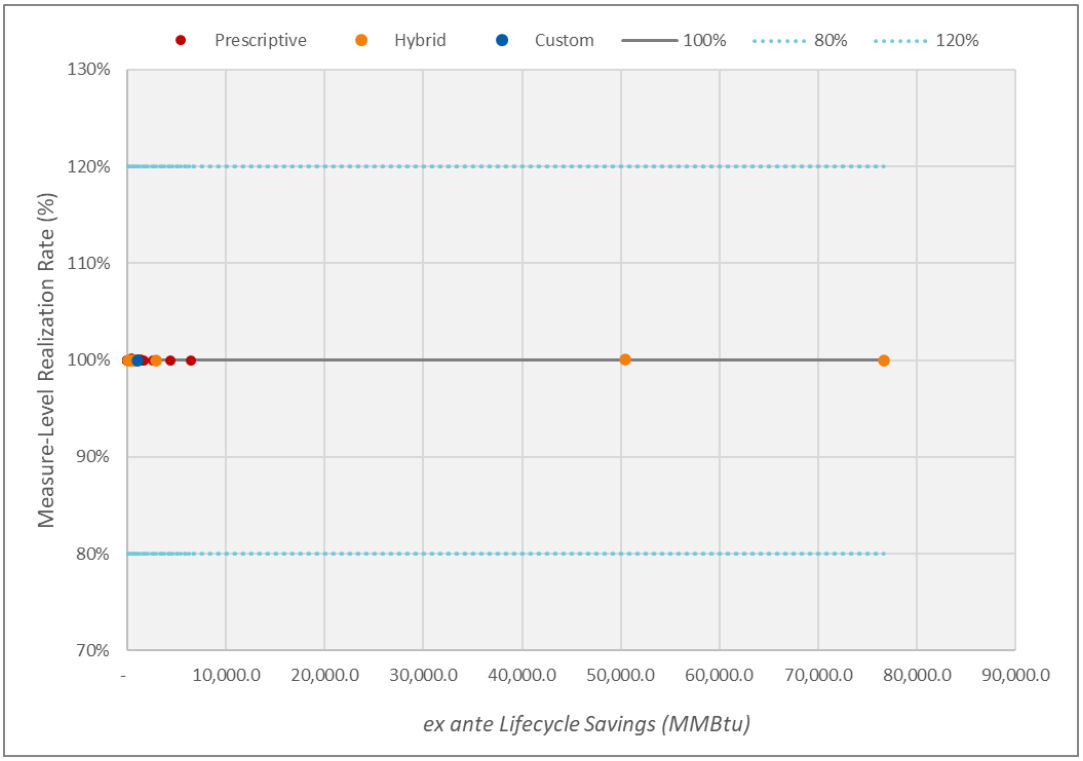
First-Year Realization Rate				Lifecycle Realization Rate		
kWh	kW	therms	MMBtu	kWh	therms	MMBtu
100%	100%	100%	100%	100%	100%	100%

Table 80. CY 2024 Agribusiness Program First-Year and Lifecycle Verified Energy Savings Summary

Verified First-Year Savings				Verified Lifecycle Savings		
kWh	kW	therms	MMBtu	kWh	therms	MMBtu
32,884,928	4,478	316,885	143,892	500,428,759	5,241,071	2,231,570

Figure 88 illustrates the magnitude of and associated lifecycle realization rates for reported MMBtu savings of the sampled projects within the Agribusiness Program.

Figure 88. CY 2024 Agribusiness Program Sampling Results



Several sampled measures deviated very slightly in first-year realization but rounded to 100% lifecycle MMBtu realization. The following describes the main factors affecting the realization rate:

- The team made adjustments to nine randomly selected prescriptive measures that had very slight rounding errors made in the *ex ante* calculations. The resulting verified MMBtu realization rate rounded to 100% for all of these measures.
- The team made an adjustment to the MMID utilized for one measure based on the specified existing lighting fixture and replacement lighting fixture wattage and lumen output values. The alternative MMID used to verify savings resulted in reduced first-year demand savings, first-year kWh savings, and lifecycle kWh savings. However, the impact was balanced by a longer effective useful life associated with the alternative MMID, resulting in a net effect of 100% verified lifecycle MMBtu realization for this project.

In CY 2023, Focus on Energy distributed Farmhouse Kits through the Agribusiness Program. The CY 2024 data accounted for one Farmhouse Kit that was carried over from CY 2023. The evaluation team applied results from the CY 2023 evaluation to this single kit.

Verified Net Savings Results for the Agribusiness Program

The evaluation team used CY 2023 participant survey results to assess net savings for the CY 2024 Agribusiness Program. For the one Farmhouse Kit, the team applied the NTG ratio from the CY 2020 Packs offering within the Direct to Customer Program.

To calculate the NTG for each offering in CY 2024, the team combined the self-reported freeridership and participant spillover results using the following equation:

$$NTG = 1 - Freeridership\ Ratio + Participant\ Spillover\ Ratio$$

Table 81 shows the NTG ratios applied to the CY 2024 Agribusiness Program.

Table 81. CY 2024 Agribusiness Program NTG Ratios by Offering

Offering	Freeridership	Spillover	NTG Ratio
Agribusiness	22%	0%	78%
Farmhouse Kits	20%	10%	90%

Table 82 shows the total lifecycle gross verified savings, lifecycle net savings, and final NTG ratio for the Agribusiness Program in CY 2024.

Table 82. CY 2024 Agribusiness Program Lifecycle Net Savings and NTG

Total Lifecycle Gross Verified Savings (MMBtu)	Total Lifecycle Net Savings (MMBtu)	NTG Ratio
2,231,570	1,740,625	78%

8.3. Process Evaluation

The CY 2024 nonresidential process evaluation focused largely on cross-cutting evaluation activities across all nonresidential programs, lighting program research, and monitoring ongoing customer satisfaction surveys.

Process Evaluation Methodology

In CY 2024, the evaluation team reviewed and designed its nonresidential process evaluations to understand program changes, monitor customer satisfaction, assess program and trade ally bonus impact across programs, and understand lighting program opportunities.

Table 83 lists the data collection activities and sample sizes for all primary data collection.

Table 83. CY 2024 Agribusiness Program Process Evaluation Activities

Activity	CY 2024 Completes (n)
Program Documentation Review	✓
Ongoing Participant Satisfaction Surveys	17
Participant Surveys (NEBs)	70 across all nonresidential programs
Trade Ally Interviews (bonus)	25 across all nonresidential programs
Lighting Application Review	9 utilities' applications
Midstream Lighting Program Structure Benchmarking	5 program administrators

Program Documentation Review

The evaluation team reviewed the Agribusiness Program's implementation and marketing plans to understand the program structure and how it was implemented in CY 2024. The team also reviewed miscellaneous documentation throughout the year, such as *ad hoc* updates and quarterly performance reports to the PSC from the program administrator, to understand program updates and progress in CY 2024.

Ongoing Participant Satisfaction Survey

Using contact information stored in SPECTRUM, the program administrator oversaw an ongoing web-based satisfaction survey throughout the year to CY 2024 participants. There were two objectives for the satisfaction survey:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help to facilitate timely follow-up with customers to clarify and address service concerns

A total of 17 Agribusiness Program participants responded to the CY 2024 survey. The survey covered several topics, including overall satisfaction, satisfaction with offering staff and trade allies, the likelihood of recommending Focus on Energy, and other feedback.

Cross-Cutting Nonresidential Program Research

In CY 2024, the evaluation team conducted surveys, interviews, and benchmarking that cut across Focus on Energy's nonresidential programs to explore the following research topics:

- **NEBs**. The evaluation team surveyed participating customers about their experience with Focus on Energy, the energy efficiency improvements they implemented, and the NEBs they received from participating in the programs. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Trade Ally Bonuses.** The team interviewed a sample of trade allies across all programs to assess satisfaction and influence of the newly introduced trade ally bonus while also collecting feedback on the current application process, program benefits, and opportunities for improvement. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Lighting Application Materials.** The team reviewed existing lighting incentive program applications for prescriptive and custom measures and their required materials, and identified potential ways to refine the current lighting measure application. The details of the methodologies and findings of this research are described in the Nonresidential Lighting Application Benchmarking research memo.[16]
- **Midstream Program Structure for Nonresidential Lighting**. The evaluation team collected feedback from program administrators on the benefits and challenges of introducing a midstream program to allow direct sales of discounted lighting products through retailers and distributors in addition to the current downstream approach. The details of the methodologies and findings of this research are described in the Nonresidential Midstream Lighting Program Benchmarking research memo.[17]

Program Design and Delivery

Custom and prescriptive incentives are the primary opportunities for participation in the Agribusiness Program; they are intended to reduce the cost of energy efficiency projects. Customers apply directly to Focus on Energy, their trade ally, or the implementer's energy advisors for incentives. They occasionally also go through their utility account representatives.

The Agribusiness Program has three dedicated energy advisors who each cover a geographic region of the state. The energy advisors manage relationships with trade allies and large and repeat customers in their region. They promote program opportunities to trade allies and encourage them to identify customers and projects to expand customer awareness and program participation.

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[16] Cadmus. January 20, 2025. Nonresidential Lighting Application Benchmarking Memo. Prepared for Focus on Energy. https://assets.focusonenergy.com/production/inline-files/Lighting-Application-Benchmarking-Memo_2025.pdf

[17] Cadmus. March 7, 2025. Nonresidential Midstream Lighting Program Benchmarking Memo. Prepared for Focus on Energy. CY-2024-Midstream-Lighting-Research-Memo_Final.pdf

Special Promotions and Incentives

In CY 2024, Focus on Energy offered several bonuses and targeted participation opportunities through the Agribusiness Program:

- **Trade Ally Prescriptive Bonus.** This bonus was developed to encourage trade allies to promote the Focus on Energy program. In CY 2024, the bonus was modified from 25% of the customer incentive or $25 (whichever was larger) to 15% or $30 (whichever was larger) for completed projects. This change aligns the Agribusiness trade ally bonus with the Business sector trade ally bonus. Additionally, when the Agribusiness and Business sectors were aligned in CY 2024, the previous incentive and customer caps in CY 2023 (maximum payment of $7,500 per trade ally and $250 per customer site) were removed. This resulted in many trade allies getting higher incentives, even with the modified percentage of customer incentive passed on to them as a bonus. Trade allies had to be registered to receive the bonus.
- **Custom Design Trade Ally Bonus.** The custom design bonus launched in January 2024 to encourage trade allies to promote the Focus on Energy program during custom project development and increase project savings. In CY 2024, trade allies received a bonus that was 10% of the customer incentive (up to $10,000) for completed projects. Trade allies had to be registered to receive the bonus.
- **Natural Disaster Bonus.** In partnership with the Wisconsin Office of Energy Innovation (OEI) and funded through a federal U.S. Department of Energy State Energy Program Grant, this bonus was available to customers who needed to rebuild their facilities because of a natural disaster. It provided a 25% bonus on top of the program's new construction prescriptive incentives. The Natural Disaster bonus has since been removed from the program offerings as of June 30, 2024.
- **Propane Incentives.** In partnership with the OEI and funded through a federal U.S. Department of Energy State Energy Program Grant, this incentive was developed to fund energy-efficient propane equipment equal to incentives for natural gas equipment. Customers served by a participating electric utility were eligible to receive incentives for installing equipment in CY 2024. The incentive was extended through June 30, 2025.

Ongoing Participant Satisfaction Survey

Throughout CY 2024, the administrator invited Agribusiness participants to take a web-based satisfaction survey. The following sections present survey results from the 17 participants who responded to the survey.

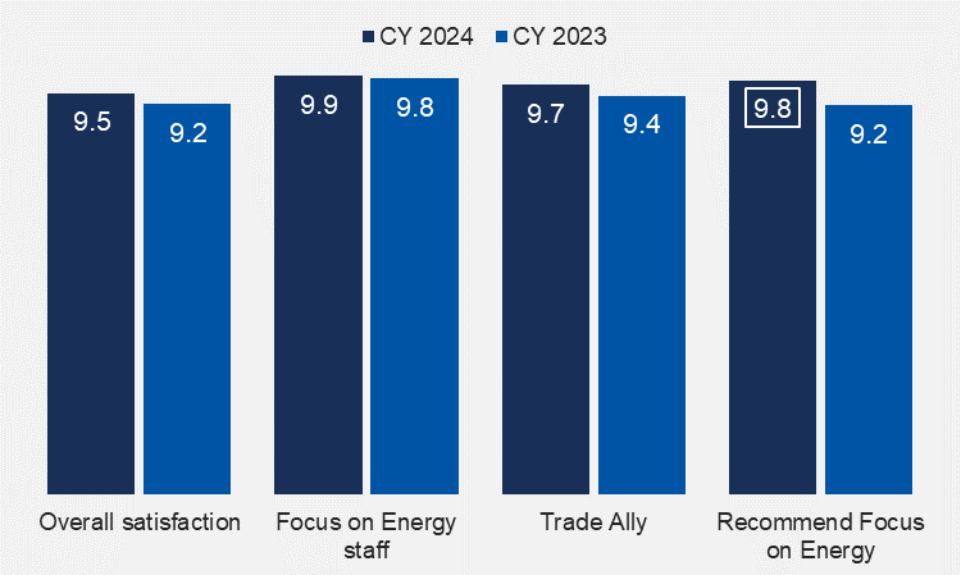
Awareness

The participant satisfaction survey asked respondents how they learned about the Agribusiness Program. In CY 2024, six out of 17 respondents said they learned about it from trade allies, followed by Focus on Energy advisors and staff (five respondents) and previous experience with Focus on Energy offerings (three respondents).

Participant Satisfaction

The survey asked participants to rate their satisfaction with the program and their likelihood of recommending Focus on Energy on a scale of 0 to 10, where 10 indicated the highest degree of satisfaction or likelihood and 0 the lowest. As Figure 89 shows, CY 2024 respondents rated the Agribusiness Program with an average overall satisfaction score of 9.5, statistically equivalent to 9.2 in CY 2023. There was a statistically significant increase in CY 2024 for ratings of the likelihood of recommending Focus on Energy, from 9.2 in CY 2023 to 9.8 in CY 2024.[18]

Figure 89. Agribusiness Program Participant Satisfaction and Likelihood Ratings



Source: Agribusiness Program Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=17; CY 2023 n=33). "How satisfied are you with the Energy Advisor or Focus on Energy staff member who assisted you with your project?" (CY 2024 n=16; CY 2023 n=27). "How satisfied are you with the contractor(s) that you worked with on this project?" (CY 2024 n=15; CY 2023 n=27). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=17; CY 2023 n=33). Boxes around ratings indicate a statistically significant difference between CY 2024 and CY 2023 ($p<0.10$ using t-tests).

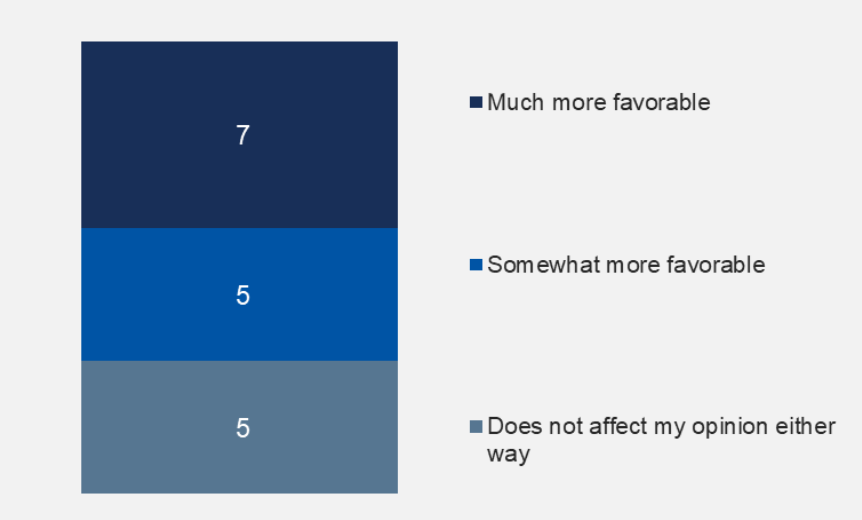
Using the survey data, the evaluation team calculated a NPS based on customers' likelihood to recommend Focus on Energy. The NPS is expressed as an absolute number between -100 and +100 that represents the difference between the percentage of promoters (respondents giving a rating of 9 or 10) and detractors (respondents giving a rating of 0 to 6). High NPS scores (+70 or higher) are theoretically predictive of customer behaviors, such as participating in another offering, implementing additional energy improvements, and referring Focus on Energy offerings to others. The Agribusiness Program's NPS was +100 for CY 2024 based on 17 surveys (all respondents were promoters). Corresponding to the statistically significant increase in CY 2024 for the likelihood rating used to compute NPS (Figure 89), this represented a large increase from +73 for CY 2023, which was the lowest NPS for a nonresidential

[18] The number of participants who completed a survey does not always match the number of responses for each question as some participants skipped or did not know answers to questions.

program that year. In CY 2024, the number of surveys conducted (17) was nearly half of those completed in CY 2023 (33).

Respondents were asked if they were aware that the Agribusiness Program was offered in partnership with their local utility before receiving the satisfaction survey: 15 of 17 were aware of the partnership in CY 2024. Respondents were also asked if Focus on Energy offerings affected their opinion of their utilities. As Figure 90 shows, more than two-thirds of respondents (12 of 17) said that their opinion had become *much more favorable* or *somewhat more favorable,* while none said that their opinion had become *much less favorable* or *somewhat less favorable,* and five said their opinion did not change. This represents an improvement from CY 2023, when only half (50%, n=32) said their opinion became *much more favorable* or *somewhat more favorable*.

Figure 90. Agribusiness' Influence on Participants' Opinions of Utilities

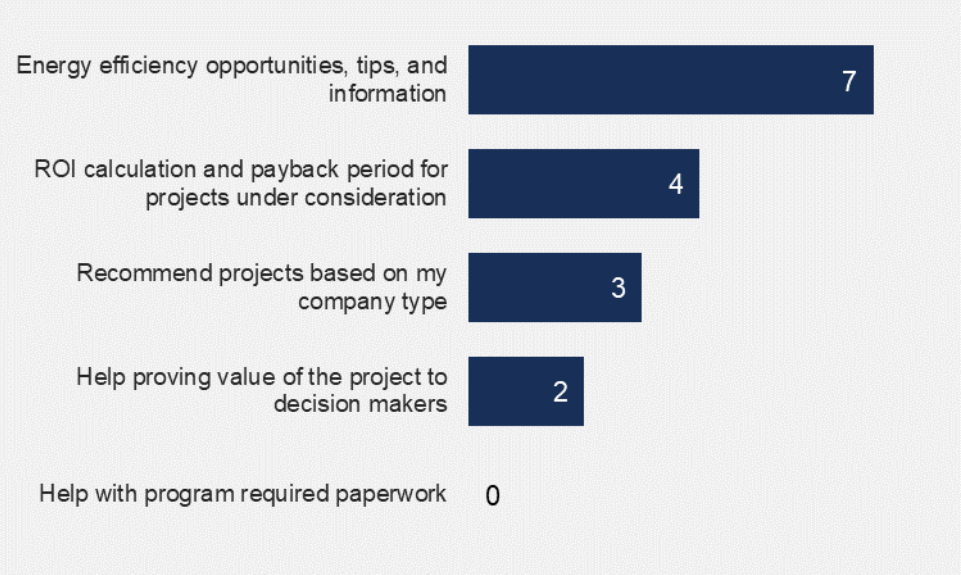


Source: Agribusiness Participant Satisfaction Survey Question: "How have these offerings affected your opinion of your energy utility, if at all?" (n=17). No responses were received for the options *somewhat less favorable* and *much less favorable*.

The survey asked respondents how Focus on Energy could best support their organization with future projects. The most frequent response in CY 2024 was energy efficiency opportunities, tips, and information (seven respondents), which was also the most frequent response in CY 2023. None of the

CY 2024 respondents mentioned help with paperwork, compared to five of 28 mentioning this in CY 2023. Figure 91 shows a full breakdown of responses.

Figure 91. Participants' Most Valued Source of Support



Source: Agribusiness Participant Satisfaction Survey Question: "Aside from providing project incentive dollars, how can Focus on Energy best support your organization going forward?" (n=16)

Participant Feedback and Suggestions for Improvement

The survey asked participants if they had any comments or suggestions to improve the program. Of the 17 participants who responded, three provided open-ended feedback, which the evaluation team coded into a total of four mentions. Of these mentions, one was generally positive, "great program," and the others suggested improvements. One respondent suggested improving outreach to "irrigation and well/pump contractors" to make them more aware of incentives available for their customers. The other respondent suggested increasing incentives and improving communications regarding incentive qualifications and amounts.

In CY 2024, the satisfaction survey included an open-ended question soliciting comments on participants' experience with trade allies. Six Agribusiness respondents provided feedback, all of which was positive and complimentary. None of the CY 2024 respondents rated their contractor lower than 8 out of 10.

8.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. See Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III for a description of the TRC test. Table 84 lists the CY 2024 incentive costs for the Agribusiness Program.

Table 84. CY 2024 Agribusiness Incentive Costs

Offering	Incentive Costs
Agribusiness	$2,098,173

The evaluation team found that the CY 2024 Agribusiness Program was cost-effective (4.77). Table 85 lists the evaluated costs and benefits.

Table 85. CY 2024 Agribusiness Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$103,003
Delivery Costs	$1,421,297
Incremental Measure Costs	$5,726,503
Total Non-Incentive Costs	**$7,250,804**
Benefits	
Electricity Benefits (kWh)	$8,638,800
Capacity Benefits (kW)	$8,795,730
T&D Benefits (kW)	$2,519,979
Gas Benefits	$1,828,832
Emissions Benefits	$12,794,220
Total TRC Benefits	$34,577,561
Net TRC Benefits	**$27,326,757**
TRC Benefit/Cost Ratio	**4.77**

8.5. Outcomes

The evaluation team identified the following outcomes for the Agribusiness Program based on the limited CY 2024 program evaluation activities. Additional outcomes and recommendations from the cross-cutting process evaluation activities can be found in discussions about those specific research activities, referenced in the *Nonresidential Cross-Cutting Research* section.

Outcome 1. The program accurately estimated energy impacts in CY 2024, with first-year and lifecycle realization rates of 100% for all energy savings types.

Outcome 2. Participant satisfaction remained high in CY 2024, with participants rating their overall satisfaction at 9.5, which was statistically equivalent to the CY 2023 rating of 9.2.

9. Business and Industry Program

Through the Business and Industry Program, Focus on Energy offers technical assistance and financial incentives for commercial and small- and medium-sized industrial customers who install energy-efficient and renewable energy measures.

The Business and Industry Program consists of two offerings:

- **Commercial and Industrial (C&I).** This offering is available to businesses not classified as agribusiness, multifamily, or small- and medium-sized industrial facilities. Examples of eligible businesses include hotels, restaurants, retail, religious organizations, healthcare facilities, and goods or materials manufacturers. The offering consists of both prescriptive rebates and custom incentives:
  - *Prescriptive rebates* are offered for standard equipment installations or replacements in an existing building or new construction.
  - *Custom incentives* are offered for nonstandard equipment installations or replacements in existing buildings or new construction. Custom incentives are also available for non-solar PV renewable technologies, such as biogas, biomass, solar thermal, and wind technologies.

- **Energy Design Assistance/Energy Design Review (EDA/EDR).** This offering is available for new construction, major renovations, and addition projects over 5,000 square feet. It provides a whole-building energy analysis of multiple design options and incentives based on the building's overall modeled energy savings. This offering is also available to participants through the Large Industrial, Schools and Government, and Multifamily programs.

The program administrator is APTIM. The program implementer, Franklin Energy, oversees program management and delivery of the C&I offering. Willdan, the EDA/EDR implementer, conducts building analysis and energy modeling to support the EDA/EDR offering. With support from the administrator, the implementers' energy advisors promote and deliver the Business and Industry Program to customers and trade allies.

In addition to the prescriptive rebates, custom incentives, and EDA/EDR, the program provides additional opportunities for participation:

- **Project Assessment Incentive (January 2014-Present):** The PAI provides customers the opportunity to cost-share the development or engineering of complex energy-saving projects where energy savings are not immediately known. In CY 2024, the incentive paid 50% of the assessment cost or 20% of the estimated annual energy cost savings, up to $15,000, an increase of $7,500 as compared to CY2023. The PAI is designed for industrial facilities with complex equipment or processes. Focus on Energy must approve PAIs in advance of the assessment.

- **Retro-commissioning (January 2021-Present):** Retro-commissioning is the process of improving the performance and energy efficiency of building systems and equipment via low- and no-cost modifications to building controls and protocols. Incentives are based on square footage, with a base rate and additional incentives based on a reduction in energy use intensity. In CY 2024, incentives could cover as much as 75% of the project cost, up to $100,000 per project. The opportunity is designed for properties older than six years old and 5,000 square feet or larger.
- **Whole-Building Tune-Up (April 2022-Present):** The whole-building tune-up allows customers to upgrade common control systems without requiring a facility audit or verification data. The tune-up includes optimization measures for heating, cooling, ventilation, and hot water systems that can be implemented on the same day by a trade ally. The trade ally then submits the application online via Formstack. In CY 2024, customers could receive up to $1,850 in incentives: $750 for the first three implemented measures and $100 per additional measure. Customers may apply for the same measure once every three years. Trade Allies may receive a $200 incentive for completing a building health report.
- **Business Energy Portal/Online Assessment Tool (April 2021-Present):** The online assessment tool allows customers to input basic information about their facility and receive a customized list of savings opportunities or projects with links to the Focus on Energy webpages. Customers can mark projects as completed or remove them from their list if they do not wish to pursue them. The customer's account details are saved and can be referenced at a later date.
- **Industrial Staffing Incentive (April 2023-Present):** This opportunity is available to customers in need of financial support to justify or offset staffing needed to complete energy-saving projects. The staffing incentive is based on the total value of staff or a third-party subcontractor's time to manage qualifying energy efficiency projects identified on a project list submitted with the program application. In CY 2024, the staffing incentive allowed customers to request up to $100,000 for projects completed from April 2023 through December 2025 and is limited to 50% of the expected annual cost savings for each project included in the proposed project list. In CY 2024, customers could also receive an earlier partial payment of 30% of the incentive if they signed an agreement with a third-party energy management provider. Customers may also apply for custom and prescriptive incentives available for the completed projects. Project Assessment Incentives, retro-commissioning projects, and solar PV projects are not eligible for staffing incentives; however, projects identified through a previous PAI may be included on the project list if not completed.
- **Practical Energy Management (February 2023-Present):** Practical Energy Management (PEM) is designed to help customers understand and benchmark their facility's energy use and develop an energy management plan. PEM provides incentives for routine benchmarking, attending energy-related training, and promoting success within the organization.
- **Nonprofit Efficiency Accelerator (October 2023-Present).** This opportunity assists nonprofits (501 (c)(3) status organizations) in implementing energy-saving measures. Assistance may include donation matching, where Focus on Energy matches organizational funds for an energy

efficiency project, or a Request for Proposals, where nonprofit customers can request incentives higher than established program rates.

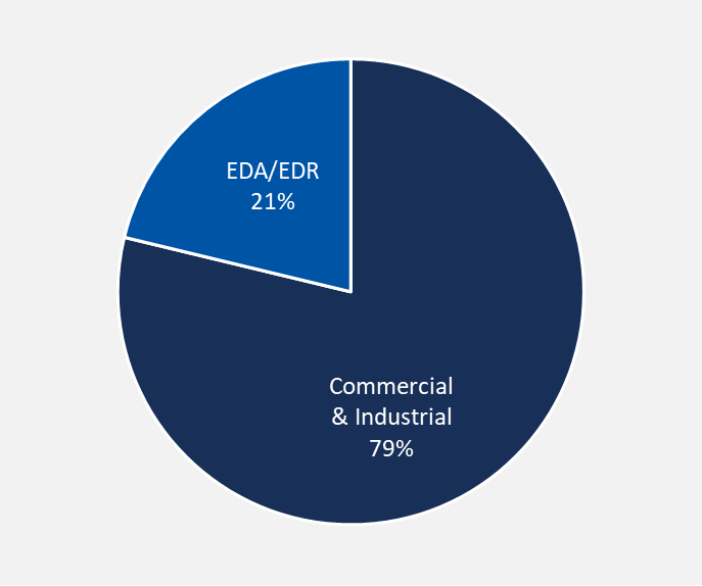
Table 86 summarizes the performance and savings impacts of the Business and Industry Program in CY 2024.

Table 86. CY 2024 Business and Industry Program Summary

Item	Units	CY 2024
Incentive Spending	$	$8,569,455
Participation	Number of Participants	1,412
Verified Gross Lifecycle Savings	kWh	1,555,446,040
	kW	14,646
	therms	36,307,745
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	82%
Net Annual Savings	kWh	82,319,289
	kW	12,080
	therms	1,902,332
Net Lifecycle Savings	MMBtu	7,327,788
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	3.18

Figure 92 shows the proportion of Business and Industry Program savings by offering. In CY 2024, the C&I offering contributed 79% of the total verified gross lifecycle MMBtu savings.

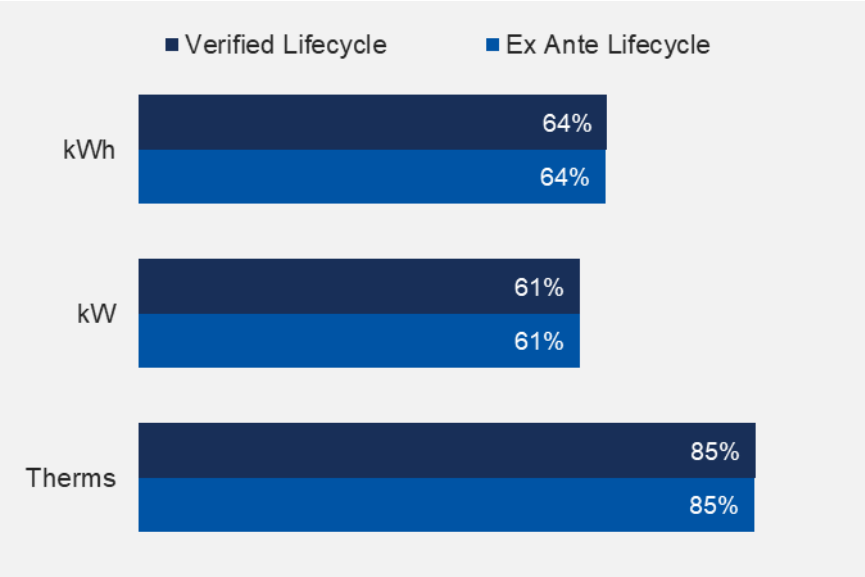
Figure 92. CY 2024 Business and Industry Program Gross Lifecycle Savings by Offering



9.1. Achievement Against Goals

As shown in Figure 93, in CY 2024, the Business and Industry Program achieved 64% of its electric energy savings goal, 61% of its peak demand savings goal, and 85% of its therms savings goal based on verified lifecycle savings at the program level.

Figure 93. CY 2024 Business and Industry Program Achievement of Gross Lifecycle Savings Goals



Note: 100% *ex ante* gross lifecycle savings reflect the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

9.2. Impact Evaluation

This section presents the findings from the CY 2024 impact evaluation of the Business and Industry Program.

Impact Evaluation Methodology

The evaluation team designed its CY 2024 impact evaluation, measurement, and verification approach to integrate multiple perspectives into its assessment of program performance. The team used the following approaches to measure the impact of the Business and Industry Program:

- Tracking database review
- Engineering desk reviews
- Virtual verification site visits and interviews
- Engineering savings calculations
- Participant surveys

Table 87 lists the specific sample sizes the team used for the impact evaluation of the Business and Industry Program. Additional details about these activities and their findings are discussed below.

Table 87. CY 2024 Business and Industry Impact Evaluation Activities and Sample Sizes

Offering	Total Measures	Impact Evaluation Sample		
		Desk Reviewed Measures	Virtually Verified Measures	% Sampled (by *Ex Ante* MMBtu savings)
C&I	6,704	53	27	7.6%
EDA/EDR	92	19	10	82.9%
Total	**6,796**	**72**	**37**	**23.4%**

Engineering Desk Reviews

The evaluation team reviewed all available project documentation in SPECTRUM for a sample of 72 measures offered through the CY 2024 Business and Industry Program. This review included an assessment of the savings calculations and methodology applied by the implementer. The team relied on the applicable TRMs and other relevant secondary sources as needed. Secondary sources included energy codes and standards, case studies, and energy efficiency program evaluations of comparable measures (based on geography, sector, measure application, and date of issue).

For prescriptive measures, the team used the Focus on Energy 2024 TRM and associated work papers as the primary sources to determine methodology and data in nearly all cases. For hybrid and custom measures, the team reviewed the SPECTRUM savings analysis workbooks and adjusted inputs and methodologies as necessary based on engineering judgment and project documentation.

To conduct the impact analysis of the program, the evaluation team selected a representative sample of measures to evaluate and then extrapolated the random sample findings to the larger population. In CY 2024, this process used purposive and proportional sampling by the following process:

- **Census sampling** selected the measures with the largest savings by offering (called census measures). The team used a percentage distribution analysis to determine the threshold of savings since this varied by offering. The census sample included most measures larger than 5% of each offering's MMBtu lifecycle savings. Because these measures were sampled with certainty (100% of eligible highest saving measures were sampled), the team did not extrapolate the results to the offering's population.
- **Random sampling** randomly selected measures from the offering's measure population (called randomly sampled measures). The team stratified the population by reported savings, fuel type, and sometimes measure type to ensure the overall representativeness of the sample selected. The team extrapolated the cumulative realization rate of randomly sampled measures to the remainder of the offering's population.

Virtual Verification Site Visits

The evaluation team conducted 37 virtual verification site visits, including interviews with the site contact. Virtual site visits were conducted for sampled measures where the savings impact was high, the measure type was either hybrid or custom, or when there were outstanding questions and clarification needed to complete the evaluation of the measure. During the site visits, the team verified the type and quantity of equipment installed, determined how the installed equipment is controlled, and documented the operating hours of the installed equipment. The team then verified the savings calculation input parameters based on operational and occupancy schedules, reported and observed setpoints, trend data, utility data, and any other relevant details identified before contact with the site.

Verified Gross Savings Results for the Business and Industry Program

Table 88 lists the first-year and lifecycle realization rates for the CY 2024 Business and Industry Program by offering. Table 89 lists verified first-year and lifecycle savings by offering. The sampled projects represent 23% of the program lifecycle MMBtu savings. Overall, the program achieved a first-year evaluated realization rate of 100%, weighted by total energy savings (MMBtu). Note that at the measure level, there was variability between fuel types in terms of the realization rates. The team determined realization rates by strata, such as census and sample strata, and summed reported and verified savings to the offering level to arrive at savings and realization rates. Detailed findings for each offering, including factors affecting the realization rates, are discussed in the next section of this chapter.

Table 88. CY 2024 Business and Industry Program First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
C&I	100%	100%	100%	100%	100%	100%	100%
EDA/EDR	102%	100%	100%	101%	102%	101%	101%
Total	**101%**	**100%**	**100%**	**100%**	**101%**	**100%**	**100%**

Table 89. CY 2024 Business and Industry Program First-Year and Lifecycle Verified Energy Savings Summary

Offering	Verified First-Year Savings				Verified Lifecycle Savings		
	kWh	kW	therms	MMBtu [a]	kWh	therms	MMBtu[a]
C&I	83,514,298	11,006	1,996,233	484,574	1,203,995,225	29,241,927	7,032,225
EDA/EDR	17,573,111	3,640	349,793	94,939	351,450,815	7,065,819	1,905,732
Total	**101,087,409**	**14,646**	**2,346,026**	**579,513**	**1,555,446,040**	**36,307,745**	**8,937,957**

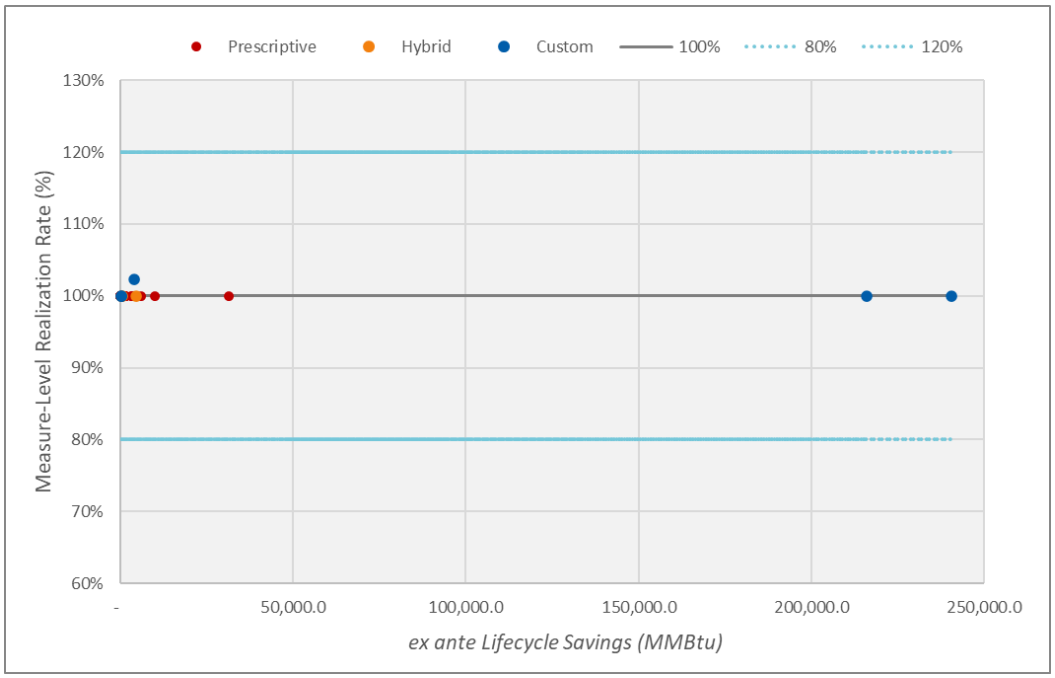
[a] Verified kWh and therms savings may not sum to verified MMBtu values due to conversion/rounding associated with measure-level application of realization rates.

Commercial and Industrial Offering: Verified Gross Savings Results

For the C&I offering, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The sampled projects represent 8% of the offering's lifecycle MMBtu savings. The offering had a gross lifecycle MMBtu realization rate of 100%.

Figure 94 illustrates the magnitude of and associated realization rates for reported MMBtu savings of the sampled projects.

Figure 94. CY 2024 C&I Offering Sampling Results



Projects generally maintained within ±5% of a 100% realization rate, with minor fluctuations. The following describes the main factor affecting the realization rate:

- The evaluation team adjusted one custom lighting measure to reflect the efficient lamp wattage demonstrated in the application data provided. The modifications to wattage resulted in slightly more kWh savings realized (115%) and an overall lifecycle MMBtu realization rate of 102% for the project.

Table 90 lists the CY 2024 *ex ante* and verified gross savings by first-year and lifecycle gross savings for the C&I offering.

Table 90. CY 2024 C&I Offering *Ex Ante* and Verified Gross Savings

	***Ex Ante* Gross**			**Verified Gross**		
	kWh	**kW**	**therms**	**kWh**	**kW**	**therms**
First-Year Gross Savings	83,514,298	11,006	1,996,233	83,514,298	11,006	1,996,233
Lifecycle Gross Savings	1,203,995,225	11,006	29,241,927	1,203,995,225	11,006	29,241,927

EDA/EDR Offering: Verified Gross Savings Results

For the EDA/EDR offering, the team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The EDA/EDR evaluation procedure is to review the SIM files, the NEO modeling results, the written report, the project specifications, and the data entered into

project tracking, looking for consistency amongst all documents. Interviews conducted in the evaluation phase may produce additional documentation that the evaluation team reviews against the rest of the submitted documentation for consistency. Where there are discrepancies and a lack of additional information, the evaluation team considers the ModelSim reports to be the final as built, and evaluated savings are based on that output.

The sampled projects represent 83% of EDA/EDR lifecycle MMBtu savings. The offering had a gross lifecycle MMBtu realization rate of 101%. Figure 95 illustrates the magnitude of and associated realization rates for *ex ante* lifecycle MMBtu savings of the sampled projects. The projects generally maintained within ±5% of a 100% realization rate, with minor fluctuations. The main factors that affected the measure realization rates are as follows:

- For two EDA measures, there were discrepancies between the verified Model Sim report, which is the direct output from the modeling platform (one project used NEO and one project used FileBuilder), the written verification report, and the *ex ante* value reported within the SPECTRUM database. The evaluation team modified the final savings values to reflect the ModelSim reports.
  - For one of these projects, the lifecycle kWh savings decreased (99%), the lifecycle therms and demand savings were unchanged, and the lifecycle MMBtu realization rate was 100%.
  - For one of these projects, the lifecycle kWh savings increased (115%), lifecycle therms and demand savings were unchanged, and the lifecycle MMBtu realization rate was 105%. This project was census-selected given its high impact on program savings (21%); as such, the team only applied the realization rate to this project rather than extrapolating it to the rest of the Business and Industry EDA/EDR population.

Figure 95. CY 2024 EDA/EDR Offering Sample Results

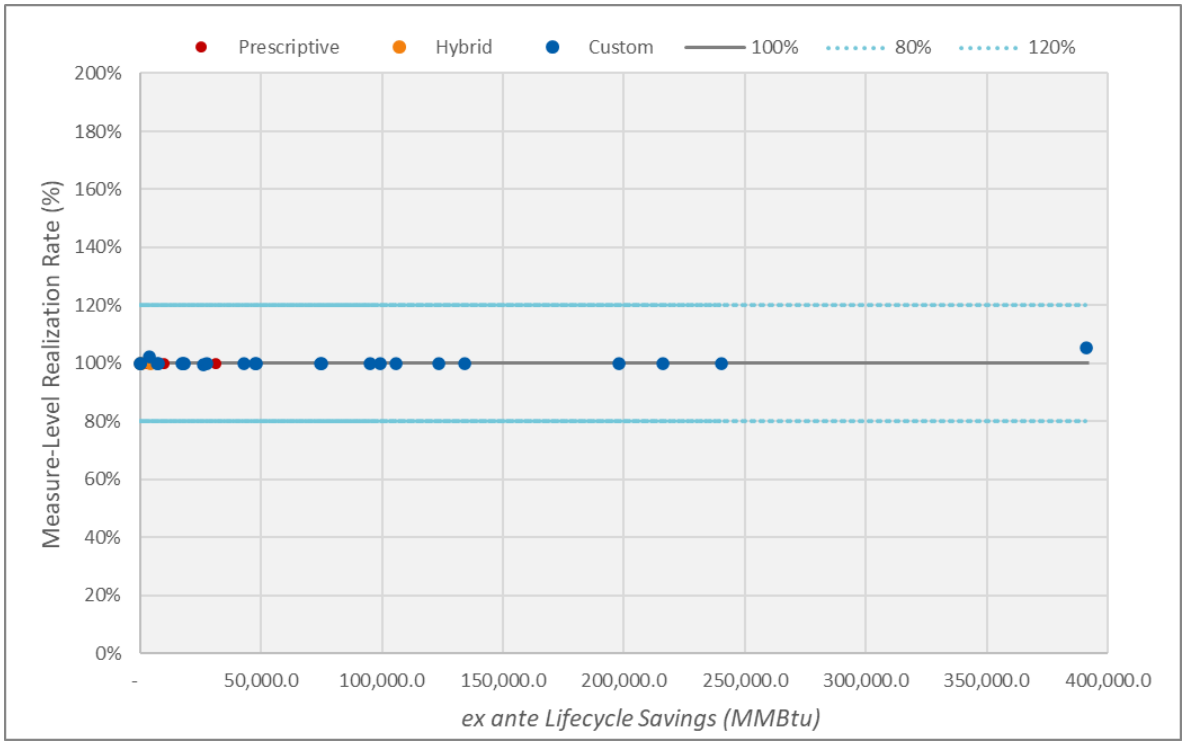


Table 91 lists the CY 2024 *ex ante* and verified gross savings by first-year and lifecycle gross savings for the EDA/EDR offering.

Table 91. CY 2024 EDA/EDR Offering *Ex Ante* and Verified Gross Savings

	***Ex Ante* Gross**			**Verified Gross**		
	kWh	**kW**	**therms**	**kWh**	**kW**	**therms**
First-Year Gross Savings	17,228,540	3,640	349,793	17,573,111	3,640	349,793
Lifecycle Gross Savings	344,559,623	3,640	6,995,860	351,450,815	3,640	7,065,819

Verified Net Savings Results for the Business and Industry Program

The evaluation team used CY 2023 participant survey results to assess net savings for the CY 2024 Business and Industry Program. To calculate the NTG for each offering in CY 2023, the team combined the self-reported freeridership and participant spillover results using the following equation:

$$NTG = 1 - Freeridership\ Ratio + Participant\ Spillover\ Ratio$$

Table 92 shows the CY 2023 NTG ratios applied to the CY 2024 Business and Industry Program. The 2023 Evaluation Report contains the full detailed analysis of NTG completed in CY 2023. [19]

Table 92. CY 2024 Business and Industry Program NTG Ratios by Offering

Offering	Freeridership	Spillover	NTG Ratio
C&I	23%	2%	79%
EDA/EDR	7%	0%	93%

Table 93 shows the total lifecycle gross verified savings, lifecycle net savings, and final NTG ratios for the Business and Industry Program in CY 2024.

Table 93. CY 2024 Business and Industry Lifecycle Net Savings and NTG

Offering	Total Lifecycle Gross Verified Savings (MMBtu)	Total Lifecycle Net Savings (MMBtu)	NTG Ratio
C&I	7,032,225	5,555,458	79%
EDA/EDR	1,905,732	1,772,331	93%
Total	**8,937,957**	**7,327,788**	**82%**

9.3. Process Evaluation

The CY 2024 nonresidential process evaluation focused largely on cross-cutting evaluation activities across all nonresidential programs, lighting program research, and monitoring ongoing customer satisfaction surveys.

Process Evaluation Methodology

In CY 2024, the evaluation team reviewed and designed its nonresidential process evaluations to understand program changes, monitor customer satisfaction, assess program and trade ally bonus impact across programs, and understand lighting program opportunities.

Table 94 lists the data collection activities and sample sizes for all primary data collection.

Table 94. CY 2024 Agribusiness Program Process Evaluation Activities

Activity	CY 2024 Completes (n)
Program Documentation Review	✓
Ongoing Participant Satisfaction Surveys	95
Participant Surveys (NEBs)	70 across all nonresidential programs
Trade Ally Interviews (bonus)	25 across all nonresidential programs
Lighting Application Review	9 utilities' applications
Midstream Lighting Program Structure Benchmarking	5 program administrators

[19] Cadmus. May 17, 2024. Focus on Energy Calendar Year 2023 Evaluation Report – Volume III Appendices. Appendix G. Net Savings Analysis. Prepared for Focus on Energy. https://assets.focusonenergy.com/production/inline-files/Evaluation_CY_2023_Vol-III_Appendices_final.pdf

Program Documentation Review

The evaluation team reviewed the Business and Industry Program's implementation and marketing plans to understand the program structure and how it was implemented in CY 2024. The team also reviewed miscellaneous documentation throughout the year, such as *ad hoc* updates and quarterly performance reports to the PSC from the program administrator, to understand program updates and progress in CY 2024.

Ongoing Participant Satisfaction Survey

Using contact information stored in SPECTRUM, the program administrator oversaw an ongoing web-based satisfaction survey throughout the year for CY 2024 participants. There were two objectives for the satisfaction survey:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help to facilitate timely follow-up with customers to clarify and address service concerns

A total of 95 Business and Industry Program participants responded to the CY 2024 survey. The survey covered several topics, including overall satisfaction, satisfaction with offering staff and trade allies, the likelihood of recommending Focus on Energy, and other feedback.

Cross-Cutting Nonresidential Program Research

In CY 2024, the evaluation team conducted surveys, interviews, and benchmarking that cut across Focus on Energy's nonresidential programs to explore the following research topics:

- **NEBs**. The evaluation team surveyed participating customers about their experience with Focus on Energy, the energy efficiency improvements they implemented, and the NEBs they received from participating in the programs. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Trade Ally Bonuses.** The team interviewed a sample of trade allies across all programs to assess satisfaction and influence of the newly introduced trade ally bonus while also collecting feedback on the current application process, program benefits, and opportunities for improvement. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Lighting Application Materials.** The team reviewed existing lighting incentive program applications for prescriptive and custom measures and their required materials, and identified potential ways to refine the current lighting measure application. The details of the methodologies and findings of this research are described in the Nonresidential Lighting Application Benchmarking research memo.[20]

[20] Cadmus. January 20, 2025. Nonresidential Lighting Application Benchmarking Memo. Prepared for Focus on Energy. https://assets.focusonenergy.com/production/inline-files/Lighting-Application-Benchmarking-Memo_2025.pdf

- **Midstream Program Structure for Nonresidential Lighting**. The evaluation team collected feedback from program administrators on the benefits and challenges of introducing a midstream program to allow direct sales of discounted lighting products through retailers and distributors in addition to the current downstream approach. The details of the methodologies and findings of this research are described in the Nonresidential Midstream Lighting Program Benchmarking research memo.[21]

Program Design and Delivery

The primary opportunity for customers to participate in the Business and Industry Program is through the custom and prescriptive incentives available through the C&I offering. This offering provides incentives for a broad range of energy-efficient prescriptive measures and custom projects. Customers can apply for incentives directly through Focus on Energy or their trade ally, with support from energy advisors, the implementer, and occasionally from their utility account representatives.

Special Promotions and Incentives

In CY 2024, Focus on Energy offered four bonuses through the Business and Industry Program:

- **Trade Ally Prescriptive Bonus.** Launched in July 2023, this bonus was developed to encourage trade allies to promote the Focus on Energy program. In CY 2024, trade allies received a bonus that was 15% of the customer incentive or $25 (whichever was larger) for completed projects. Trade allies had to be registered to receive the bonus.
- **Custom Design Team Bonus.** Focus on Energy launched the custom design team bonus in January 2024 to reward Trade Allies for supporting long or complex preapprovals in custom projects and building a pipeline for business programs. In CY 2024, trade allies received a bonus that was 10% of the customer incentive, up to $10,000, for completed projects. Trade allies had to complete an impact statement located in the custom workbook to receive the bonus.
- **Nonprofit Efficiency Accelerator.** Nonprofits could apply for enhanced incentives through one of two paths: donation matching or Request for Proposals. The donation match provided a 100% match to an organization's fundraising efforts, up to $25,000, and the Request for Proposal path allowed customers to request up to $100,000, 50% of project cost, or 15 times annual energy savings. The bonus is in addition to standard prescriptive or custom incentives.
- **Compressed Air Energy Challenge.** Customers could qualify for on-the-spot leak repair incentives if identified leaks are repaired within 30 days of the survey. Incentives are paid per leak repaired (versus the standard incentive of per compressor horsepower). Customers who completed either a standard leak survey and repair or on-the-spot repair then receive a coupon for an additional 20% incentive on their next compressed air retrofit project.

[21] Cadmus. March 7, 2025. Nonresidential Midstream Lighting Program Benchmarking Memo. Prepared for Focus on Energy. CY-2024-Midstream-Lighting-Research-Memo_Final.pdf

Program Updates

In CY 2024, Focus on Energy adjusted the Industrial Staffing Grant to offer an earlier partial payment of 30% if customers sign up with a third-party energy management provider rather than the original sole option of a later full payment. As of CY 2024, trade ally bonuses are available for assistance on custom projects through the custom design team bonus.

Focus on Energy launched the Express Energy Design Assistance (eEDA) tool at the start of Q1 2024. The eEDA is an online energy modeling tool to help retail, warehouse, and multifamily new construction and major renovation projects identify energy efficiency opportunities and incentives.

Focus on Energy also increased prescriptive incentives on certain lighting measures in CY 2024, including LED downlights, high bay/low bay fixtures, and occupancy/vacancy sensors. The 500-horsepower cap on variable frequency drives was removed as well.

Ongoing Participant Satisfaction Survey

Throughout CY 2024, the administrator invited Business and Industry participants to take a web-based satisfaction survey. The following sections present survey results from the 95 participants who responded to the survey.

Awareness

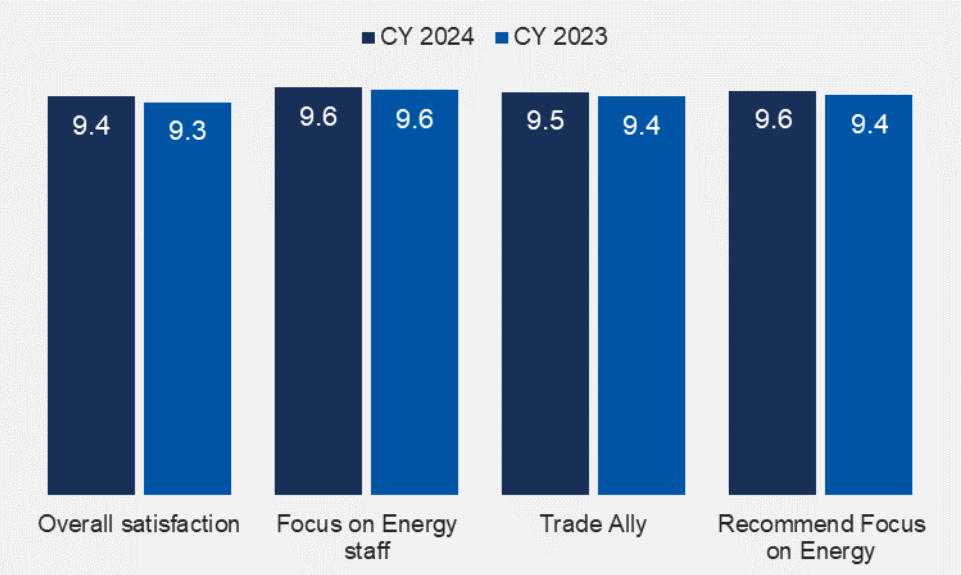
The participant satisfaction survey asked respondents how they learned about the Business and Industry Program. In CY 2024, most respondents said they learned about it from trade allies (37%, n=94), followed by previous experience with Focus on Energy offerings (20%) and Focus on Energy advisors and staff (18%).

Participant Satisfaction

When asked about satisfaction with the program and the likelihood of recommending Focus on Energy, respondents gave ratings on a scale of 0 to 10, where 10 indicated the highest degree of satisfaction or likelihood and 0 the lowest. As Figure 96 shows, CY 2024 respondents gave the program an average overall satisfaction score of 9.4, comparable to the average rating of 9.3 in CY 2023 and CY 2022. In CY 2024, respondents gave high ratings for all components of the program; these ratings were all statistically equivalent to the corresponding CY 2023 ratings. [22]

[22] The number of participants who completed a survey does not always match the number of responses for each question, as some participants skipped or did not know answers to questions.

Figure 96. Business and Industry Participant Satisfaction and Likelihood Ratings

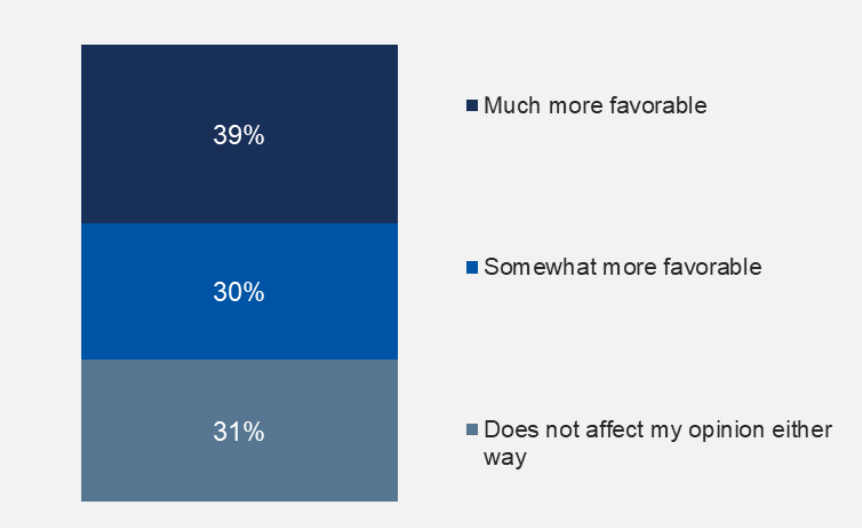


Source: Business and Industry Program Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=95; CY 2023 n=85). "How satisfied are you with the Energy Advisor or Focus on Energy staff member who assisted you with your project?" (CY 2024 n=70; CY 2023 n=75). "How satisfied are you with the contractor(s) that you worked with on this project?" (CY 2024 n=69; CY 2023 n=67). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=92; CY 2023 n=85). There are no statistically significant differences between CY 2024 and CY 2023 ratings.

Using the survey data, the evaluation team calculated a NPS based on customers' likelihood to recommend Focus on Energy. The NPS is expressed as an absolute number between -100 and +100 that represents the difference between the percentage of promoters (respondents giving a rating of 9 or 10) and detractors (respondents giving a rating of 0 to 6). High NPS scores (+70 or higher) are theoretically predictive of customer behaviors, such as participating in another offering, implementing additional energy improvements, and referring Focus on Energy offerings to others. The Business and Industry Program's NPS was +88 for CY 2024, representing an increase from +83 for CY 2023.

Respondents were asked if they were aware that the Business and Industry Program was offered in partnership with their local utility before receiving the satisfaction survey. Seventy-three percent (n=95) were aware in CY 2024, similar to 78% (n=83) in CY 2023. Respondents were also asked if Focus on Energy offerings affected their opinion of their utilities. As Figure 97 shows, 69% reported that their opinion had become *much more favorable* or *somewhat more favorable,* while none reported that their opinion had become *much less favorable* or *somewhat less favorable*, and 31% said their opinion of their utility was not affected.

Figure 97. Business and Industry Participants' Opinions of Utilities

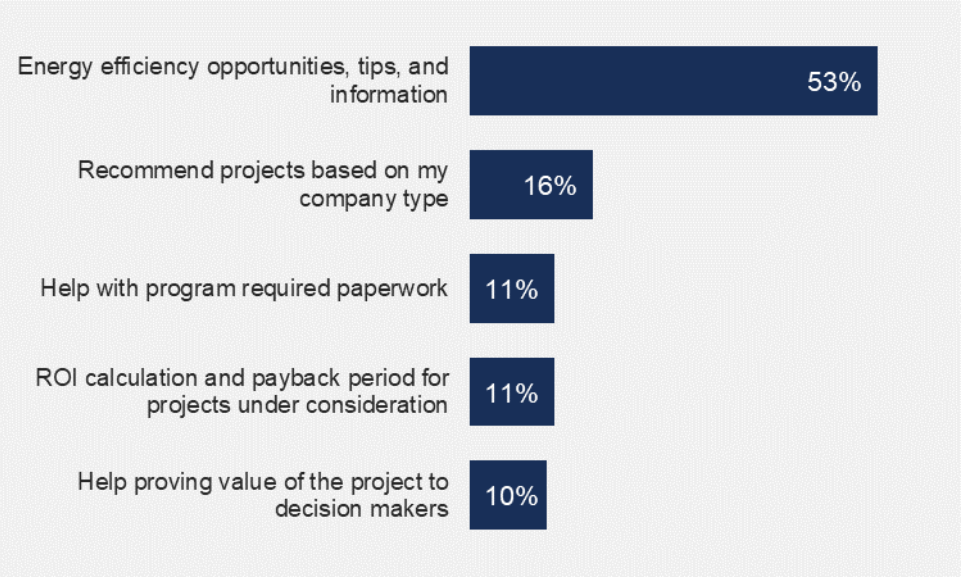


Source: Business and Industry Participant Satisfaction Survey Question: "How have these offerings affected your opinion of your energy utility, if at all?" (n=77). No responses were received for the options *somewhat less favorable* and *much less favorable*.

Survey respondents identified how Focus on Energy could best support their organization with future projects. The most frequent response from CY 2024 participants was energy efficiency opportunities, tips, and information (53%), which was also the top response in CY 2023, though mentioned less frequently in CY 2023 (37%, n=76). The second most common suggestion in CY 2024 was recommending projects based on company type (16%), which was also the second most mentioned in CY 2023, though more frequently (24%). In CY 2024, 11% of respondents mentioned help with program paperwork, compared to 24% in CY 2023.

Figure 98 shows respondents' most valued support for moving projects forward.

Figure 98. Business and Industry Participants' Most Valued Support

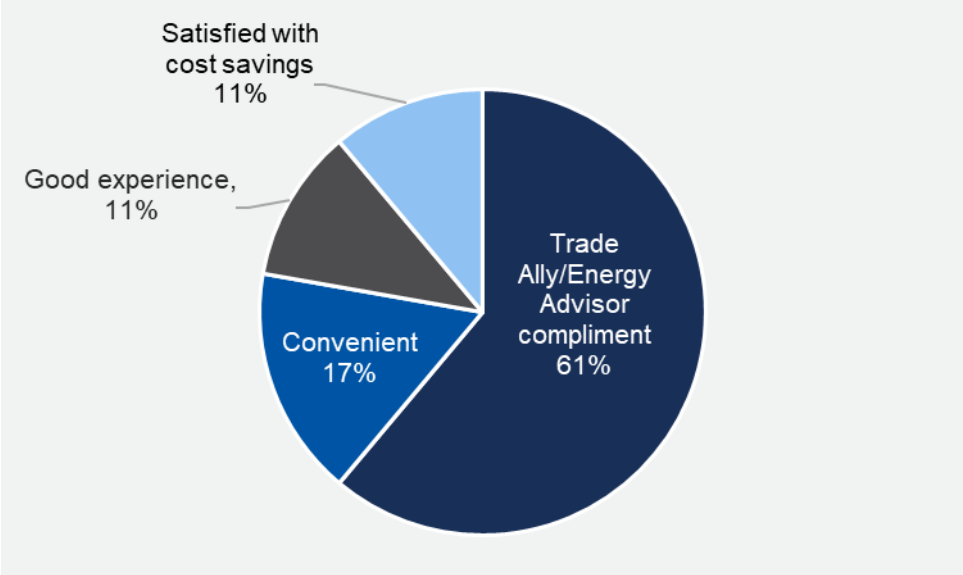


Source: Business and Industry Participant Satisfaction Survey Question: "Aside from providing project incentive dollars, how can Focus on Energy best support your organization going forward?" (n=83)

Participant Feedback and Suggestions for Improvement

The survey asked participants if they had any comments or suggestions to improve the program. Of the 95 participants who responded to the survey, 20% provided open-ended feedback, which the evaluation team coded into a total of 23 mentions. Of these mentions, 18 were positive or complimentary (78%), and five suggested improvements (22%). Figure 99 shows a breakdown of positive comments, which were very similar in CY 2024 and CY 2023.

Figure 99. Business and Industry—Positive Comments about the Program



Source: Business and Industry Participant Satisfaction Survey Question: "Please tell us more about your experience and any suggestions for improvement." (Total positive mentions n=18)

As the figure shows, respondents frequently complimented their trade allies and Focus on Energy staff (61%), which has consistently been the most common comment from participants in this program. This was followed by comments about the ease and convenience of participating in the offering (17%).

There were only five suggested improvements from respondents in CY 2024: two suggested improving outreach and communications about the program, and one respondent apiece mentioned reducing delays in the approval of incentives, increasing the incentives, and improving the quality of the installation.

In CY 2024, the satisfaction survey included an open-ended question soliciting comments on participants' experience with trade allies. Most of this feedback was very positive and in keeping with respondents' high satisfaction ratings for trade allies. Only one respondent gave a rating of 8 or lower for satisfaction with their contractor.

9.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test.

Table 95 lists the CY 2024 incentive costs for the Business and Industry Program.

Table 95. CY 2024 Business and Industry Incentive Costs

Offering	Incentive Costs
C&I	$6,929,177
EDA/EDR	$1,640,278
Total	**$8,569,455**

The evaluation team found that the CY 2024 Business and Industry Program was cost-effective (3.18). Table 96 lists the evaluated costs and benefits.

Table 96. CY 2024 Business and Industry Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$420,690
Delivery Costs	$5,804,927
Incremental Measure Costs	$34,152,023
Total Non-Incentive Costs	**$40,377,639**
Benefits	
Electricity Benefits (kWh)	$27,829,669
Capacity Benefits (kW)	$31,949,566
T&D Benefits (kW)	$9,152,425
Gas Benefits	$13,395,224
Emissions Benefits	$46,116,136
Total TRC Benefits	**$128,443,020**
Net TRC Benefits	**$88,065,381**
TRC Benefit/Cost Ratio	**3.18**

9.5. Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations for improving the Business and Industry Program based on the limited CY 2024 program evaluation activities. Additional outcomes and recommendations from the cross-cutting process evaluation activities can be found in discussions about those specific research activities, referenced in the *Nonresidential Cross-Cutting Research* section.

Outcome 1. The program accurately estimated energy impacts in CY 2024, with first-year and lifecycle realization rates of 100% for all energy savings types.

Outcome 2. Participant satisfaction remained high in CY 2024, with participants rating their overall satisfaction at 9.4, which was statistically equivalent to the CY 2023 rating of 9.3.

Outcome 3. The evaluation team identified instances of project data discrepancies in EDA/EDR measures. Verification report specifications often differed from model input parameters for several EDA/EDR projects. This created uncertainty for the evaluation team concerning whether the documentation or the model had not been properly updated, and which should be considered the most current.

Recommendation 3. Enact or formalize a quality control process that aligns verification reports with the energy model inputs and outputs.

10. Large Industrial Program

Through the Large Industrial Program, Focus on Energy offers technical assistance and prescriptive and custom incentives for large industrial customers who install energy-efficient measures.

The Large Industrial Program consists of two primary offerings:

- **Large Industrial.** This offering supports industrial customers whose average monthly demand exceeds 1,000 kW of electricity or 100,000 therms of natural gas per month and whose combined utility bills were at least $60,000 in any month of the preceding year. The offering provides prescriptive and custom incentives for installing energy-efficient measures in existing buildings or new construction projects.
  - *Prescriptive rebates* are offered for standard equipment installations or replacements in an existing building or new construction.
  - *Custom incentives* are offered for nonstandard equipment installations or replacements in existing buildings or new construction. Custom incentives are also available for non-solar PV renewable technologies, such as biogas, biomass, solar thermal, and wind technologies.
- **Energy Design Assistance/Energy Design Review (EDA/EDR).** This offering is available for new construction, major renovation, and additional projects over 5,000 square feet. It provides a whole-building energy analysis of multiple design options and incentives based on the building's overall modeled energy savings. This offering is also available through the Business and Industry, Schools and Government, and Multifamily programs.

Custom incentives are also offered for non-solar renewable technologies like biogas, solar thermal, wind, and biomass technologies. Customers can apply for new construction custom incentives if a new construction project does not qualify for prescriptive incentives or the EDA/EDR offerings.

The program administrator is APTIM. The program implementer, Leidos, oversees the management and delivery of the program, and its subcontractor—CleanTech Partners—provides subject-matter expertise. Willdan, the EDA/EDR implementer, conducts building modeling to support the EDA/EDR offering. With support from the administrator, the implementers' energy advisors promote and deliver the Large Industrial Program to customers and trade allies.

In addition to the Large Industrial and EDA/EDR offerings, the program provides secondary opportunities for participation:

- **Project Assessment Incentive (January 2014-Present):** The PAI offers cost-sharing for the development or engineering of complex energy-saving projects where energy savings are not immediately known. In CY 2024, the incentive paid 50% of the assessment cost or 20% of the estimated annual energy cost savings, up to $15,000, an increase of $7,500 as compared to CY 2023. Customers must obtain pre-approval from Focus on Energy to receive this incentive. As of CY 2024, PAIs were available to new or underutilized existing biogas and biomass systems.
- **Retro-commissioning (January 2021-Present):** Retro-commissioning is the process of improving the performance and energy efficiency of building systems and equipment via low- and no-cost

modifications to building controls and protocols. Incentives are based on square footage, with a base rate and additional incentives based on a reduction in energy use intensity. In CY 2024, incentives could cover as much as 75% of the project cost, up to $100,000 per project. The opportunity is designed for properties older than six years and larger than 5,000 square feet.

- **Whole-Building Tune-Up (April 2022-Present):** The whole-building tune-up allows customers to adjust common control systems without requiring a facility audit or verification data. The tune-up includes optimization measures for heating, cooling, ventilation, and hot water systems that are implemented on the same day by a trade ally. The trade ally then submits the application online via Formstack. In CY 2024, customers can receive up to $1,850 in incentives: $750 for the first three implemented measures and $100 per additional measure. Customers may receive incentives for the same measure once every three years. Trade Allies may receive a $200 incentive to complete a Building Health Report.
- **Strategic Energy Management (January 2020-Present):** Strategic energy management provides participants with guidance and technical assistance to advance energy management capabilities and establish a continuous improvement process, resulting in low- and no-cost operational energy improvements. This opportunity offers incentives of $0.02 per kWh and $0.20 per therm saved, up to $50,000 per site per year, and is available to all customers in the large industrial market.

Industrial Staffing Incentive (April 2023-Present): This opportunity is available to customers in need of financial support to justify or offset staffing needed to complete energy-saving projects. The staffing incentive is based on the total value of staff or a third-party subcontractor's time to manage qualifying energy efficiency projects identified on a project list submitted at the time of the application for the program. The staffing incentive allows customers to request up to $100,000 for projects completed from April 2023 through December 2025 and is limited to 50% of the expected annual cost savings for each project included in the proposed project list. In CY 2024, customers could also receive an earlier partial payment of 30% of the incentive if they sign an agreement with a third-party energy management provider. Customers may also apply for custom and prescriptive incentives available for the completed projects. The PAI, retro-commissioning, and solar photovoltaic projects are not eligible for staffing incentives; however, projects identified through a previous PAI may be included on the project list if not completed.

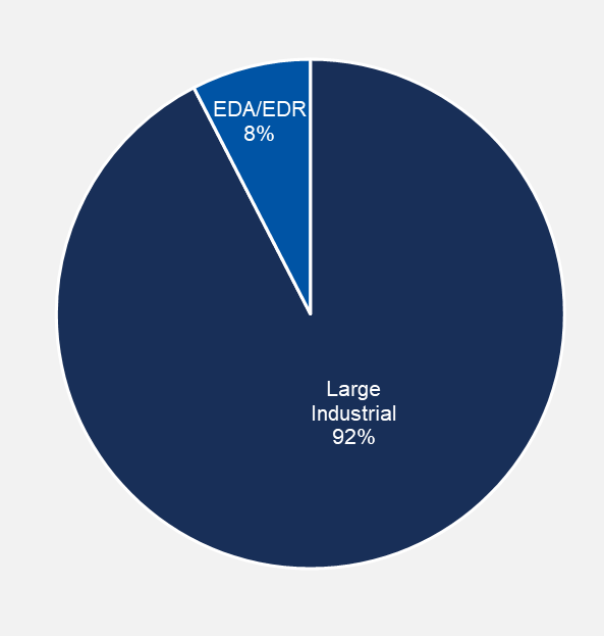
Table 97 summarizes the performance and savings impacts of the Large Industrial Program in CY 2024.

Table 97. CY 2024 Large Industrial Program Summary

Item	Units	CY 2024
Incentive Spending	$	$8,225,894
Participation	Number of Participants	233
Verified Gross Lifecycle Savings	kWh	2,757,429,377
	kW	19,498
	therms	67,524,192
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	92%
Net Annual Savings	kWh	159,997,043
	kW	17,959
	therms	4,328,898
Net Lifecycle Savings	MMBtu	14,880,172
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	4.31

Figure 100 shows the proportion of Large Industrial Program savings by offering. In CY 2024, the Large Industrial offering contributed 92% of the gross lifecycle MMBtu savings to the program, and the EDA/EDR offering contributed 8%.

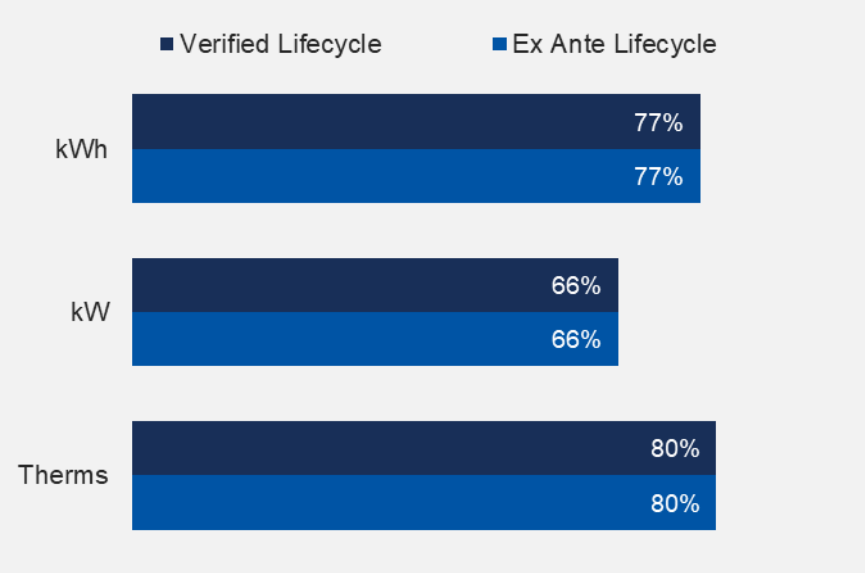
Figure 100. Large Industrial Program Achievement of Gross Lifecycle Savings by Offering



10.1. Achievement Against Goals

As shown in Figure 101, in CY 2024, the Large Industrial Program achieved 77% of its electric energy savings goal, 66% of its peak demand savings goal, and 80% of its therms savings goal based on verified lifecycle savings at the program level.

Figure 101. CY 2024 Large Industrial Program Achievement of Gross Lifecycle Savings Goals



100% *ex ante* gross lifecycle savings reflect the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

10.2. Impact Evaluation

This section presents the findings from the CY 2024 impact evaluation of the Large Industrial Program.

Impact Evaluation Methodology

The evaluation team designed its CY 2024 impact evaluation, measurement, and verification approach to integrate multiple perspectives into its assessment of program performance. The team used the following approaches to measure the impact of the Large Industrial Program:

- Tracking database review
- Engineering desk reviews
- Virtual verification site visits and interviews
- Engineering savings calculations
- Participant surveys

Table 98 lists the specific data collection activities and sample sizes used in the evaluation. Additional details about these activities and their findings can be found in the offering-specific discussions below.

Table 98. CY 2024 Large Industrial Impact Evaluation Activities and Sample Sizes

Offering	Total Measures	Impact Evaluation Sample		
		Desk Reviewed Measures	Virtually Verified Measures	% Sampled (by *Ex Ante* MMBtu savings)
Large Industrial	1,449	61	40	45.5%
EDA/EDR	9	4	2	91.9%
Total	**1,458**	**65**	**42**	**49.1%**

Engineering Desk Reviews

The evaluation team reviewed all available project documentation in SPECTRUM for a sample of 65 measures offered through the CY 2024 Large Industrial Program. This review included an assessment of the implementer's savings calculations and methodology. The team relied on the applicable TRMs and other relevant secondary sources as needed. Secondary sources included energy codes and standards, case studies, and energy efficiency program evaluations of comparable measures (based on geography, sector, measure application, and date of issue).

For prescriptive measures, the team used the Focus on Energy 2024 TRM and associated work papers as the primary sources to determine methodology and data in nearly all cases. For hybrid and custom measures, the team reviewed the SPECTRUM savings analysis workbooks and adjusted inputs and methodologies as necessary based on engineering judgment and project documentation.

To conduct the impact analysis of the offerings, the evaluation team selected a representative sample of measures to evaluate and then extrapolated the random sample findings to the larger population. In CY 2024, this process used purposive and proportional sampling by the following process:

- **Census sampling** selected the measures with the largest savings by offering (called census measures). The team used a percentage distribution analysis to determine the threshold of savings since this varied by offering. The census sample included most measures larger than 5% of each offering's lifecycle MMBtu savings. Because these measures were sampled with certainty (100% of eligible highest saving measures were sampled), the team did not extrapolate the results to the offering population.
- **Random sampling** randomly selected measures from the offering's population of measures (called randomly sampled measures). The team stratified the population by reported savings, fuel type, and sometimes measure type to ensure the overall representativeness of the sample selected. The team extrapolated the cumulative realization rate of randomly sampled measures by offering to the remainder of the offering population.

Virtual Verification Site Visits

The evaluation team conducted 42 virtual verification site visits, including interviews with the site contact. The team conducted virtual site visits for sampled measures where the savings impact was high, the measure type was either hybrid or custom, or when there were outstanding questions and clarification needed to complete the evaluation of the measure. Field staff verified the type and quantity

of equipment installed, determined how the installed equipment is controlled, and documented the operating hours of the installed equipment. The team then verified the savings calculation input parameters based on operational and occupancy schedules, reported and observed setpoints, trend data, utility data, and any other relevant details identified before contact with the site.

Verified Gross Savings Results for the Large Industrial Program

Table 99 lists the first-year and lifecycle realization rates for the CY 2024 Large Industrial Program. Table 100 lists verified first-year and lifecycle savings by offering. The sampled projects represent 49% of the Large Industrial Program lifecycle MMBtu savings. Overall, the program achieved a first-year evaluated realization rate of 100%, weighted by total energy savings (MMBtu). Note that at the measure level, there was variability between fuel types in terms of the realization rates. The team determined realization rates by strata, such as census and sample strata, and summed reported and verified savings at the offering level to arrive at savings and realization rates. Detailed findings for each offering, including factors affecting the realization rates, are discussed in the next section of this chapter.

Table 99. CY 2024 Large Industrial Program First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Large Industrial	100%	100%	100%	100%	100%	100%	100%
EDA/EDR	100%	100%	100%	100%	100%	100%	100%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 100. CY 2024 Large Industrial Program First-Year and Lifecycle Verified Energy Savings Summary

Offering	Verified First-Year Savings				Verified Lifecycle Savings		
	kWh	kW	therms	MMBtu [a]	kWh	therms	MMBtu[a]
Large Industrial	163,410,467	17,339	4,443,657	1,001,922	2,549,700,057	62,347,132	14,934,290
EDA/EDR	10,386,466	2,159	258,853	61,324	207,729,320	5,177,060	1,226,478
Total	**173,796,933**	**19,498**	**4,702,510**	**1,063,246**	**2,757,429,377**	**67,524,192**	**16,160,768**

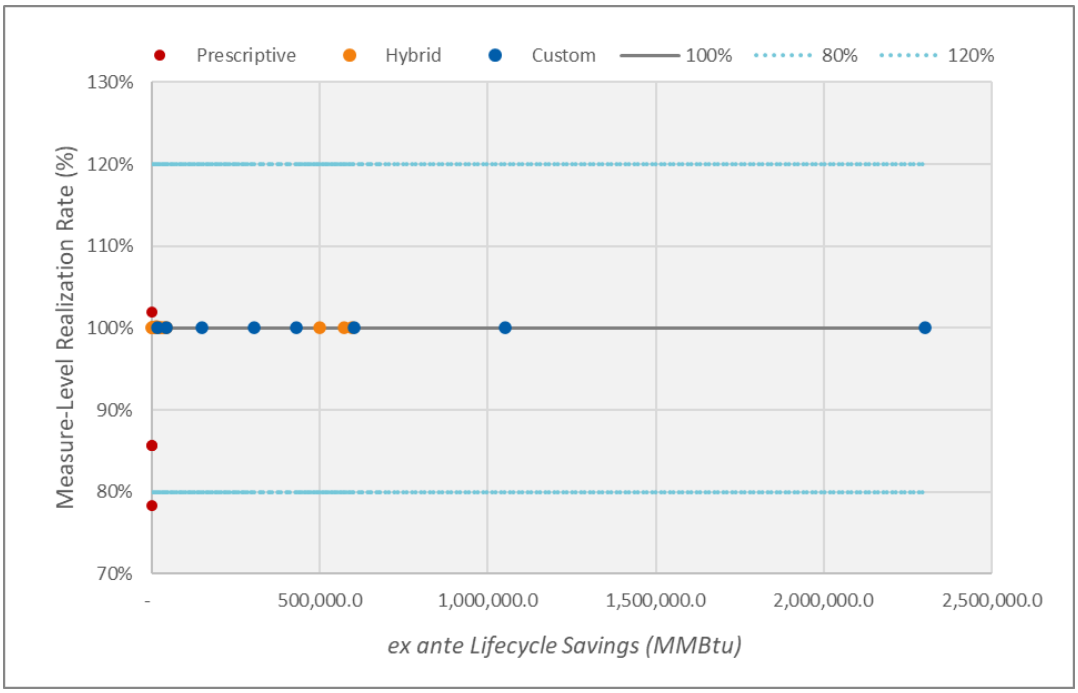
[a] Verified kWh and therms savings may not sum to verified MMBtu values due to conversion/rounding associated with measure-level application of realization rates.

Large Industrial Offering: Verified Gross Savings Results

For the Large Industrial offering, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The sampled projects represent 46% of the offering's lifecycle MMBtu savings. The offering had a gross lifecycle MMBtu realization rate of 100%.

Figure 102 illustrates the magnitude of and associated realization rates for *ex ante* lifecycle MMBtu savings of the sampled projects.

Figure 102. CY 2024 Large Industrial Offering Sampling Results



Few of the verified savings calculations deviated from *ex ante* savings. There was most variability in prescriptive measures; however, their impact was small. The following section describes the main factors affecting the realization rates:

- For two prescriptive measures, there were very slight rounding errors in the deemed values used for *ex ante* calculations. Modifications in *ex post* to full values published in the Focus on Energy 2024 TRM resulted in lifecycle *ex post* realization rates of 100% for both measures.
- For four prescriptive measures, older versions of the Focus on Energy TRM were utilized for *ex ante* calculations, resulting in slightly different deemed savings or estimated useful lifetime values. In all cases, *ex post* calculations reference the 2024 TRM for published deemed and expected useful life (EUL) values.
- One prescriptive measure utilizing MMID 5445: *ex ante* calculations referenced a 14-year EUL, while *ex post* calculations reference the 2024 TRM EUL of 12 years. Modification to the EUL resulted in 100% first-year energy savings and a lifecycle MMBtu realization of 86%.
- One prescriptive measure utilizing MMID 5451: *ex ante* calculations referenced a 14-year EUL, while *ex post* calculations reference the 2024 TRM EUL of 12 years. Modification to the EUL resulted in 100% first-year energy savings and lifecycle MMBtu realization of 86%.
- One prescriptive measure utilizing MMID 3400: *ex ante* calculations referenced different deemed savings than published in the 2024 TRM. Modification of the deemed savings to 2024

TRM MMID 3400 resulted in lower annual electric savings and an overall lifecycle MMBtu realization rate of 78%.

- One prescriptive measure utilizing MMID 2264: *ex ante* calculations referenced different deemed savings than those published in the 2024 TRM. Modification of the deemed savings to 2024 TRM MMID 2264 resulted in higher annual electric savings and an overall lifecycle MMBtu realization rate of 102%.

Table 101 lists the CY 2024 *ex ante* and verified gross savings by first-year and lifecycle gross savings for the Large Industrial offering.

Table 101. CY 2024 Large Industrial Offering *Ex Ante* and Verified Gross Savings

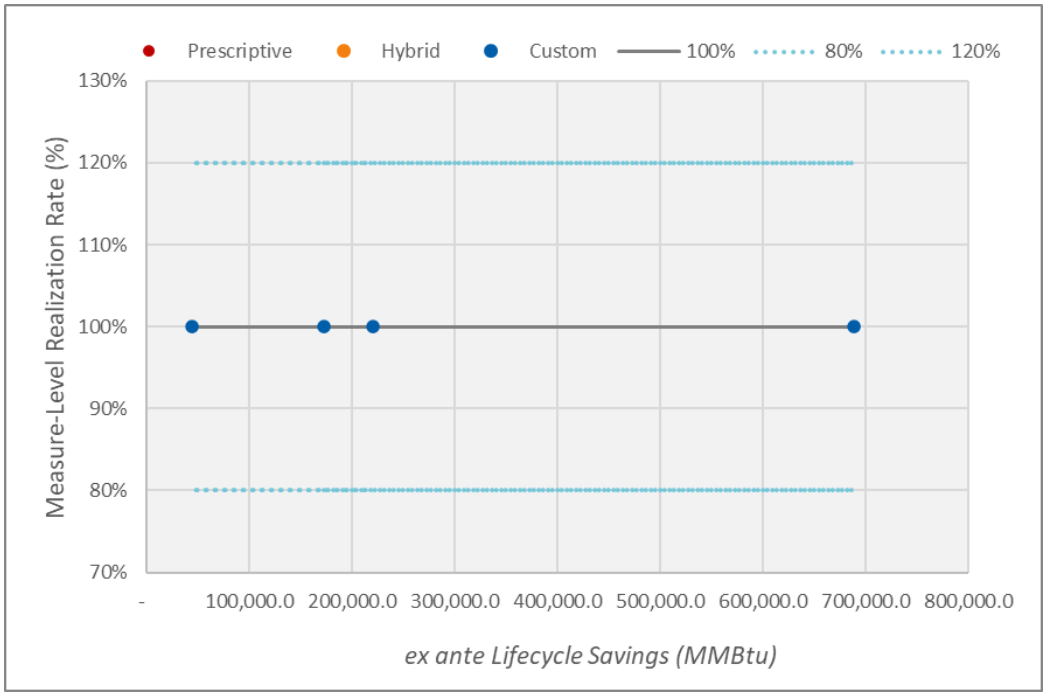
	***Ex Ante* Gross**			**Verified Gross**		
	kWh	**kW**	**therms**	**kWh**	**kW**	**therms**
First-Year Gross Savings	163,410,467	17,339	4,443,657	163,410,467	17,339	4,443,657
Lifecycle Gross Savings	2,549,700,057	17,339	62,347,132	2,549,700,057	17,339	62,347,132

EDA/EDR Offering: Verified Gross Savings Results

For the EDA/EDR offering, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The EDA/EDR evaluation procedure is to review the SIM files, the NEO modeling results, the written report, the project specifications, and the data entered into project tracking, looking for consistency amongst all documents. Interviews conducted in the evaluation phase may produce additional documentation that the evaluation team reviews against the rest of the submitted documentation for consistency. Where there are discrepancies and a lack of additional information, the evaluation team considers the ModelSim reports to be the final as built, and evaluated savings are based on that output.

The offering had a gross lifecycle MMBtu realization rate of 100%. Figure 103 illustrates the magnitude of and associated realization rates for *ex ante* MMBtu savings of the sampled projects.

Figure 103. CY 2024 New Construction Offering Sample Results



As Figure 103 shows, the prescriptive and custom projects generally maintained within ±5% of a 100% realization rate, with minor fluctuations that rounded to 100%. For all four EDA measures sampled, there were very slight discrepancies between the verified ModelSim report, which is the direct output from the modeling platform (one project used NEO and one project used FileBuilder), the written verification report, and the *ex ante* value reported within the SPECTRUM database. The evaluation team modified the final savings values to reflect the ModelSim reports. For all projects, the team rounded all savings metrics to 100% lifecycle MMBTU realization.

Table 102 lists the CY 2024 *ex ante* and verified gross savings by first-year and lifecycle gross savings for the EDA/EDR offering.

Table 102. CY 2024 EDA/EDR Offering *Ex Ante* and Verified Gross Savings

	***Ex Ante* Gross**			**Verified Gross**		
	kWh	**kW**	**therms**	**kWh**	**kW**	**therms**
First-Year Gross Savings	10,386,466	2,159	258,853	10,386,466	2,159	258,853
Lifecycle Gross Savings	207,729,320	2,159	5,177,060	207,729,320	2,159	5,177,060

Verified Net Savings Results for the Large Industrial Program

The evaluation team used CY 2023 participant survey results to assess net savings for the CY 2024 Large Industrial Program. To calculate the NTG for each offering in CY 2023, the team combined the self-reported freeridership and participant spillover results using the following equation:

$$NTG = 1 - Freeridership\ Ratio + Participant\ Spillover\ Ratio$$

Table 103 shows the CY 2023 NTG ratios applied to the CY 2024 Large Industrial Program offerings. The 2023 Evaluation Report contains the full detailed analysis of NTG completed in CY 2023. [23]

Table 103. CY 2024 Large Industrial Program NTG Ratios by Offering

Offering	Freeridership	Spillover	NTG Ratio
Large Industrial	8%	0%	92%
EDA/EDR	7%	0%	93%

Table 104 shows the total lifecycle gross verified savings, lifecycle net savings, and final NTG ratios for the Large Industrial Program in CY 2024.

Table 104. CY 2024 Large Industrial Program Lifecycle Net Savings and NTG

Offering	Total Lifecycle Gross Verified Savings (MMBtu)	Total Lifecycle Net Savings (MMBtu)	NTG Ratio
Large Industrial	14,934,290	13,739,547	92%
EDA/EDR	1,226,478	1,140,625	93%
Total	**16,160,768**	**14,880,172**	**92%**

10.3. Process Evaluation

The CY 2024 process evaluation of the Large Industrial Program focused on exploring participation barriers for nonparticipating large energy-using industrial customers. Additionally, the evaluation team conducted process evaluation activities that cut across all of Focus on Energy's nonresidential programs.

Process Evaluation Methodology

Table 105 lists the process evaluation data collection activities completed for the Large Industrial Program in CY 2024 and counts of activities completed for all primary data collection efforts.

Table 105. CY 2024 Large Industrial Process Evaluation Activities and Sample Sizes

Activity	CY 2024 Completes (n)
Program Documentation Review	N/A
Ongoing Participant Satisfaction Surveys	56
Nonparticipating Large Energy User Interviews	9
Participant Surveys (NEBs)	70 across all nonresidential programs
Trade Ally Interviews (bonus)	25 across all nonresidential programs
Lighting Application Review	9 utilities' applications
Midstream Lighting Program Structure Benchmarking	5 program administrators

[23] Cadmus. May 17, 2024. Focus on Energy Calendar Year 2023 Evaluation Report – Volume III Appendices. Appendix G. Net Savings Analysis. Prepared for Focus on Energy. https://assets.focusonenergy.com/production/inline-files/Evaluation_CY_2023_Vol-III_Appendices_final.pdf

Program Documentation Review

The evaluation team reviewed the Large Industrial Program's implementation and marketing plans to understand the program structure and implementation in CY 2024. The team also reviewed miscellaneous documentation throughout the year, such as *ad hoc* updates and quarterly performance reports to the PSC from the program administrator, to understand program updates and progress in CY 2024.

Ongoing Participant Satisfaction Surveys

Using contact information stored in SPECTRUM, the program administrator oversaw web-based satisfaction surveys throughout the year to CY 2024 participants. There were two objectives for these satisfaction surveys:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help to facilitate timely follow-up with customers to clarify and address service concerns

A total of 56 Large Industry Program participants responded to the CY 2024 survey. The survey covered several topics, including overall satisfaction, satisfaction with offering staff and trade allies, the likelihood of recommending Focus on Energy, and other feedback.

Nonparticipating Large Energy User Interviews

Using records and contacts provided by the program implementer, the evaluation team conducted phone-based interviews with large C&I customers with no record of Focus on Energy program participation since 2019.[24] Survey objectives were to understand the following among nonparticipants:

- Awareness of Focus on Energy and barriers to participation
- Decision-making process for capital investment projects and opportunities for Focus on Energy to support investment in energy efficiency
- Occurrence of sustainability-related goals and their influence on decision-making

The evaluation team recruited interviewees via email and phone using contact information provided by the Large Industrial Program implementer and supplemental research. The team interviewed nine nonparticipating customers out of a total sample frame of 130.

[24] In an effort to reach true nonparticipants, the evaluation team prioritized facilities with no record of prior participation (the participation tracking went back to 2019). Six of the nine respondents reported that their companies participated prior to 2019. The team still included these respondents as nonparticipants given the length of time since they conducted a project with Focus on Energy.

Cross-Cutting Nonresidential Program Research

In CY 2024, the evaluation team conducted surveys, interviews, and benchmarking that cut across Focus on Energy's nonresidential programs to explore the following research topics:

- **NEBs**. The evaluation team surveyed participating customers about their experience with Focus on Energy, the energy efficiency improvements they implemented, and the NEBs they received from participating in the programs. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Trade Ally Bonuses.** The team interviewed a sample of trade allies across all programs to assess satisfaction and influence of the newly introduced trade ally bonus while also collecting feedback on the current application process, program benefits, and opportunities for improvement. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Lighting Application Materials.** The team reviewed existing lighting incentive program applications for prescriptive and custom measures and their required materials, and identified potential ways to refine the current lighting measure application. The details of the methodologies and findings of this research are described in the Nonresidential Lighting Application Benchmarking research memo.[25]
- **Midstream Program Structure for Nonresidential Lighting**. The evaluation team collected feedback from program administrators on the benefits and challenges of introducing a midstream program to allow direct sales of discounted lighting products through retailers and distributors in addition to the current downstream approach. The details of the methodologies and findings of this research are described in the Nonresidential Midstream Lighting Program Benchmarking research memo.[26]

Program Design and Delivery

Customers primarily participate in the Large Industrial Program through custom and prescriptive incentives. The Large Industrial offering provides incentives for a broad range of energy-efficient prescriptive measures and custom projects, while the EDA/EDR offering provides design assistance or review for new construction buildings in addition to incentives. Customers can apply for incentives directly through Focus on Energy or their trade ally, with support from energy advisors, the implementer, and occasionally from their utility account representatives.

Energy advisors primarily use a customer relationship management approach for this program. Each Large Industrial energy advisor is assigned a set of customers based on geography and with consideration of the energy advisor's industry expertise. Energy advisors aim to reach out to all their

[25] Cadmus. January 20, 2025. Nonresidential Lighting Application Benchmarking Memo. Prepared for Focus on Energy. https://assets.focusonenergy.com/production/inline-files/Lighting-Application-Benchmarking-Memo_2025.pdf

[26] Cadmus. March 7, 2025. Nonresidential Midstream Lighting Program Benchmarking Memo. Prepared for Focus on Energy. CY-2024-Midstream-Lighting-Research-Memo_Final.pdf

customer contacts at least three times each year to develop a deeper understanding of the customers' needs. As of CY 2024, energy advisors are required to make in-person site visits to one-third of their priority customers (A/B list sites), hold recurring meetings to discuss and maintain a list of opportunities with 15% of A/B sites, and develop and maintain a decision-maker level connection with 10% of A/B sites.

In CY 2024, Focus on Energy made some adjustments to Large Industrial Program incentives, increasing the PAI cap from $7,500 to $15,000. They also modified the Industrial Staffing Grant to offer an earlier partial payment of 30% if customers sign up with a third-party energy management provider versus the original sole option of a later full payment. As of CY 2024, trade ally bonuses are available for assistance on custom projects.

Special Promotions and Incentives

In CY 2024, Focus on Energy offered two bonuses through the Large Industrial Program:

- **Trade Ally Prescriptive Bonus.** This bonus launched in July 2023 to encourage trade allies to promote the Focus on Energy program. In CY 2024, trade allies received a bonus that was 15% of the customer incentive or $25 (whichever was larger) for completed projects. Trade allies must be registered to receive the bonus.
- **Custom Design Trade Ally Bonus.** In January 2024, the program began offering the custom design bonus to encourage trade allies to promote the Focus on Energy program during custom project development and increase project savings. In CY 2024, trade allies received a bonus that was 10% of the customer incentive, up to $10,000, for completed projects. Trade allies must be registered to receive the bonus.

Nonparticipant Barriers and Opportunities

The following sections summarize findings from CY 2024 interviews with nonparticipating large energy users. The sections describe respondents' characteristics, energy awareness, past projects, their relationships with their energy advisors, and what the capital investment process looks like at each organization.

Respondent Characteristics

The evaluation team completed nine interviews with nonparticipating large energy-using customers. Of those, five worked at manufacturing facilities, and four worked at facilities spanning mixed agricultural, industrial, warehousing, and pharmaceuticals (Table 106).

Table 106. Respondent Characteristics

Respondent	Facility Types	Interviewee Role
Manufacturing (M1)	Paper Cups – Privately Owned	Facilities and Maintenance Manager
Manufacturing (M2)	Dairy Products Company – Family Owned	Maintenance Director and Project Manager
Manufacturing (M3)	Plastics Manufacturing – Publicly Traded	Operations Manager
Manufacturing (M4)	Plastics Manufacturing – Privately Owned	Facilities and Maintenance Manager
Manufacturing (M5)	Paper Products Manufacturing – Publicly Traded	Project Manager
Agriculture (A1)	Storage, Farming, and Indoor Farming – Family Owned	Purchasing and Safety Manager
Industrial (I1)	Coal Shipping – Owned by Investor-Owned Utility	Maintenance Manager
Warehouse (W1)	Educational Materials – Owned by Private Equity	Operations and Safety Manager
Pharmaceuticals (P1)	Biopharmaceuticals Company – Publicly Owned	Reliability Engineer

On average, respondents had worked at their company for 15 years. While the respondents' roles varied, each was responsible for energy-related decisions at their facility in some capacity. Most respondents (six of nine) worked in roles relating to facilities, maintenance, or safety management. None of the respondents were a part of senior leadership at their company.

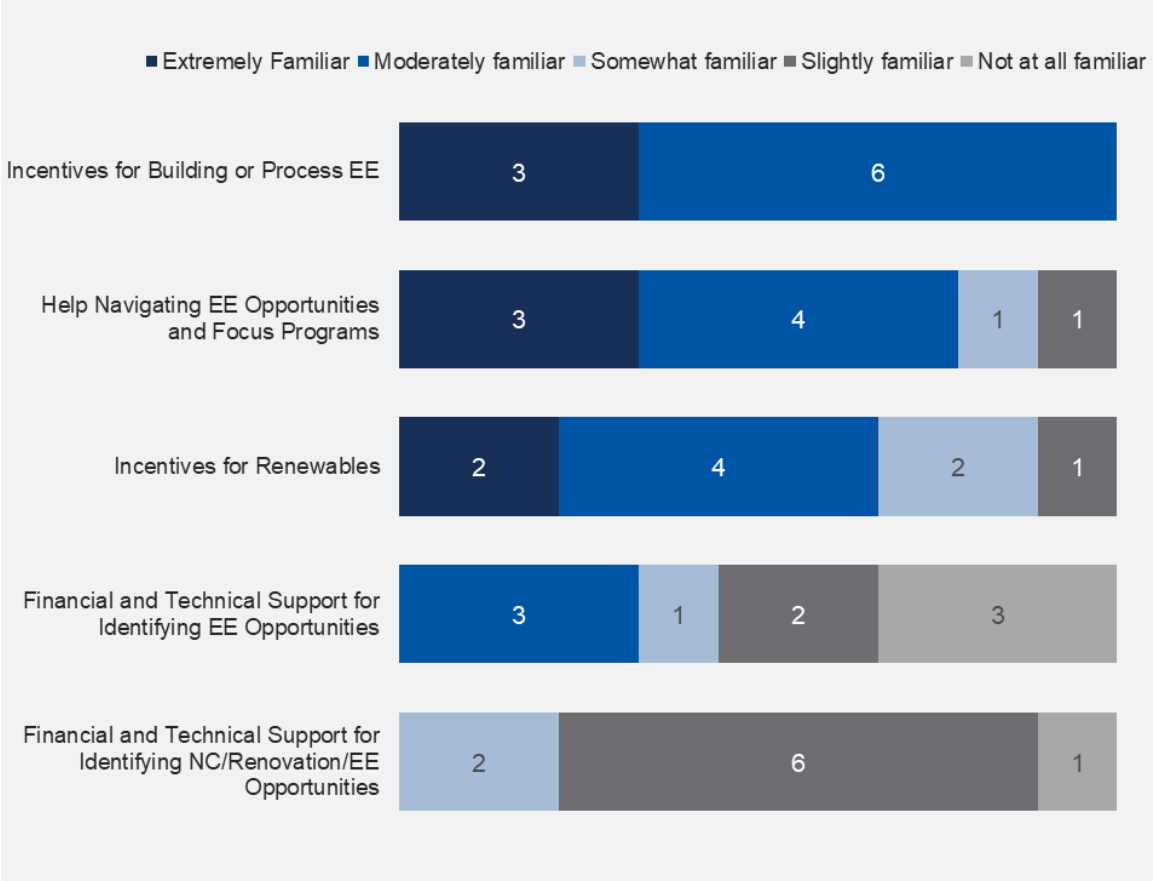
Energy Awareness

Respondents had limited awareness of total energy usage at their facility, with only one respondent able to provide an exact estimate of their facility's energy usage as a percentage of their operational cost, which they estimated to be 3%. All other respondents reported their energy costs to be a relatively small portion of their facility's overall costs. Focus on Energy and Leidos staff indicated that these findings are generally consistent with their experience with nonparticipants: for most, energy is not a large part of their costs, and staff have minimal visibility into energy as a proportion of operational costs.

All respondents were aware of Focus on Energy and reported having worked with Focus on Energy in the past. Six of the nine respondents had completed lighting projects with Focus on Energy before CY 2019. One respondent's company had completed a Focus on Energy project at a different site in CY 2023. The other two respondents had worked with Focus on Energy to develop lighting projects they did not ultimately complete. In one case, this was the result of shifting priorities due to a recent acquisition, and for the other, this was because the project did not meet the company's six-month return-on-investment (ROI) criteria.

Respondents were most familiar with Focus on Energy's incentives for energy-efficient buildings and processes (Figure 104). Respondents were also relatively familiar with both Focus on Energy's services for navigating energy efficiency opportunities and programs, as well as Focus on Energy's renewables incentives. Respondents were less familiar with Focus on Energy's financial and technical support for identifying new construction and energy efficiency opportunities, and least familiar with Focus on Energy's general financial and technical support for identifying energy efficiency opportunities.

Figure 104. Familiarity with Focus on Energy Services



Source: Nonparticipant Large Industrial Interview Question: "What types of Focus on Energy offerings are you aware of?" (n=9)

Recent Energy-Related Projects

Most respondents reported they had completed projects within the last three years that had significantly affected energy consumption at their facilities. As shown in Table 107, all manufacturing respondents reported having done at least one project that significantly impacted their energy consumption. Two manufacturing site respondents reported projects that affected air conditioning at their facilities, while the other three installed new manufacturing equipment. Planning period durations were mixed, but all were a year or less. Increasing energy efficiency was not the primary motivation for any of the projects reported, nor was energy efficiency considered for any of them. Additionally, none of the respondents knew if Focus on Energy incentives could have been used for their projects. All but one of the manufacturing respondents were unsure whether the equipment they purchased was the most efficient available.

Table 107. Recent Energy-Related Projects: Manufacturing

Respondent	Recent Projects	Planning Period	Primary Motivation	Was EE Considered?	Awareness of Focus Incentives	Equipment Efficiency
Manufacturing (M1)	Modified air handlers	8 months	Help compressors run cooler	No	No	Not the most efficient, but increased compressor energy efficiency
Manufacturing (M2)	Installed new manufacturing equipment	Very short	Expand production	No	No	Unsure, but generally their preferred equipment is also the most efficient
Manufacturing (M3)	Added and upgraded AC	1 year	Expand the area covered by AC	No	No	Unsure
Manufacturing (M4)	Purchased new manufacturing equipment	Very short	Expand production capacity	No	No	Unsure – very few product options
Manufacturing (M5)	Purchased new manufacturing equipment	1 year	Expand production	No	No	Only one product option

Two of the four non-manufacturing respondents reported they had completed projects within the last three years that had significantly affected energy consumption at their facilities (Table 108). The agricultural respondent reported building a new, mixed-use warehouse. While this respondent purchased LED lighting for the facility, they acknowledged purchasing other equipment that might not have been the most efficient, but better fit a specific need. This respondent was aware that Focus on Energy offers lighting incentives, but they were less sure about incentives for other products. Industrial and warehouse respondents did not report any recent projects at their facilities (later sections will elaborate on the reasons for this). The pharmaceutical company had replaced the HVAC unit in their boiler room but did not consider energy efficiency when purchasing equipment, and did not know if the resulting equipment was the most efficient. Like other respondents, they did not know whether this equipment could have been eligible for incentives.

Table 108. Recent Energy-Related Projects: Other

Respondent	Recent Projects	Planning Period	Primary Motivation	Was EE Considered?	Awareness of Focus Incentives	Equipment Efficiency
Agriculture (A1)	Built a new warehouse	6 months	More storage space	Yes	Yes	Mixed with all LED lighting
Industrial (I1)	None					
Warehouse (W1)	None					
Pharmaceuticals (P1)	New HVAC unit	Not reported	Replace the old unit	No	No	Unsure

Respondents identified three main reasons for not recently participating in Focus on Energy programs: restrictions imposed by management, having already completed the easier upgrades, and recent projects being too small or *ad hoc*. Additionally, five out of the nine respondents mentioned specific projects for which they hoped to receive support from Focus on Energy.

Each manufacturing respondent described the specific conditions of their recent projects:

- One manufacturing respondent reported they had already completed a lighting project and were heavily restricted by minimal capital funds. A recent boiler room project had a relatively quick turnaround, but they planned to work with Focus on Energy on an upcoming HVAC project where they thought efficiency savings could be easily achieved.
- A second manufacturing respondent had also already completed lighting upgrades, and while their recent manufacturing equipment purchases were quick turnarounds to meet rising demand, they planned to work with Focus on Energy on upcoming boiler upgrades.
- The third manufacturing site had already upgraded lighting and was limited in doing additional projects by the need to hit a six-month ROI threshold.
- The fourth manufacturing respondent had quickly completed their additional equipment installations to meet emergency contracts, but requested to be connected with Focus on Energy for support in replacing an AC system.
- The fifth manufacturing respondent had also already completed lighting upgrades and did not believe there were efficiency opportunities for recent equipment purchases.

Table 109 summarizes the recent upgrade experience of each manufacturing respondent.

Table 109. Reasons for Lack of Recent Participation: Manufacturing

Respondent	Restricted by Management	Already Completed Easy Upgrades	Too Small/ *ad hoc*	Plans to Work with Focus	Other
Manufacturing (M1)	X	X	X	Plans to work with Focus on an HVAC project	Needed very specific equipment, plus savings was not a priority
Manufacturing (M2)		X	X	Discussing potential boiler upgrades with Focus	Did not know if the equipment qualified
Manufacturing (M3)	X	X			No one at the site is responsible for energy efficiency
Manufacturing (M4)			X	Requested support replacing a 100-ton AC system	Equipment purchased to fulfill emergency contracts
Manufacturing (M5)		X			No efficiency tiers for equipment purchased

The non-manufacturing respondents reported similar reasons for not working with Focus on Energy as the manufacturing sites, including having already completed easy upgrades, small projects, and

competing priorities. Some non-manufacturing sites also expressed interest in working with Focus on future projects:

- The agricultural respondent reported having already completed lighting upgrades. Additionally, this respondent reported that energy efficiency was not a priority for all of the equipment purchased for their last project.
- The industrial respondent had not recently completed any projects, as their site is slated to go out of operation in two years. Additionally, this respondent had already completed lighting upgrades with Focus on Energy.
- A private equity company had recently purchased the warehouse company and plans to sell off the company's assets. Given this change in management and priorities, facility investments have been curtailed in recent years.
- The pharmaceutical company reported a few reasons for their lack of participation, besides their lack of awareness of what Focus on Energy incentives cover.

Table 110 summarizes the recent retrofit experience of these sites.

Table 110. Reasons for Lack of Recent Participation: Other

Interviewee	Restricted by Management	Already Completed Easy Upgrades	Too Small/ *ad hoc*	Plans to Work with Focus	Other
Agriculture (A1)		X	X	Requested support with the cooling system for indoor agriculture	Did not think to; non-energy efficiency considerations were important
Industrial (I1)	X	X			Closing in two years
Warehouse (W1)	X		X		Purchased by private equity
Pharmaceuticals (P1)				Intends to reach out regarding the redesign of the boiler room HVAC	Was not previously aware that Focus covered HVAC

Capital Investment Process

Each interviewee reported that ROI is the single most important criterion for determining the viability of a capital investment project. However, not all respondents reported specific thresholds. Respondents mentioned targeting simple payback timeframes of six months, two, three, and six years as sufficient. However, in many cases, these thresholds may not be fixed and could vary as a function of project characteristics, such as size.

"I mean unless it's a home run of a project. It's not going to be substantial for the ROI."

All respondents were responsible to varying degrees for identifying and planning energy efficiency projects at their facilities. However, none of the respondents had the final say in the approval of capital projects. The parties responsible for approving capital projects varied by respondent and included company boards, presidents, and capital expenditure groups. Anecdotal evidence suggests that capital investment decisions are driven by larger business needs and that energy efficiency on its own is typically not significant enough to guide an investment decision.

> *"If they could provide costs, like annual energy costs that would be saved, I think that would help, but overall, it boils down to the ROI."*

Energy Advisor Relationship

Every respondent reported having worked with a Focus on Energy advisor in the past. Respondents were broadly satisfied with their past energy advisor experiences.

All but one respondent reported that they knew how to get in contact with their energy advisor for support. The respondent who did not know how to contact an energy advisor reported frequent turnover in energy advisors and was uncertain as to who they would contact.

> *"Every year that I've proposed something… he's looked it over and he's done a great job as far as getting it looked at in a timely fashion, getting it back to me, telling me what needs to be done, and how to get the best out of Focus on Energy dollars."*

Five of the nine respondents reported that they would like more support from their energy advisor with more advanced energy efficiency projects. Many of these respondents had already completed lighting projects with Focus on Energy but seemed unsure about the opportunities to receive support from Focus on Energy outside of lighting. Respondents cited personalized support channels, such as incentive guides tailored to their facilities or in-depth walkthroughs, as ways that their energy advisor could better support them.

> *"Like a quick reference… something that once we start a project, we can know whether to pursue or not pursue incentives."*

> *"Low hanging fruit have pretty much already been picked… so I think [for walkthroughs] a specialist would have to be included."*

Supporting the Capital Investment Process

Overall, respondents were satisfied with the support they had received on past projects. One respondent even mentioned that their advisor had offered to meet with management to advocate for their project. However, respondents did not think that having energy advisors more involved with internal discussions was critical to better advocating for energy efficiency. Six respondents reported that providing cost-savings estimates was the best way for Focus on Energy to improve its support.

Complimentary to this was the desire for energy advisors to help respondents identify energy efficiency opportunities through site visits. Only one respondent reported knowing whether Focus on Energy offered incentives for the projects they had recently completed. Especially for quick turnaround projects, prior awareness and understanding of Focus on Energy incentives appeared to be key in triggering the consideration of energy efficiency. Respondents felt they needed to understand the opportunities available at their facility better before they could identify where a savings estimate would be helpful.

Describing what they want from an energy advisor: "Somebody that can understand what we do as a facility, and we can kind of talk and walk through the process and what would be beneficial."

Organizational Values

Five of the nine respondents reported having sustainability goals, and all included greenhouse gas reduction goals. Only one respondent, the pharmaceutical company, reported sustainability as being *very important* relative to other priorities. This respondent had a specific plan for improving their sustainability, such as getting Science-Based Targets Initiative (SBTi)-certified and developing a decarbonization plan.[27] This company's prioritization of sustainability appeared to be driven by the sustainability efforts of its competitors and the need to compete with these efforts to retain their customers' business.

"Our clients want to know that we have sustainability goals…we are pushing to get SBTi certified next year, and the first step is to develop a decarbonization plan."

For other respondents, sustainability appears largely consigned to their company's stated values, and it does not appear to impact day-to-day operations or considerations regarding energy usage.

"Our sustainability goal is to reduce our carbon footprint, but we don't have any KPIs or anything."

"Sustainability is in the back of our mind, it's not a driving factor like profitability or performance."

Respondents also reported safety, reliability, and performance as important co-benefits to energy efficiency that could resonate well with other company priorities.

Ongoing Participant Satisfaction Survey

Throughout CY 2024, the administrator invited Large Industrial participants to take a web-based satisfaction survey. The following sections present survey results from the 56 participants who completed the survey.

Awareness

The participant satisfaction survey asked respondents how they learned about the Large Industrial Program. In CY 2024, most respondents said they learned about it from Focus on Energy energy advisors

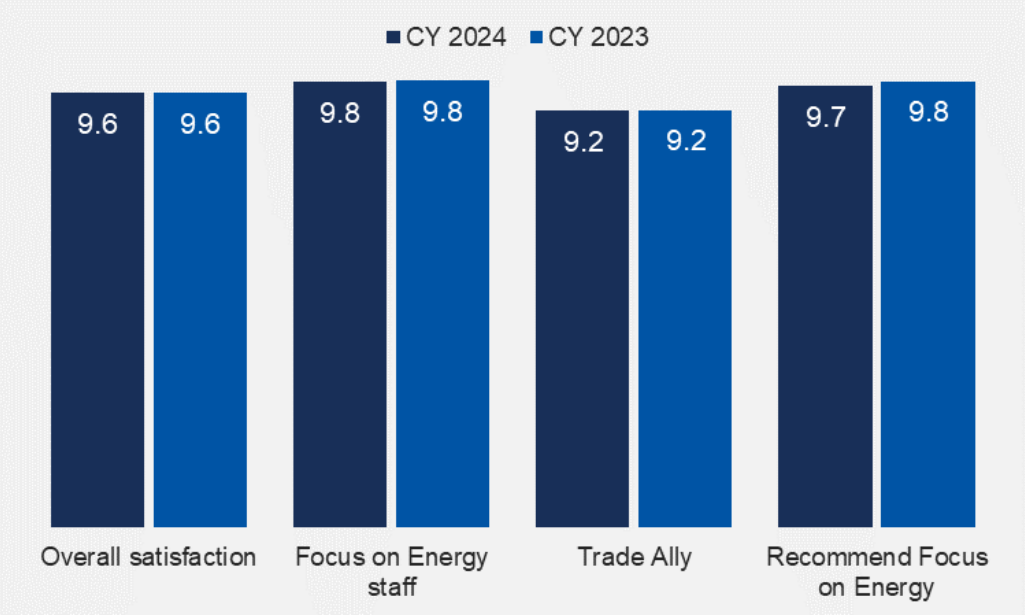
[27] SBTi is a nonprofit that validates the climate targets of corporations. https://sciencebasedtargets.org/about-us#:~:text=The%20Science%20Based%20Targets%20initiative,in%20combating%20the%20climate%20crisis.

(54%, n=56), followed by previous experience with Focus on Energy offerings (34%), which were also the top responses in CY 2023.

Participant Experience

The survey asked participants to rate their satisfaction with the program and the likelihood of recommending Focus on Energy on a scale of 0 to 10, where 10 indicated the highest degree of satisfaction or likelihood and 0 the lowest.[28] As Figure 105 shows, CY 2024 respondents gave the Large Industrial Program an average overall satisfaction score of 9.6, identical to average ratings in CY 2023. The other ratings from respondents were also very consistent between CY 2024 and CY 2023.

Figure 105. Large Industrial Participant Satisfaction and Likelihood Ratings



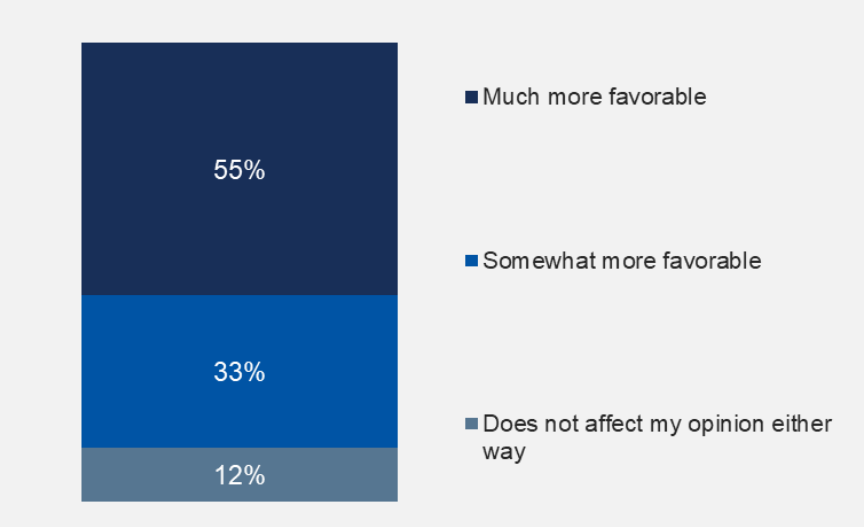
Source: Large Industrial and Business and Industry Program Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=56; CY 2023 n=45). "How satisfied are you with the Energy Advisor or Focus on Energy staff member who assisted you with your project?" (CY 2024 n=55; CY 2023 n=44). "How satisfied are you with the contractor(s) that you worked with on this project?" (CY 2024 n=44; CY 2023 n=31). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=55; CY 2023 n=45)

[28] The number of participants who completed a survey does not always match the number of responses for each question, as some participants skipped or did not know answers to questions.

Using the survey data, the evaluation team calculated a NPS based on customers' likelihood to recommend Focus on Energy. The NPS is expressed as an absolute number between -100 and +100 that represents the difference between the percentage of promoters (respondents giving a rating of 9 or 10) and detractors (respondents giving a rating of 0 to 6). High NPS scores (+70 or higher) are theoretically predictive of customer behaviors, such as participating in another offering, implementing additional energy improvements, and referring Focus on Energy offerings to others. The Large Industrial Program's NPS remained very high at +95 for CY 2024, similar to +98 for CY 2023.

Respondents were asked if they were aware that the Large Industrial Program was offered in partnership with their local utility before receiving the satisfaction survey. Ninety-three percent (n=56) were aware in CY 2024, which was the highest rate of awareness of any Focus on Energy program, as it had also been in CY 2023. Respondents were also asked if Focus on Energy offerings affected their opinion of their utilities. Eighty-eight percent reported that their opinion had become *much more favorable* or *somewhat more favorable,* while none reported that their opinion had become *much less favorable* or *somewhat less favorable,* and 12% said their opinion did not change. Large Industrial respondents had the highest rate of *more favorable* opinions of any Focus on Energy programs surveyed in CY 2024, as was also the case in CY 2023. Figure 106 shows the full breakdown of respondents' opinions of utilities.

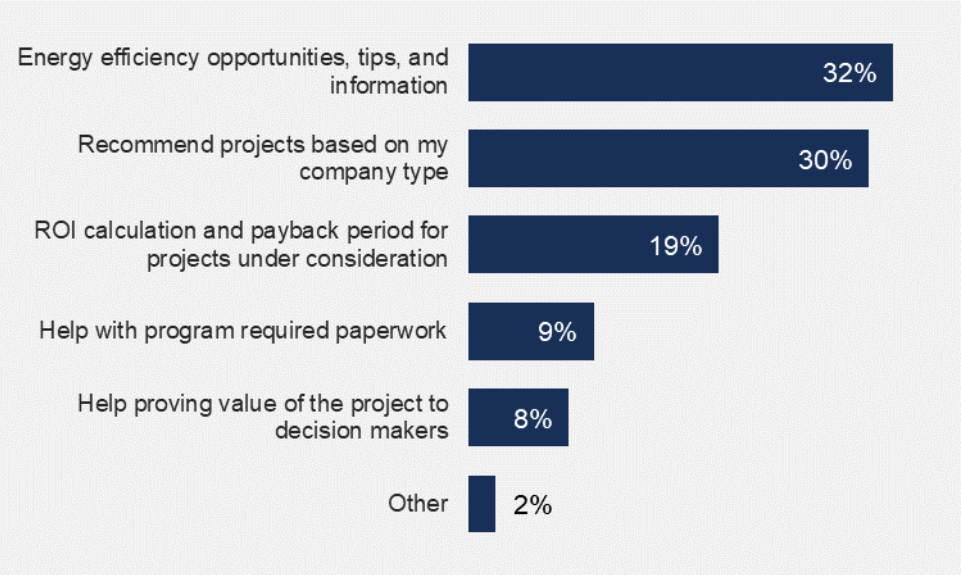
Figure 106. Large Industrial Participants' Opinions of Utilities



Source: Large Industrial Participant Satisfaction Survey Question: "How have these offerings affected your opinion of your energy utility, if at all?" (n=51). No responses were received for the options *somewhat less favorable* and *much less favorable*.

Survey respondents identified how Focus on Energy could best support their organization with future projects (Figure 107). The most frequent responses from CY 2024 participants were energy efficiency opportunities, tips, and information (32%), and recommending projects based on company type (30%). One respondent suggested that Focus on Energy could also provide loans and financing for projects (shown as Other).

Figure 107. Large Industrial Participants' Most Valued Support



Source: Large Industrial Participant Satisfaction Survey Question: "Aside from providing project incentive dollars, how can Focus on Energy best support your organization going forward?" (n=53)

Participant Feedback and Suggestions for Improvement

The survey asked participants if they had any comments or suggestions to improve the program. Of the 56 participants who responded to the survey, 32% provided open-ended feedback, which the evaluation team coded into a total of 23 mentions. Of these mentions, 21 were positive or complimentary, and two suggested improvements. Fourteen of the 21 positive comments praised the energy advisors who worked on their projects, three commented on the ease and convenience of the program, two reflected satisfaction with cost and energy savings, and two reflected a generally positive experience. The two suggested improvements were doing more to promote the program in general and to increase the scope to assist companies that want to perform more specific audits to identify energy savings.

In CY 2024, the satisfaction survey included an open-ended question soliciting comments on participants' experience with trade allies. Eighteen Large Industrial respondents gave comments, of which 15 were positive and complimentary. One respondent would have preferred their contractor to apply for the rebate, but the contractor would not do it for them. Another respondent provided two comments about different projects: in one case, they said the contractor "*did not want to see the project through to the end*" and that their "*savings calculations were a little bit skewed*," and in the other case, reported difficulties getting their contractor to explain the project and provide quotes for everything they requested.

10.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test.

Table 111 lists the CY 2024 incentive costs for the Large Industrial Program.

Table 111. CY 2024 Large Industrial Incentive Costs

Offering	Incentive Costs
Large Industrial	$7,295,236
EDA/EDR	$930,658
Total	**$8,225,894**

The evaluation team found that the CY 2024 Large Industrial Program was cost-effective (4.31). Table 112 lists the evaluated costs and benefits.

Table 112. CY 2024 Large Industrial Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$403,824
Delivery Costs	$5,572,199
Incremental Measure Costs	$48,552,053
Total Non-Incentive Costs	**$54,528,076**
Benefits	
Electricity Benefits (kWh)	$54,654,982
Capacity Benefits (kW)	$45,912,929
Gas Benefits	$13,150,113
Emissions Benefits	$28,608,397
T&D Benefits (kW)	$92,765,584
Total TRC Benefits	**$235,092,004**
Net TRC Benefits	**$180,563,928**
TRC Benefit/Cost Ratio	**4.31**

10.5. Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations based on the CY 2024 Large Industrial Program evaluation.

Outcome 1. The evaluation team identified instances of project data discrepancies in EDA/EDR measures. Verification report specifications often differed from model input parameters for several EDA/EDR projects. This created uncertainty for the evaluation team concerning whether the documentation or the model had not been properly updated, and which should be considered the most current.

Recommendation 1. Enact or formalize a quality control process that aligns verification reports with the energy model inputs and outputs.

Outcome 2. Opportunities exist to engage with and educate nonparticipating large energy users. Seven of the nine nonparticipant interview respondents had recently completed a project that significantly impacted their energy usage. None of these respondents knew whether Focus on Energy

incentives could have been used for these projects. Additionally, overall, respondents were the least familiar with Focus on Energy's ability to help them identify new opportunities for energy efficiency.

Recommendation 2. Invest in higher-touch outreach for nonparticipants. Nonparticipants are still doing projects that affect their energy usage and could benefit from Focus on Energy support. However, these customers often do not understand what opportunities are available to receive Focus on Energy support. Emphasizing the non-lighting incentives that Focus on Energy provides may be an important first step. Six of the nine participants had completed a lighting project with Focus on Energy in the past. Additionally, getting on site to conduct an audit, providing site-specific incentive guides, or other personalized support may be necessary for bridging the gap between the support that Focus on Energy offers and the support that customers think they offer.

Outcome 3. Nonparticipants face significant restrictions outside of their control. Four nonparticipants interviewed in this study had limited capital funds or were restricted in their ability to make energy efficiency investments by management, indicating that nonparticipants could face significant restrictions in implementing energy efficiency projects.

Recommendation 3. Gather information early to understand barriers. Gather information on the customers' capital investment process early on, identifying potential roadblocks to project approval, which may help Focus on Energy avoid investing in high-touch customer support in cases where company policies might make any energy efficiency project unviable.

Outcome 4. Sustainability goals are not a motivating factor for nonparticipants. Five of the nine respondents reported sustainability goals. However, only one respondent's sustainability goals appeared to significantly impact their company's operations. For the four other respondents with sustainability goals, sustainability by itself was not sufficient for motivating energy efficiency projects, but for all four respondents, sustainability appears to be largely consigned to their company's stated values.

Recommendation 4. Provide materials to help organizations boost the visibility of their Focus on Energy program participation and its sustainability impacts. While sustainability may not be a primary motivation for most nonparticipants, it appears to be a value for many. Helping organizations to boost the visibility of their participation and sustainability efforts could increase the value of participation, alongside other benefits, and increase the likelihood of program participation for some nonparticipants.

11. Schools and Government Program

Through the Schools and Government Program, Focus on Energy offers technical assistance, as well as prescriptive and custom incentives, to schools, local agencies, and non-local governments in Wisconsin.

The Schools and Government Program consists of three offerings:

- **Schools.** This offering is available to private and public K-12 schools and higher education institutions, including universities, colleges, and technical colleges. It provides technical assistance, as well as prescriptive and custom incentives.
  - *Prescriptive rebates* are offered for standard equipment installations or replacements in an existing building or new construction.
  - *Custom incentives* are offered for nonstandard equipment installations or replacements in existing buildings or new construction. Custom incentives are also available for non-solar photovoltaic (PV) renewable technologies, such as biogas, biomass, solar thermal, and wind technologies.

- **Government.** This offering is available to local government entities, including municipalities, counties, and wastewater facilities, as well as non-local government entities, including tribes, state, and federal facilities in Wisconsin. It provides technical assistance, as well as prescriptive and custom incentives.
  - *Prescriptive rebates* are offered for standard equipment installations or replacements in an existing building or new construction.
  - *Custom incentives* are offered for nonstandard equipment installations or replacements in existing buildings or new construction. Custom incentives are also available for non-solar PV renewable technologies, such as biogas, biomass, solar thermal, and wind technologies.

- **Energy Design Assistance/Energy Design Review (EDA/EDR).** This offering is available for new construction, major renovation, and addition projects over 5,000 square feet. It provides a whole-building energy analysis of multiple design options and incentives based on the building's overall energy savings. This offering is also available through the Business and Industry, Large Industrial, and Multifamily programs.

The Schools and Government Program is administered by APTIM and implemented by CESA 10 and its subcontractor, Leidos. Willdan, the EDA/EDR implementer, conducts building analysis and energy modeling to support the EDA/EDR offering.

In addition to the Schools, Government, and EDA/EDR offerings, the program provides secondary opportunities to participate:

- **Project Assessment Incentive (January 2014-Present):** The PAI offers cost sharing for the development or engineering of complex energy-saving projects where energy savings are not immediately known. In CY 2024, the incentive paid 50% of the assessment cost or 20% of the estimated annual energy cost savings, up to $15,000, an increase of $7,500 as compared to

CY2023. This opportunity is available to all Schools and Government customers and requires pre-approval by Focus on Energy. As of CY 2024, PAIs were available to new or underutilized existing biogas and biomass systems.

- **Retro-commissioning (January 2021-Present):** Retro-commissioning is the process of improving the performance and energy efficiency of building systems and equipment via low- and no-cost modifications to building controls and protocols. Incentives are based on square footage, with a base rate and additional incentives based on a reduction in energy use intensity. In CY 2024, incentives could cover as much as 75% of the project cost, up to $100,000 per project. The opportunity is designed for properties older than six years old and 5,000 square feet or larger.
- **Whole Building Tune-Up (April 2022-Present):** The whole-building tune-up allows customers to upgrade common control systems without requiring a facility audit or verification data. The tune-up includes optimization measures for heating, cooling, ventilation, and hot water systems that are intended to be implemented the same day by a trade ally. The trade ally then submits the application online via Formstack. In CY 2024, customers could receive up to $1,850 in incentives: $750 for the first three implemented measures and $100 per additional measure. Customers may receive incentives for the same measure once every three years. Trade Allies may receive a $200 incentive for completing a Building Health Report.
- **Strategic Energy Management (January 2021-Present):** The strategic energy management opportunity provides participants with guidance and technical assistance to advance energy-management capabilities and establish a continuous energy-management improvement process resulting in low- and no-cost operational energy improvements. In CY 2024, this opportunity offered two incentives to all higher education customers:
  - Enrollment Incentives: $750 paid upon scheduling an audit and $750 paid upon completion of a year's enrollment in the offering.
  - Energy Savings Incentives: $0.02 per kWh and $0.20 per therm saved, up to $50,000 per site per year.
- **Boiler Tune-Up (January 2015-Present):** Boiler tune-up incentives are available to all Schools and Government customers who complete preventative maintenance on natural gas boilers. The incentive paid $0.05 per MBh of the boiler, up to 100% of the tune-up cost in CY 2024.
- **Wastewater Plant Assessments (June 2018-Present):** Municipal government wastewater facilities can receive incentives to assess the energy efficiency of a wastewater plant using a specialized wastewater services provider. The assessment reviews the energy-saving potential of equipment upgrades, operational modifications, and facility improvements. In CY 2024, the incentive covered 90% of the assessment cost, up to $5,000, and was paid to the service provider.

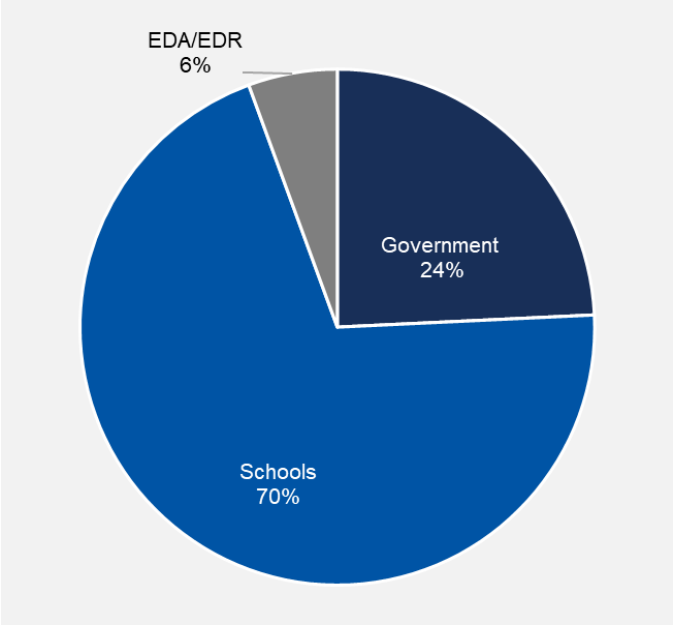
Table 113 summarizes the performance and savings impacts of the Schools and Government Program in CY 2024.

Table 113. CY 2024 Schools and Government Program Summary

Item	Units	CY 2024
Incentive Spending	$	$7,449,528
Participation	Number of Participants	496
Verified Gross Lifecycle Savings	kWh	817,338,516
	kW	8,021
	therms	52,040,178
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	72%
Net Annual Savings	kWh	36,440,713
	kW	5,815
	therms	2,419,886
Net Lifecycle Savings	MMBtu	5,773,243
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	2.74

Figure 108 shows the proportion of Schools and Government Program savings by offering. In CY 2024, the Schools offering contributed 70% of the gross lifecycle MMBtu savings to the program, the Government offering contributed 24%, and the EDA/EDR offering remained at 6%.

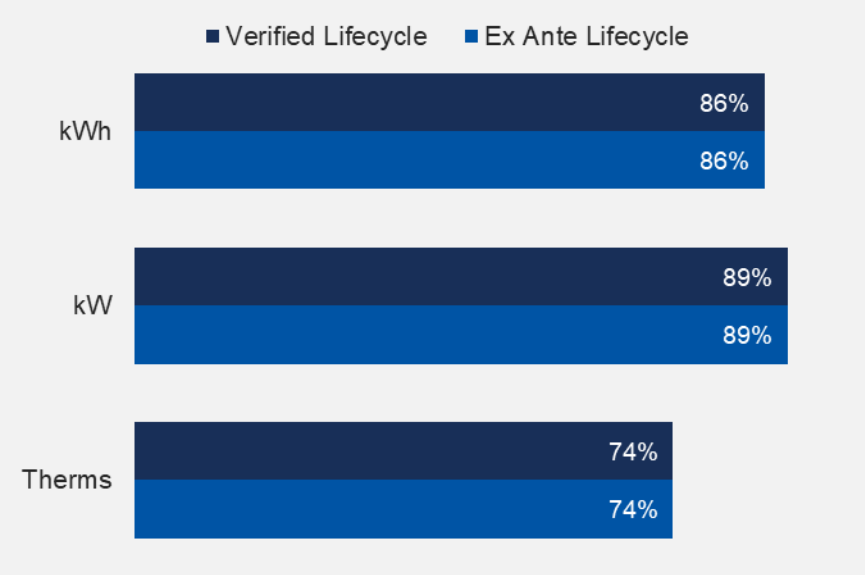
Figure 108. Schools and Government Program Achievement of Gross Lifecycle Savings by Offering



11.1. Achievement Against Goals

As shown in Figure 109, in CY 2024, the Schools and Government Program achieved 86% of its electric savings goal, 89% of its peak demand savings goal, and 74% of its therms savings goal based on verified gross lifecycle savings at the program level.

Figure 109. CY 2024 Schools and Government Program Achievement of Gross Lifecycle Savings Goals



Note: 100% *ex ante* gross lifecycle savings reflects the implementer's contract goals for CY 2024. Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.

11.2. Impact Evaluation

This section contains the findings for the CY 2024 impact evaluation of the Schools and Government Program.

Impact Evaluation Methodology

The evaluation team designed its CY 2024 impact evaluation, measurement, and verification approach to integrate multiple perspectives into its assessment of program performance. The team used the following approaches to measure the impact of the Schools and Government Program:

- Tracking database review
- Engineering desk reviews
- Virtual verification site visits and interviews
- Engineering savings calculations
- Participant surveys

Table 114 lists the sample sizes used for the impact evaluation of the Schools and Government Program. These activities and their findings are further detailed below.

Table 114. CY 2024 Schools and Government Impact Evaluation Activities and Sample Sizes

Offering	Total Measures	Impact Evaluation Sample		
		Desk Reviewed Measures	Virtually Verified Measures	% Sampled (by *Ex Ante* MMBtu Savings)
Government	1,385	36	18	18.4%
Schools	2,566	43	20	13.4%
EDA/EDR	62	9	4	70.0%
Total	**4,013**	**88**	**42**	**17.7%**

Engineering Desk Reviews

The evaluation team reviewed all available project documentation in SPECTRUM for a sample of 88 measures offered through the CY 2024 Schools and Government Program. This review included an assessment of the implementer's savings calculations and methodology. The team relied on the applicable TRMs and other relevant secondary sources as needed. Secondary sources included energy codes and standards, case studies, and energy efficiency program evaluations of comparable measures (based on geography, sector, measure application, and date of issue).

For prescriptive measures, the team used the Focus on Energy 2024 TRM and associated work papers as the primary sources to determine methodology and data in nearly all cases. For hybrid and custom measures, the team reviewed the SPECTRUM savings analysis workbooks and adjusted inputs and methodologies as necessary based on engineering judgment and project documentation.

To conduct the impact analysis of the offering, the evaluation team selected a representative sample of measures to evaluate and then extrapolated the random sample findings to the larger population. In CY 2024, this process used census and random sampling, as described below:

- **Census sampling** selected the measures with the largest savings by offering (called census measures). The team used a percentage distribution analysis to determine the threshold of savings since this varies by offering. The census sample included most measures larger than 5% of each offering's lifecycle MMBtu savings by sampling wave. Because these measures were sampled with certainty (100% of eligible highest saving measures were sampled), the team did not extrapolate the results to the offering's population.
- **Random sampling** randomly selected measures from the population of offering measures (called randomly sampled measures). The team extrapolated the cumulative realization rate of randomly sampled measures by offering to the remainder of the offering's population.

Virtual Verification Site Visits

The evaluation team conducted 42 virtual verification site visits, including interviews with the site contact. Virtual site visits were conducted for sampled measures where the savings impact was high, the

measure type was either hybrid or custom, or when there were outstanding questions and clarification needed to complete the evaluation of the measure. Field staff verified the type and quantity of equipment installed, determined how the installed equipment is controlled, and documented the operating hours of the installed equipment. The team then verified savings calculation input parameters based on operational and occupancy schedules, reported and observed set points, trend data, utility data, and any other relevant details identified before contact with the site.

Verified Gross Savings Results for the Schools and Government Program

Table 115 lists the first-year and lifecycle realization rates for the CY 2024 Schools and Government Program by offering. Table 116 is a summary of verified first-year and lifecycle savings by offering. Overall, the Schools and Government Program achieved a first-year evaluated realization rate of 100%, weighted by total (MMBtu) energy savings. Note that at the measure level, there was variability between fuel types in terms of the realization rates. The team determined realization rates by stratum, such as census and sample strata, and summed reported and verified savings at the offering level to arrive at savings and realization rates. Detailed findings for each offering, including factors affecting the realization rates, are discussed in the next sections of this report.

Table 115. CY 2024 Schools and Government Program First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Government	100%	100%	100%	100%	100%	100%	100%
Schools	100%	100%	100%	100%	100%	100%	100%
EDA/EDR	100%	100%	100%	100%	100%	100%	100%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 116. CY 2024 Schools and Government Program First-Year and Lifecycle Verified Energy Savings Summary

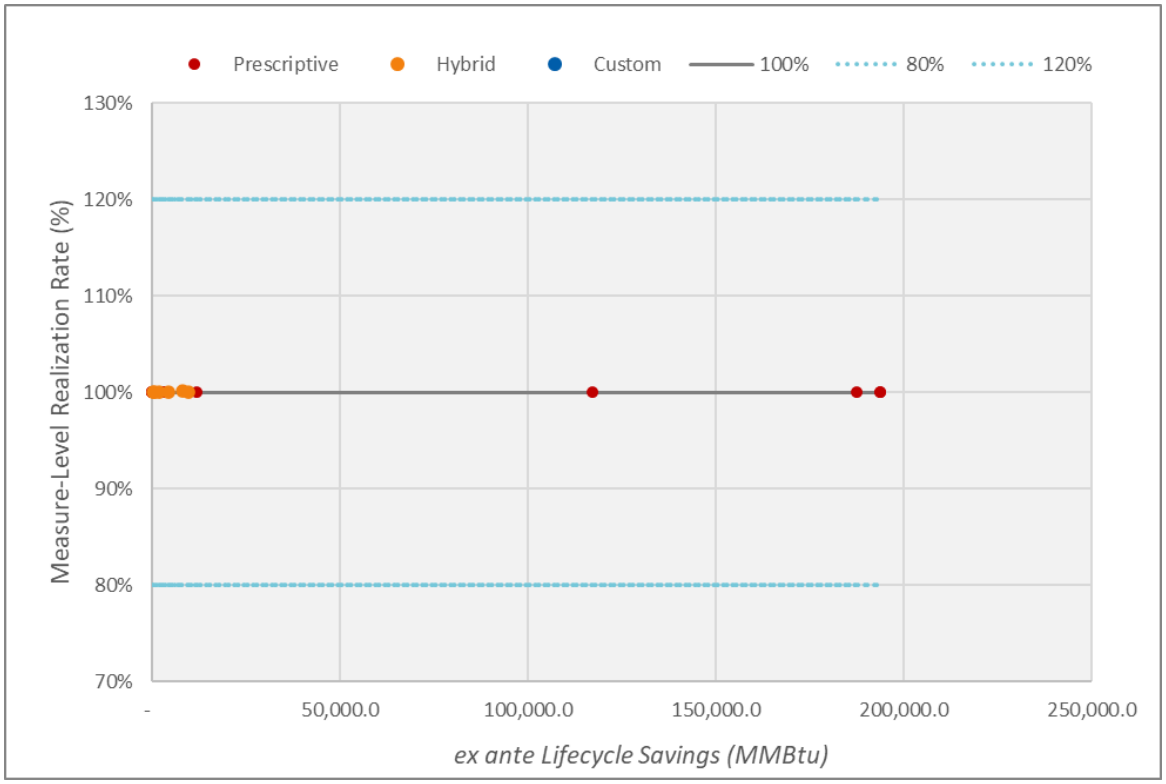
Offering	Verified First-Year Savings				Verified Lifecycle Savings		
	kWh	kW	therms	MMBtu [a]	kWh	therms	MMBtu[a]
Government	17,893,733	2,259	587,700	119,697	279,252,854	9,850,676	1,937,878
Schools	29,097,186	5,217	2,675,618	366,841	471,910,162	39,975,962	5,607,754
EDA/EDR	3,308,775	545	110,677	22,357	66,175,500	2,213,540	447,145
Total	**50,299,694**	**8,021**	**3,373,995**	**508,896**	**817,338,516**	**52,040,178**	**7,992,777**

[a] Verified kWh and therms savings may not sum to verified MMBtu values due to conversion/rounding associated with measure-level application of realization rates.

Schools Offering: Verified Gross Savings Results

For the Schools offering, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The offering had a gross lifecycle MMBtu realization rate of 100%. Figure 110 shows the magnitude of and associated realization rates for *ex ante* MMBtu savings of the sampled projects.

Figure 110. CY 2024 Schools Offering Sampling Results



The evaluation team found no discrepancies that affected the realization rates for any of the sampled projects. Although there were very slight rounding errors made in *ex ante* calculations, all cases resulted in first-year and lifecycle energy savings realization rates of 100%. Table 117 lists the CY 2024 *ex ante* and verified gross savings for the Schools offering.

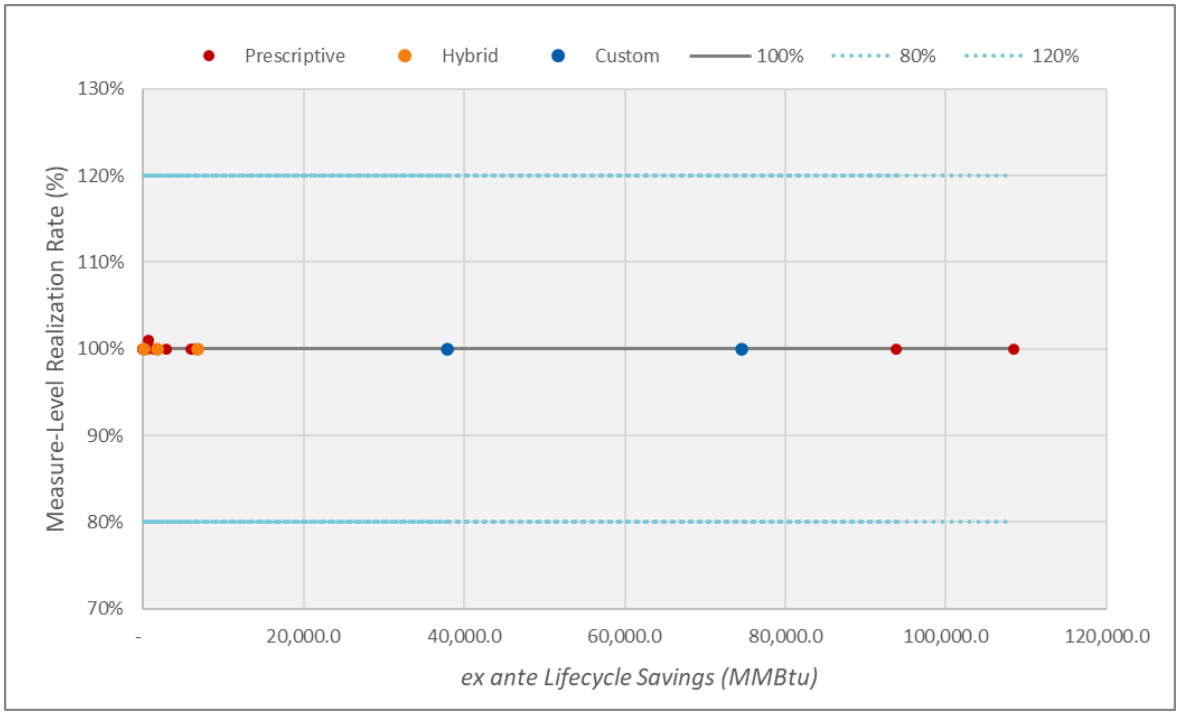
Table 117. CY 2024 Schools Offering *Ex Ante* and Verified Gross Savings

	***Ex Ante* Gross**			**Verified Gross**		
	kWh	**kW**	**therms**	**kWh**	**kW**	**therms**
First-Year Gross Savings	29,097,186	5,217	2,675,618	29,097,186	5,217	2,675,618
Lifecycle Gross Savings	471,910,162	5,217	39,975,962	471,910,162	5,217	39,975,962

Government Offering: Verified Gross Savings Results

For the Government offering, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The offering had a gross lifecycle MMBtu realization rate of 100%. Figure 111 shows the magnitude of and associated realization rates for reported MMBtu savings of the sampled projects.

Figure 111. CY 2024 Government Offering Sampling Results



The evaluation team found projects generally maintained within ±5% of a 100% realization rate, with minor fluctuations. The following describes the main factors that affected the measure realization rates:

- The evaluation team found differences in deemed savings values used in *ex ante* versus the Focus on Energy 2024 TRM for one prescriptive measure (MMID 3912). The *ex post* savings calculation utilizes current year (2024 TRM) deemed savings values for this measure, which results in slightly higher first-year and lifecycle kWh savings and an overall lifecycle MMBtu realization rate of 101%.
- There were a couple of instances of very slight rounding errors made in *ex ante* calculations, but all cases resulted in first-year and lifecycle energy savings realization rates of 100%.

Table 118 lists the CY 2024 *ex ante* and verified gross savings for the Government offering.

Table 118. CY 2024 Government Offering *Ex Ante* and Verified Gross Savings

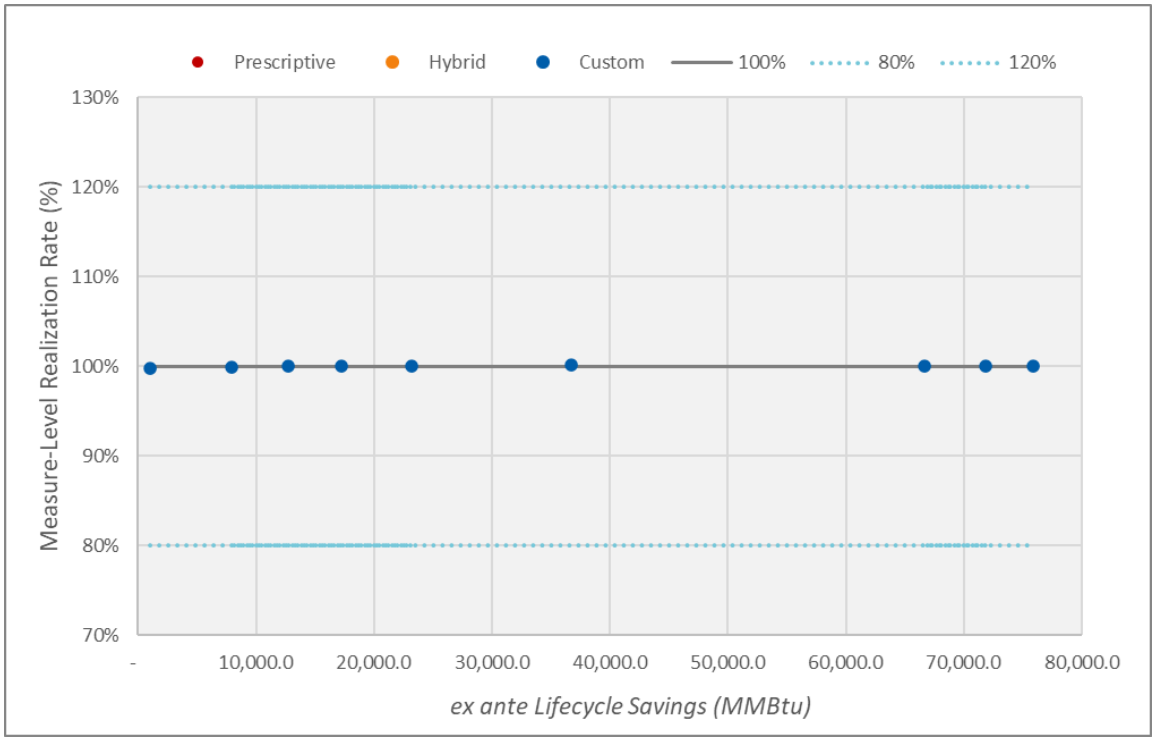
	***Ex Ante* Gross**			**Verified Gross**		
	kWh	**kW**	**therms**	**kWh**	**kW**	**therms**
First-Year Gross Savings	17,893,733	2,259	587,700	17,893,733	2,259	587,700
Lifecycle Gross Savings	279,252,854	2,259	9,850,676	279,252,854	2,259	9,850,676

EDA/EDR Offering: Verified Gross Savings Results

For the EDA/EDR offering, the evaluation team conducted a database review, desk reviews, interviews, and virtual site visits to inform verified gross savings. The EDA/EDR evaluation procedure is to review the SIM files, the NEO modeling results, the written report, the project specifications, and the data entered into project tracking, looking for consistency amongst all documents. Interviews conducted in the evaluation phase may produce additional documentation that the evaluation team reviews against the rest of the submitted documentation for consistency. Where there are discrepancies and a lack of additional information, the evaluation team considers the ModelSim reports to be the final as built, and evaluated savings are based on that output.

The offering had a gross lifecycle MMBtu realization rate of 100%. Figure 112 shows the magnitude of and associated realization rates for *ex ante* MMBtu savings of the sampled projects. Most verified savings calculations did not deviate from *ex ante* savings in the EDA/EDR sample for CY 2024.

Figure 112. CY 2024 EDA/EDR Offering Sampling Results



The following describes the main factors affecting the realization rate:

- For two EDA measures, there were discrepancies between the verified ModelSim report, which is the direct output from the modeling platform (one project used NEO and one project used FileBuilder), the written verification report, and the *ex ante* value reported within the SPECTRUM database. The evaluation team modified the final savings values to reflect the ModelSim reports:
  - For one project, modifications resulted in very slight differences in all metrics. The first-year kWh realization rate was 102%, the first-year therms realization rate was 99%, and the lifecycle MMBtu realization was 100%.
  - For one project, modifications resulted in a very slight difference in first-year therms (99.6% realization) and a lifecycle MMBtu realization rate of 100%.

Table 119 lists the CY 2024 *ex ante* and verified gross savings for the EDA/EDR offering.

Table 119. CY 2024 EDA/EDR Offering *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
First-Year Gross Savings	3,308,775	545	110,677	3,308,775	545	110,677
Lifecycle Gross Savings	66,175,500	545	2,213,540	66,175,500	545	2,213,540

Verified Net Savings Results for the Schools and Government Program

The evaluation team used CY 2023 participant survey results to assess net savings for the CY 2024 Schools and Government Program. To calculate the NTG for each offering in CY 2023, the team combined self-reported freeridership and participant spillover results using the following equation:

$$NTG = 1 - Freeridership\ Ratio + Participant\ Spillover\ Ratio$$

Table 120 shows CY 2023 NTG ratios applied to the CY 2024 Schools and Government Program. The 2023 Evaluation Report contains the full detailed analysis of NTG completed in CY 2023. [29]

Table 120. CY 2024 Schools and Government Program NTG Ratio

Offering	Freeridership	Spillover	NTG Ratio
Government	29%	0%	71%
Schools	29%	0%	71%
EDA/EDR	7%	0%	93%

[29] Cadmus. May 17, 2024. Focus on Energy Calendar Year 2023 Evaluation Report – Volume III Appendices. Appendix G. Net Savings Analysis. Prepared for Focus on Energy. https://assets.focusonenergy.com/production/inline-files/Evaluation_CY_2023_Vol-III_Appendices_final.pdf

Table 121 shows the total lifecycle gross verified savings, lifecycle net savings, and final NTG ratios for the Schools and Government Program in CY 2024.

Table 121. CY 2024 Schools and Government Program Lifecycle Net Savings and NTG

Offering	Total Lifecycle Gross Verified Savings (MMBtu)	Total Lifecycle Net Savings (MMBtu)	NTG Ratio
Government	1,937,878	1,375,894	71%
Schools	5,607,754	3,981,505	71%
EDA/EDR	447,145	415,845	93%
Total	**7,992,777**	**5,773,243**	**72%**

11.3. Process Evaluation

The CY 2024 nonresidential process evaluation focused largely on cross-cutting evaluation activities across all nonresidential programs, lighting program research, and monitoring ongoing customer satisfaction surveys.

Process Evaluation Methodology

In CY 2024, the evaluation team designed its nonresidential process evaluations to understand program changes, monitor customer satisfaction, assess program and trade ally bonus impacts across programs, and understand lighting program opportunities.

Table 83 lists the data collection activities and sample sizes for all primary data collection.

Table 122. CY 2024 Schools and Government Program Process Evaluation Activities

Activity	CY 2024 Completes (n)
Program Documentation Review	✓
Ongoing Participant Satisfaction Surveys	71
Participant Surveys (NEBs)	70 across all nonresidential programs
Trade Ally Interviews (bonus)	25 across all nonresidential programs
Lighting Application Review	9 utilities' applications
Midstream Lighting Program Structure Benchmarking	5 program administrators

Program Documentation Review

The evaluation team reviewed the School and Government Program's implementation and marketing plans to understand the program structure and how it was implemented in CY 2024. The team also reviewed miscellaneous documentation throughout the year, such as *ad hoc* updates and quarterly performance reports to the PSC from the program administrator, to understand program updates and progress in CY 2024.

Ongoing Participant Satisfaction Survey

Using contact information stored in SPECTRUM, the program administrator oversaw an ongoing web-based satisfaction survey throughout the year to CY 2024 participants. There were two objectives for these satisfaction surveys:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help to facilitate timely follow-up with customers to clarify and address service concerns

A total of 71 Schools and Government Program participants responded to the CY 2024 survey. The survey covered several topics, including overall satisfaction, satisfaction with offering staff and trade allies, likelihood of recommending Focus on Energy, and other feedback.

Cross-Cutting Nonresidential Program Research

In CY 2024, the evaluation team conducted surveys, interviews, and benchmarking that cut across Focus on Energy's nonresidential programs to explore the following research topics:

- **NEBs**. The evaluation team surveyed participating customers about their experience with Focus on Energy, the energy efficiency improvements they implemented, and the NEBs they received from participating in the programs. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Trade Ally Bonuses.** The team interviewed a sample of trade allies across all programs to assess satisfaction and influence of the newly introduced trade ally bonus while also collecting feedback on the current application process, program benefits, and opportunities for improvement. The details of the methodologies and findings of this research are described in the *Nonresidential Cross-Cutting Research* section of the report.
- **Lighting Application Materials.** The team reviewed existing lighting incentive program applications for prescriptive and custom measures and their required materials, and identified potential ways to refine the current lighting measure application. The details of the methodologies and findings of this research are described in the Nonresidential Lighting Application Benchmarking research memo.[30]
- **Midstream Program Structure for Nonresidential Lighting**. The evaluation team collected feedback from program administrators on the benefits and challenges of introducing a midstream program to allow direct sales of discounted lighting products through retailers and distributors in addition to the current downstream approach. The details of the methodologies

[30] Cadmus. January 20, 2025. Nonresidential Lighting Application Benchmarking Memo. Prepared for Focus on Energy. https://assets.focusonenergy.com/production/inline-files/Lighting-Application-Benchmarking-Memo_2025.pdf

and findings of this research are described in the Nonresidential Midstream Lighting Program Benchmarking research memo.[31]

Program Design and Delivery

Customers primarily participate in the Schools and Government Program through custom and prescriptive incentives that are available through the individual Schools and Government offerings. These incentives reduce the capital cost of energy efficiency improvement projects. The program is delivered through energy advisors who work with customers in the school and government sectors to identify projects and submit applications. Energy advisors also conduct energy calculations to determine savings and available incentive dollars for custom projects, which require pre-approval. The energy advisors work proactively with customers who are known to have large-scale infrastructure projects in their pipeline and engage responsively with other eligible customers. All but one of the Schools and Government Program energy advisors manage customer relations in a particular territory. One energy advisor focuses on wastewater agencies and manages relationships with the state's largest 35 wastewater plants.

The CY 2024 Schools and Government Program targeted four primary markets:

- **Public and Private K-12 Schools.** This segment was a primary focus for expanding into areas with limited historical participation, growing participation in the Whole-Building Tune-Up offering, and connecting customers with critical funding opportunities offered through the federal government.
- **Higher Education.** This segment was a target for promoting building optimization measures that do not require significant capital outlay.
- **Tribes.** This segment was a target to ensure tribal customers have access to the same resources and technical assistance as non-tribal entities.
- **Municipalities.** This segment was a target to increase engagement in rural markets, grow participation in the Whole-Building Tune-Up offering, and connect customers with federal grant opportunities.

Special Promotions and Incentives

In CY 2024, Focus on Energy offered the following special promotions and incentives to Schools and Government customers.

- **Renew Our Schools (Spring 2022-Present).** K-12 schools could enroll in a six-week energy challenge, during which they competed against other schools in Wisconsin to save the most energy. Winners could earn cash prizes for their schools. Schools were required to install an eGauge energy monitor to measure energy savings and determine the challenge winners. Focus on Energy did not claim savings for this initiative.

[31] Cadmus. March 7, 2025. Nonresidential Midstream Lighting Program Benchmarking Memo. Prepared for Focus on Energy. CY-2024-Midstream-Lighting-Research-Memo_Final.pdf

- **Project Planning Bonus (January 2022-Present).** This incentive assisted Schools and Government customers with planning their energy efficiency projects for the upcoming year. In CY 2024, customers who completed and submitted a project planning workbook prior to purchasing equipment could receive a 10% bonus incentive on all custom and prescriptive projects included in their workbooks. Tribal nations could receive an enhanced project planning bonus, which was a 50% bonus incentive up to $10,000.
- **Benchmarking (July 2022-June 2024).** This initiative offered $1,000 for customers to benchmark their buildings from July 2023 to June 2024. The initiative was developed to help customers within the Schools and Government markets create a habit of tracking utility expenses and monthly energy usage.
- **Practical Energy Management (January 2024-Present).** This initiative was new for 2024 and was developed to promote benchmarking concepts by encouraging School and Government customers to monitor their current energy usage and create a continuous energy management plan. Facilities were offered $1,200 to conduct consistent energy monitoring, with additional incentives available for attending trainings.
- **Tribal Nation Energy Plan Application (January 2022-Present).** In CY 2024, this initiative offered tribal nations an additional $15,000, up to 100% of the cost of external vendor or internal labor, to create or update their energy plans. This opportunity was originally a limited-time offer available through the Wisconsin OEI in CY 2022. Focus on Energy took over the offering in CY 2023.
- **Rural Municipal Roadway Lighting Bonus (January 2023-Present)**. This incentive aimed to address low participation among rural municipalities in exterior lighting measures. It offered a 50% bonus on prescriptive incentives for exterior lighting fixtures that were municipally owned and installed in CY 2024.
- **Pump Assessment and Variable Speed Drive Bonus (July 2021-Present).** In CY 2024, Focus on Energy offered municipal water and wastewater plants $500 per pump for a comprehensive pump assessment, up to 100% of the assessment cost. Participants could receive a 50% bonus (up to $2,000) for installing a variable-speed drive on the plant's pump system following the assessment.
- **Natural Disaster Relief Bonus (April 2019-June 2024).** In partnership with the Wisconsin OEI, the incentive was available to customers who were impacted by natural disasters and needed to rebuild their facilities. In CY 2024, the promotion offered a 25% bonus on new construction prescriptive incentives for rebuilding after a natural disaster.
- **Higher Education Kit Challenge (May 2022-Present).** This initiative aimed to engage students at the University of Wisconsin or technical college campuses in implementing energy-efficiency measures in off-campus housing. It offered bonuses and marketing opportunities to the college that engaged the highest percentage of their off-campus housing.
- **Utility Bill Verified Savings (January 2023-Present).** For customers who enrolled by December 31, 2023, this initiative provided financial rewards for making facility-wide efficiency improvements after hiring an energy manager or purchasing equipment with advanced

monitoring. The initiative provided analysis to quantify the reduction in weather-normalized energy use intensity and provided an incentive based on the energy saved per square foot.

- **Schools and Government Rural Energy Audit (January 2023-October 2026).** This offering supported rural customers in pursuing energy efficiency opportunities at their facilities. Customers in rural zip codes could receive a sliding scale bonus if they complete the top three energy conservation measures identified in an audit conducted by an energy Advisor.
- **Rural Electric Reduction Accelerator (January 2023-Present).** This initiative provides additional funding through incentives to rural customers to make energy efficiency projects more feasible. Customers in rural zip codes can participate, and funding is available on a first-come, first-served basis.
- **Trade Ally Prescriptive Bonus (July 2023-Present).** This bonus was developed to encourage trade allies to promote the Focus on Energy program. In CY 2024, trade allies received a bonus that was 15% of the customer incentive or $30 (whichever was larger) for completed projects. Trade allies had to be registered to receive the bonus.
- **Custom Design Trade Ally Bonus (January 2024-Present).** The custom design bonus launched in January 2024 to encourage trade allies to promote the Focus on Energy program during custom project development and increase project savings. In CY 2024, trade allies received a bonus that was 10% of the customer incentive, up to $10,000, for completed projects. Trade allies had to be registered to receive the bonus.

In addition to these initiatives, Focus on Energy also increased prescriptive incentives on certain lighting measures in CY 2024, including LED downlights, high bay/low bay fixtures, and occupancy/vacancy sensors. The 500 horsepower cap on variable frequency drives was removed as well.

Ongoing Participant Satisfaction Survey

Throughout CY 2024, the program administrator invited Schools and Government participants to take a web-based satisfaction survey. The following sections present survey results from the 71 participants who responded to the survey.

Awareness

The participant satisfaction survey asked respondents how they learned about the Schools and Government Program. In CY 2024, most respondents said they learned about it from Focus on Energy advisors and staff (44%, n=68) or previous experience with Focus on Energy offerings (31%).

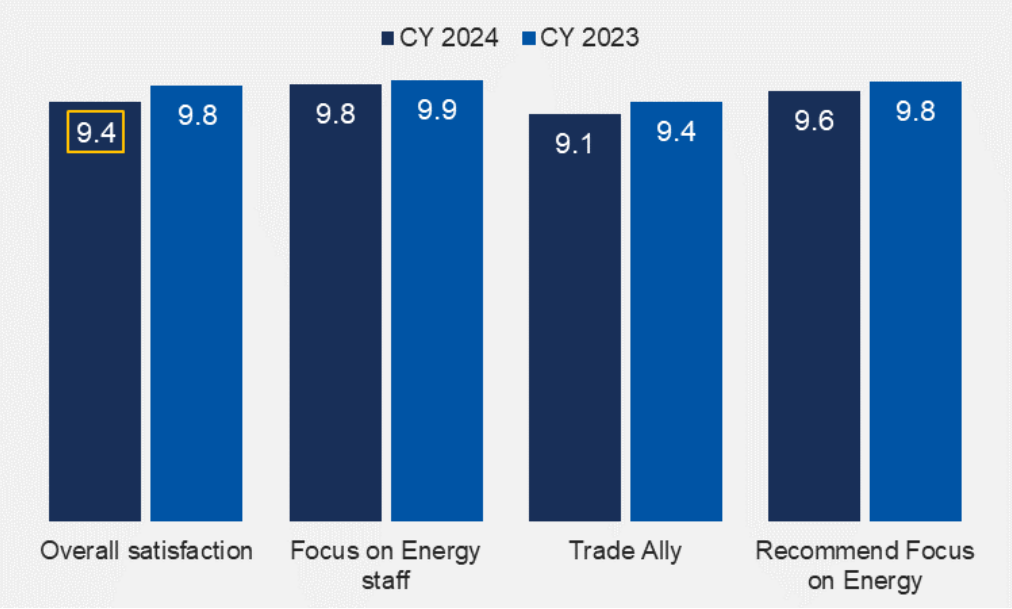
Participant Satisfaction

Respondents answered questions related to satisfaction and the likelihood of recommending the offering on a scale of 0 to 10, where 10 indicated the highest degree of satisfaction or likelihood and 0 the lowest.

Survey respondents gave the Schools and Government Program an average overall satisfaction rating of 9.4 in CY 2024, which was significantly lower than the average rating of 9.8 in CY 2023 but in line with the average rating of 9.5 in CY 2022. Schools and Government respondents' average ratings in CY 2024

were otherwise statistically equivalent to ratings from the previous year. Figure 113 summarizes these results.[32]

Figure 113. Satisfaction and Likelihood Ratings for the Schools and Government Program



Source: Schools and Government Participant Satisfaction Survey Questions. "Overall, how satisfied are you with your most recent experience with Focus on Energy?" (CY 2024 n=71; CY 2023 n=45). "How satisfied are you with the Energy Advisor or Focus on Energy staff member who assisted you with your project?" (CY 2024 n=67; CY 2023 n=44). "How satisfied are you with the contractor that provided your school or government building update?" (CY 2024 n=47; CY 2023 n=31). "How likely are you to recommend Focus on Energy to others?" (CY 2024 n=71; CY 2023 n=45). Boxes around ratings indicate a statistically significant difference between CY 2024 and CY 2023 ($p<0.10$ using t-tests).

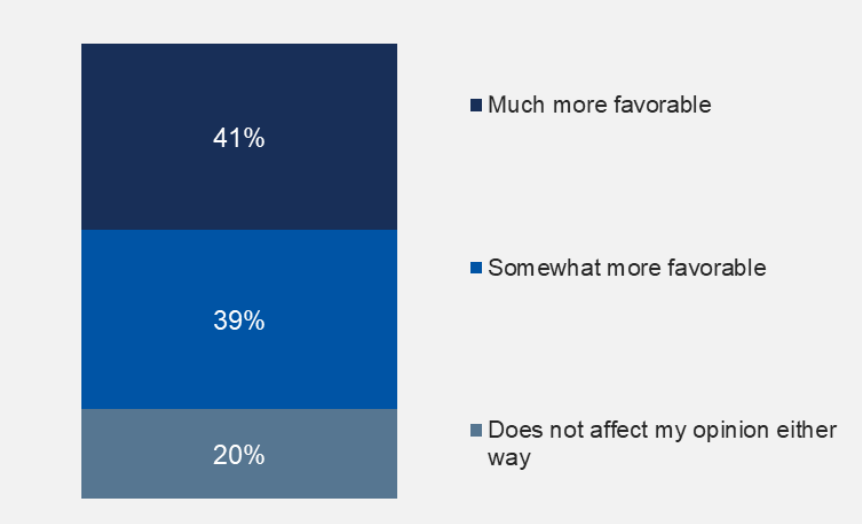
Using survey data, the evaluation team calculated a NPS based on customers' likelihood to recommend Focus on Energy. The NPS is expressed as an absolute number between -100 and +100 that represents the difference between the percentage of promoters (respondents giving a rating of 9 or 10) and detractors (respondents giving a rating of 0 to 6). High NPS scores (+70 or higher) are theoretically predictive of customer behaviors such as participating in another offering, implementing additional home energy improvements, and referring Focus on Energy offerings to others. The NPS was +94 for the Schools and Government Program in CY 2024, compared to a perfect +100 in CY 2023 and +87 in CY 2022.

The CY 2024 survey asked participants if they were aware before receiving the satisfaction survey that the Schools and Government Program was offered in partnership with their local utility. Eighty-three percent of respondents were aware, representing a large increase from 66% in CY 2023 and in line with 85% in CY 2022. The survey also asked if Focus on Energy offerings affected their opinion of their

[32] The number of participants who completed a survey does not always match the number of responses for each question as some participants skipped or did not know answers to questions.

utilities, and 80% of respondents said their opinion had become *much more favorable* or *somewhat more favorable*. None of the CY 2024 survey respondents said their opinion had become less favorable, and 20% said their opinion of their utility was not affected. Figure 114 summarizes these results.

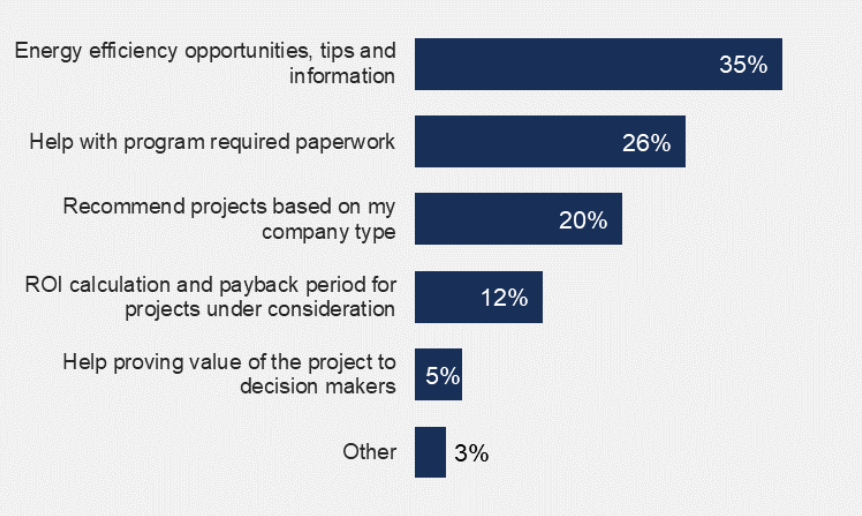
Figure 114. Schools and Governments' Influence on Participants' Opinions of Utilities



Source: Schools and Government Participant Satisfaction Survey Question:
"How have these offerings affected your opinion of your energy utility, if at all?" (n=61). No responses were received for the options *somewhat less favorable* and *much less favorable*.

The survey asked participants to identify how Focus on Energy can best support their organization with future projects (Figure 115). Respondents most frequently said energy efficiency opportunities, tips, and information (35%), followed by help with paperwork (26%); these responses were similar to previous years.

Figure 115. Schools and Government Participants' Most Valued Support



Source: Schools and Government Program Participant Satisfaction Survey Question: "Aside from providing project incentive dollars, how can Focus on Energy best support your organization going forward?" (n=66)

Participant Feedback and Suggestions for Improvement

The customer satisfaction survey asked participants if they had any comments or suggestions for improving the offering. Of the 71 participants who responded, 38% provided open-ended feedback, which the evaluation team coded into a total of 31 mentions. Of these, 23 were positive or complimentary comments (74%), and eight included suggestions for improvement (26%).

Fourteen of the 23 positive comments praised the Focus on Energy staff and contractors who worked on the projects, while five more highlighted the convenience of the program or a generally positive experience. Three respondents expressed satisfaction with cost and energy savings, and one respondent was satisfied their equipment upgrades.

Three of the eight suggestions for improvement related to improving communications, specifically about incentive availability, equipment selection, and benefits, and "*[which] solar programs are real or fake*." One respondent apiece suggested increasing incentives, expanding lighting options covered by the program, and reducing delays for incentive payments. The remaining two suggestions were about improving the Renew Our Schools challenge: offer new challenges for schools that have completed the challenge in the past, and offer points in the competition based on the energy saved feature.

The CY 2024 satisfaction survey included an open-ended question soliciting comments on participants' experience with trade allies. Twenty-one Schools and Government respondents provided comments, most of which were positive and complimentary. Two respondents who rated their satisfaction with their contractors an 8 out of 10 or lower provided suggestions for improvement. One reported that they "struggle[d] to get paperwork from contractors" to submit their application. The other stated, "I felt that we were treated as a small project, and the company sent workers to our site in between larger projects."

11.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. See Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III for a description of the TRC test.

Table 123 lists the CY 2024 incentive costs for the Schools and Government Program.

Table 123. CY 2024 Schools and Government Incentive Costs

	Incentive Costs
Schools	$5,257,726
Government	$1,750,958
EDA/EDR	$440,844
Total	**$7,449,528**

The evaluation team found that the CY 2024 Schools and Government Program was cost-effective (2.74). Table 124 lists the evaluated costs and benefits.

Table 124. CY 2024 Schools and Government Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$365,711
Delivery Costs	$5,046,291
Incremental Measure Costs	$22,508,314
Total Non-Incentive Costs	**$27,920,316**
Benefits	
Electricity Benefits (kWh)	$12,745,290
Capacity Benefits (kW)	$15,974,479
Gas Benefits	$4,577,702
Emissions Benefits	$16,412,856
T&D Benefits (kW)	$26,825,324
Total TRC Benefits	**$76,535,651**
Net TRC Benefits	**$48,615,335**
TRC Benefit/Cost Ratio	**2.74**

11.5. Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations for improving the Schools and Government Program based on the limited CY 2024 program evaluation activities. Additional outcomes and recommendations from the cross-cutting process evaluation activities can be found in discussions about those specific research activities, referenced in the *Nonresidential Cross-Cutting Research* section.

Outcome 1. The program accurately estimated energy impacts in CY 2024, with first-year and lifecycle realization rates of 100% for all energy savings types.

Outcome 2. Participant satisfaction remained high in CY 2024, with participants rating their overall satisfaction at 9.4. Although this was significantly lower than the CY 2023 rating of 9.8, it is in line with other historical ratings.

Outcome 3. The evaluation team identified instances of project data discrepancies in EDA/EDR measures. Verification report specifications often differed from model input parameters for several EDA/EDR projects. This created uncertainty for the evaluation team concerning whether the documentation or the model had not been properly updated, and which should be considered the most current.

Recommendation 3. Consider enacting or formalizing a quality control process for aligning verification reports with the energy model inputs and outputs.

12. Nonresidential Cross-Cutting Research

In CY 2024, the evaluation team conducted research across all nonresidential programs to gather feedback on the trade ally bonus and assess non-energy benefits from the programs. The following sections describe the team's research activities and findings.

12.1. Trade Ally Bonus

The evaluation team conducted in-depth interviews with 25 trade allies who worked on at least one project that was incentivized by Focus on Energy in 2024 within at least one of the nonresidential Focus on Energy Programs: Agribusiness, Business and Industrial, Large Industrial, and Schools and Government. Trade allies who are registered with Focus on Energy receive additional benefits such as incentives, training and support, and additional revenue via a channel of motivated customers. The trade ally bonus is available to Focus on Energy registered trade allies and was first introduced to the Agribusiness Program in 2019, and then to the remaining nonresidential programs in July 2023. The bonus is paid directly to trade allies and is intended to offset trade allies' effort to compile and submit an incentive application on behalf of their customers. The purpose of the interviews was to get well-rounded feedback about the bonus through a series of open-ended questions related to the application experience, the bonus itself, and general feedback on their experience working with the Focus on Energy Programs.

Methodology

The evaluation team aimed to distribute interviews evenly across four primary trade ally types: lighting, HVAC, agriculture, and other measures. To achieve this, the team categorized trade allies by consolidating the primary measure category from all applications each trade ally submitted into these four generalized bins. Table 125 shows the count of participating trade allies, the sample size, and the number of respondents.

The sample frame approach included an even distribution across the trade ally types instead of a proportional distribution to unique participants, which notably resulted in a de-emphasis in the lighting category.[33] The evaluation team also aimed to distribute trade allies based on their level of activity in the program, stratifying by registration status and engagement. This distribution is also shown in Table 125.[34] The team scheduled an interview with a trade ally who was initially non-registered. However, this trade ally completed their registration between the time the sample was selected and the interview took place. Therefore, all findings presented represent feedback from registered trade allies.

[33] This approach also reflected the expectation that lighting savings would represent a smaller percentage of portfolio savings over the next few years.

[34] Trade ally engagement was defined according to program-supplied rankings when available, with trade allies rated A and B considered more engaged and trade allies rated C and D considered less engaged. For trade allies without an assigned engagement ranking, engagement was defined according to volume of projects completed, with trade allies cumulatively accounting for 50% of total projects when ranked from highest-to-lowest volume considered more engaged.

The sampling approach did not include participation in specific nonresidential programs, but the team monitored this during the data collection. See the *Respondent and Company Profiles* section for more information about the programs that trade allies participated in.

Table 125. Trade Ally Participant Sample

Participant Sample			Interviews Completed by Registration Status			
Trade Ally Type	Unique Participants	Sample Frame	Total Completes	Registered – More Engaged	Registered – Less Engaged	Not Registered – High Volume
Lighting	425	58	6	3	2	1[a]
HVAC	208	48	6	3	3	0
Agriculture	45	30	6	3	3	0
Other Measures	176	49	7	2	5	0
Total	854	185	24	11	13	1

[a] This trade ally was not registered when the sample was created but registered by the time the interview occurred.

The team conducted outreach to schedule the interviews via email and phone calls and conducted interviews over the phone. Outreach yielded a response rate of 16%, and the team completed 25 interviews, one more than the original target of 24. Respondents received a $100 electronic gift card for participating. Table 126 shows the final disposition of the sample, including the number of attempted contacts and completed interviews

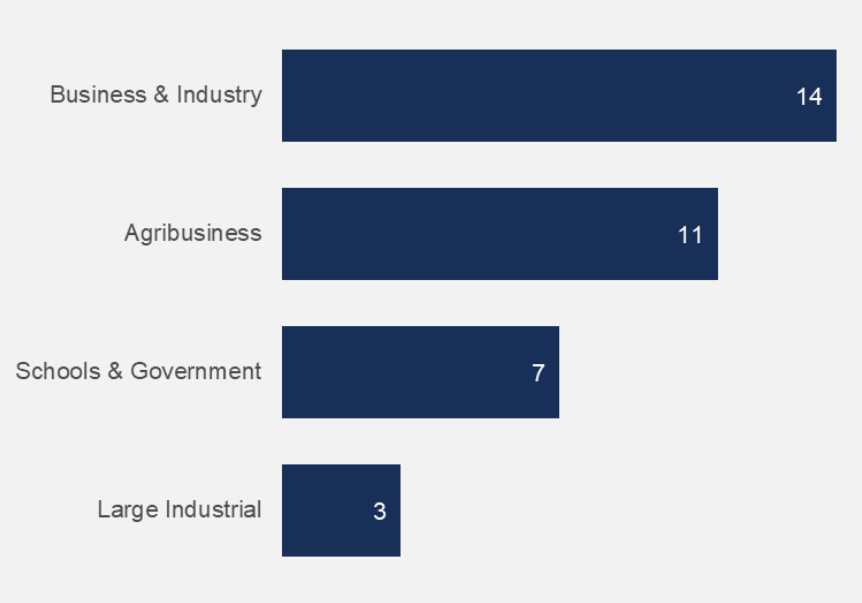
Table 126. Sample Disposition

Disposition	Count
Total Sample Frame	185
Bad or missing contact information	7
Total Valid Contacts	178
Attempted, not reached	124
Refused	4
Partial interview	1
Completed interview	25
Response Rate	14%

Respondent and Company Profiles

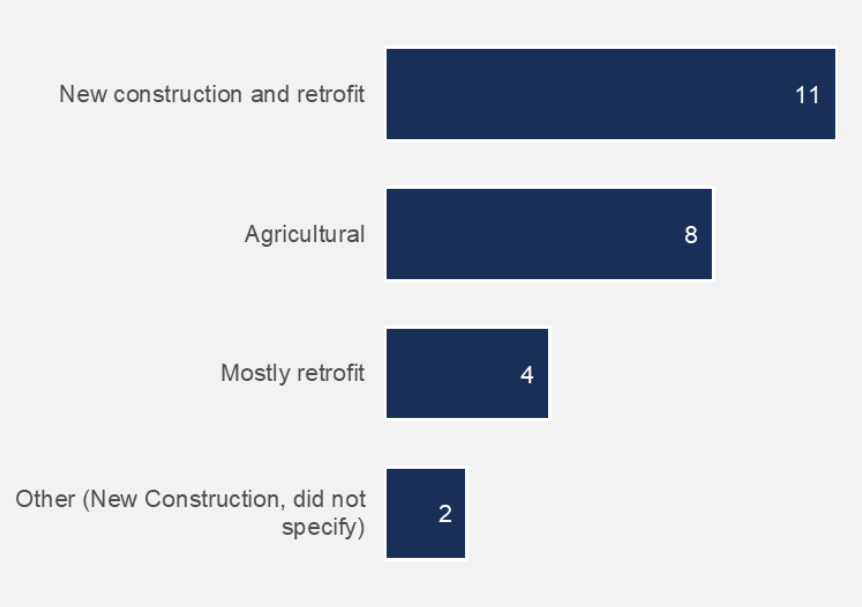
Respondent roles varied, but most represented were owners (11 respondents) and other leadership roles (five respondents), as well as office managers (four respondents), sales roles (two respondents), and other customer-facing roles (three respondents). Tenure in the role ranged from six weeks on the job to over 30 years. Services, market sectors served, typical project types, and program participation showed a diverse representation, as expected by targeting an equal distribution of trade ally types (Figure 116). Over half of the trade allies (14 respondents) participated in the Business and Industry Program, followed by Agribusiness (11 respondents), Schools and Government (seven respondents), and Large Industrial (three respondents) in 2024. In addition, just under half (11 respondents) worked in both new construction and retrofit projects (Figure 117). Across the 25 respondents, they serve all of Wisconsin in their territories.

Figure 116. Programs Trade Allies Participated in CY 2024



Source: CY 2024 nonresidential program data, with paid or pre-approved application in 2024.

Figure 117. Types of Projects Completed by Trade Allies

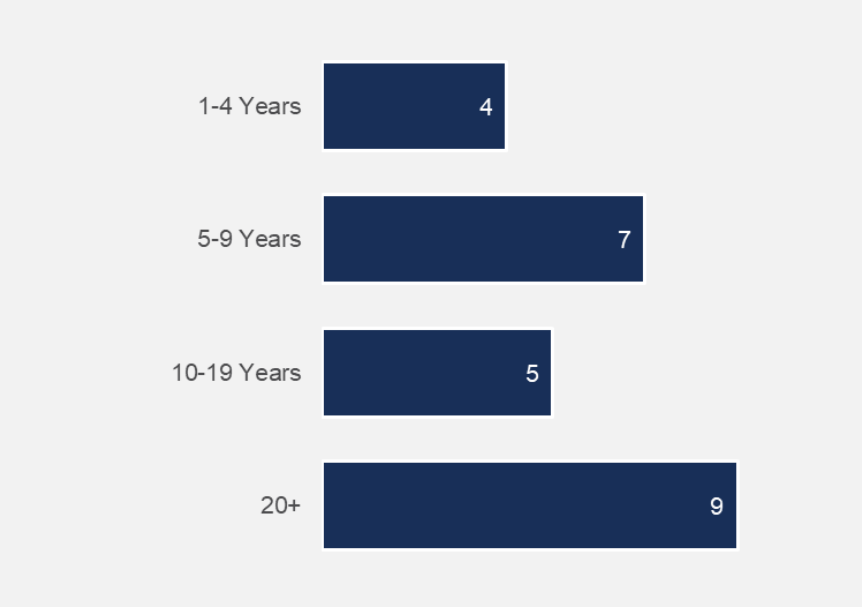


Source: Nonresidential trade ally interview question, "What types of projects and work does your company do?" (n=25, multiple responses allowed).

Overall, the interviewed trade allies have had long-standing relationships with Focus on Energy. Of the respondents, 21 reported at least five years of experience with the program, including nine companies with 20 or more years of involvement (Figure 118). Additionally, three trade allies indicated that while their current companies may be newer participants, they personally had extensive prior experience with

Focus on Energy through previous employers. For instance, one trade ally founded his own business just a year ago but had worked with the program for many years beforehand. Additionally, all but three trade allies became registered with Focus on Energy at the same time they began using its programs.

Figure 118. Number of Years Company Has Worked with Focus on Energy Programs



Source: Nonresidential Trade Ally Question: "How long has your company worked with Focus on Energy Programs?" (n=25).

Program Application Experience

The application process plays a crucial role in how trade allies and customers access Focus on Energy incentives. This section explores trade allies' experiences with the program application, including their level of involvement in assisting customers, factors that impact the ease or complexity of completing applications, and areas where the process works well or could be improved.

Approach to Assisting Customers

Respondents were asked to describe their current process for assisting customers with the paperwork required to obtain a Focus on Energy rebate. As illustrated in Figure 119, just over half of the trade allies (13 respondents) reported that they complete and submit the application paperwork on behalf of their customers. In these cases, customer involvement is typically limited to essential tasks, such as providing signatures or company-specific information. Two respondents indicated that they initiate the application process but then transfer responsibility to the customer for final completion and submission. One trade ally noted that the application process is a collaborative effort, with responsibilities shared equally between the trade ally and the customer.

Figure 119. Entity that Completes Application Paperwork by Trade Ally Type



Source: Nonresidential trade ally interview questions, "Considering the projects you have worked on within the last year for which the customer received an incentive from Focus on Energy, what percentage of projects did the following: 1. The customer completed the application paperwork with little to no assistance. 2. The customer completed some of the application paperwork but ultimately needed assistance from you. 3. You completed the application paperwork for the customer in its entirety right from the start." and "Please describe your company's approach to assisting customers with the paperwork required to receive a Focus on Energy rebate" (n=25)

Over a third (nine respondents) of the trade ally respondents described a limited or nonexistent level of involvement in the application experience, with the customer or energy advisor completing and submitting paperwork. In these cases, the trade ally may send the product and invoice information when requested. The nine trade allies in this category provided the following information:

- Six trade allies said they passed the application process immediately to the energy advisor. Since the trade ally was removed at this point, it was not clear from the conversation what the customer versus energy advisor role was after the handoff.
- Two trade allies said the process was led by the customer, who worked directly with Focus on Energy to complete and submit the application. They said the energy advisor and the customer may reach out to the trade ally for any product questions. One trade ally said if they had more training about the program offerings, they would feel they had a larger role in the process.
- One trade ally said the customer led the application process, but did not specify additional Focus on Energy assistance. It was clear the trade ally was removed from the process.

As illustrated in Figure 119, none of the agriculture trade allies handled the complete submission of application paperwork. They either sent the application to Focus on Energy at the outset or passed it to the customer for submission after providing the necessary product installation details. This approach is unique compared to other trade ally types, where at least two-thirds of respondents completed and submitted applications on behalf of their customers. Follow-up discussions with Focus on Energy revealed that agriculture trade allies tended to lean on their energy advisors for more support than the other categories, which likely explains the difference in approach.

Factors Influencing Application Ease and Complexity

Most of the trade allies had significant experience in the Focus on Energy programs, which contributed to their ease of use. Seven trade allies reported integrating the application process into their project workflow, with the goal of making it as easy as possible for customers. Overall, the trade allies provided limited negative comments about the process, with one trade ally saying that it is "by far the easiest rebate program we work with."

> *"The applications are pretty straightforward. There is a little learning curve at first."*
> ***– Trade Ally***

Interviewed trade allies reported that applications for prescriptive, "1-to-1 replacement" projects are the easiest to complete (nine respondents), as well as projects they do regularly (five respondents). Conversely, projects that are not done regularly by a trade ally often take longer to ensure they are completed correctly (three respondents). Trade allies find custom upgrades, complex configurations, and large project applications to require more time and assistance from Focus on Energy to complete (eight respondents). These trade allies are motivated to make sure their calculations or installed measures are correct so that their customer gets the incentive.

> *"Larger projects, custom projects, that's when we become involved more. And I'll start bringing in my engineering team to help with the calcs."*
> ***– Trade Ally***

Trade allies mentioned several specific application challenges, including the wattage-reduced section (two respondents), qualifying lights and fans (one respondent), and variable-frequency drive percentage run-time calculations (one respondent). If there are additional steps a trade ally needs to take, this adds to the time and assistance needed from energy advisors. For example, trade allies mentioned projects that require pre-approval (two respondents), products that require AHRI matching (two respondents), or navigating the DesignLights Consortium website (two respondents).[35] One trade ally explained that customers often ask for more assistance on large custom projects because they need help on qualifying measures when there are few qualifying measures to offer: "Right now, I'm trying to work on a 608,000 square foot warehouse on steam. [I'm] trying to get him on high-efficiency hot water; there's just no benefits out there for him." The example demonstrates a potential knowledge gap in using the custom pathway for these types of projects, as the respondent thought there were no incentives available for the measures needed.

[35] For more information, please see DesignLights Consortium: https://designlights.org/

Strengths and Enhancement Areas in the Application Process

> *"They are always making updates on their website – [but] you have to make an investment as a contractor and building owner to see what's new."*
>
> ***- Trade Ally***

Over half of the trade allies interviewed (13 respondents) said they were satisfied with the support they received from their energy advisors and did not report areas of concern with the application process. Two trade allies said their experience with energy advisors varied, with some advisors being more involved or hands-on than others. Three trade allies said they would prefer to have a more proactive energy advisor relationship, including regular check-in calls (two respondents) to help get energy advisors involved sooner on more complex projects and to help trade allies learn about program changes more proactively. Four trade allies expressed a need for more proactive updates on qualifying products and program changes. One trade ally requested that updated catalogs be sent as close to January 1 as possible so they can keep quotes better organized with changes to the catalog.

Trade allies also suggested providing more educational opportunities. Two trade allies were interested in training on what is available through the programs, as well as the program processes. They also said it would help to know why certain information is requested in the application process. Another said getting shareable tutorials with real-life examples by market segment would greatly help their staff and customers learn how to use the Focus on Energy programs. Two additional trade allies recommended providing press releases by market sector to help educate and motivate customers to take advantage of the programs.

Trade allies did not offer many suggestions for improvements to the application, with three trade allies saying the application has gotten easier to fill out. However, five trade allies said the application process should be further streamlined and offered the following suggestions:

- **Provide more online tools (four respondents).** Two trade allies wanted to see an online application submission option to make sure it does not get lost in an inbox or in the mail. One trade ally wants to see an online tool to track incentive and bonus payouts, which would give them more motivation to follow up with customers or energy advisors on projects that are outstanding. One trade ally wanted Focus on Energy to have a project cost calculator that they promote so they can be sure the calculations are what Focus on Energy is expecting for a given project.
- **Simplify requirements that add administrative burden (two respondents).** One trade ally noted the inefficiency of repeatedly submitting specification sheets for products they install regularly, asking, "Can Focus on Energy just reference the files they have?" Another respondent voiced concern over the need for a separate application for smart thermostats, suggesting it would be more efficient to allow a single application to cover multiple qualifying products for a given customer.

Trade Ally Bonus Experience

Most trade allies (19 respondents) were aware of the trade ally bonus, and 15 have received the bonus. Of the six respondents who were not aware of the bonus prior to the interview, four were HVAC contractors with experience using each of the nonresidential programs. One trade ally who was unaware of the bonus prior to the call said this reinforced their request for more proactive engagement with their energy advisor so they can receive these kinds of updates more proactively.

Among the four trade allies who were aware of the bonus but had not received it, experiences varied:

- Two had submitted a bonus application but had not yet received the payment.
- One was uncertain about their status, noting they had been removed from the process and were unsure whether the bonus had been issued.
- One trade ally chose not to participate in the bonus program, explaining that their focus is solely on maximizing benefits for the customer rather than receiving incentives themselves. When asked if a specific dollar amount might change their stance, they responded, "Probably not. [We're] just looking to get as much money for [the customer] as possible."

Among the trade allies who received the bonus, nine stated that the process of getting the bonus was straightforward. There were no negative comments or suggestions for improvement.

Influence on Actions and Perceptions

The interview also explored how the bonus influenced the trade allies. Five trade allies stated that the bonus changed their approach to assisting customers, though only three of them noted a specific behavior change. For example, one trade ally said it provides more incentive to push a particular qualifying product. Another trade ally began completing their sections of the application more often as a result of the bonus, but still sent it to the customer to finish and submit. A third trade ally passed the application process completely to the energy advisors but said it had improved their record-keeping practices for invoices and product information, as they provided these documents to the energy advisors upon request. The other two trade allies did not specify how the bonus impacted their approach but cited general positive opinions on receiving it.

> *"[The trade ally bonus] helps with the burden and overhead that contractors have to manage and compensate for out of their earnings. It helps."*
>
> ***- Trade Ally***

Two additional trade allies who were not familiar with the bonus before the call said that this would influence them to recommend more qualifying products. Neither of these trade allies completed paperwork on behalf of their customers.

The majority of trade allies (17 respondents) said the bonus does not or would not change their approach to assisting customers with the application process or the measures they recommend. The prevailing theme among these contractors was that their primary focus is on customer experience, supported by established processes to achieve this. For trade allies already submitting paperwork on behalf of their

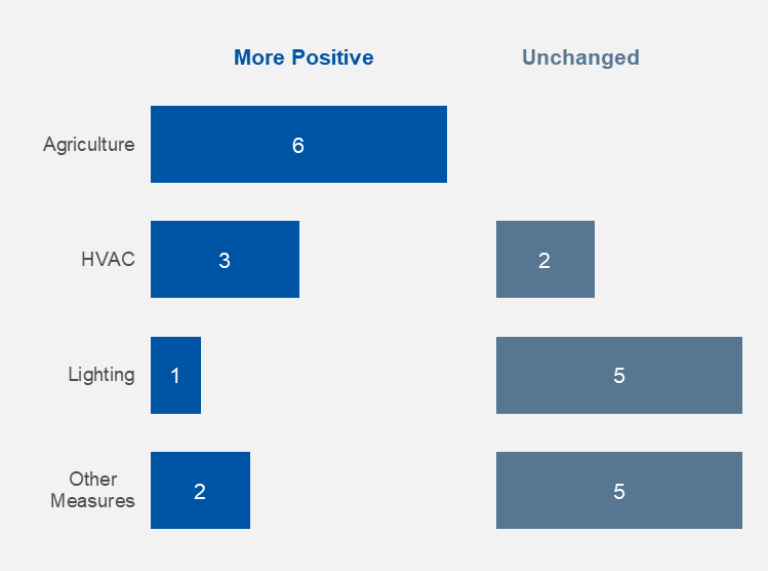
> *"Makes it worth the time…when I first started, I put all into customers hands, now that I have figured it out, I probably fill out half [of the time]."*
>
> ***- Trade Ally***

customers, they appreciate getting a bonus for something they already do, but as one trade ally put it, "[It's] not a decision-maker for us… If the bonus went away, we'd still work with Focus."

Trade allies' perceptions of the Focus on Energy programs in relation to the bonus were generally positive or unchanged. As shown in Figure 120, approximately half of the respondents (12 trade allies) reported that the bonus positively influenced their opinion of Focus on Energy. Notably, all six agriculture-focused trade allies, who exclusively participated in the Agribusiness Program, expressed a positive impact. Each of these trade allies received the bonus, despite not completing or submitting application paperwork on behalf of their customers.

Four of the agriculture trade allies indicated that the bonus was a key reason they became registered trade allies. However, only two reported making changes to their processes as a result. These changes included taking on a larger portion of the application before passing it to the customer for completion and improving internal record-keeping. Importantly, neither of these trade allies altered the products they recommended or their overall approach to application submission.

Figure 120. Influence of Trade Ally Bonus on Opinion of Focus on Energy by Trade Ally Type



Source: Nonresidential trade ally interview question for those who were aware of and received a trade ally bonus, "How, if at all, has the trade ally bonus influenced your opinion of the Focus on Energy Program?" (n=15). For trade allies who were unaware of the bonus or aware but had not yet received a bonus, positive/unchanged/negative opinion change was inferred by responses to questions about the bonus. (n=9)

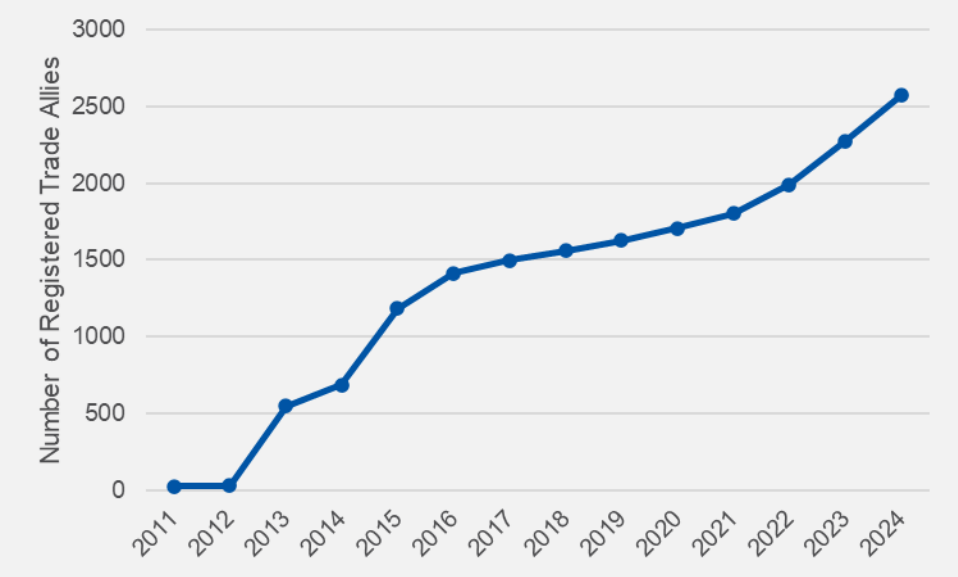
One additional trade ally in the lighting category indicated that the trade ally bonus was the primary reason for their decision to become a registered trade ally. Although this contractor was not registered when the participant sample was initially selected, they had completed registration by the time the evaluation team conducted the interview. They noted that they have had an intermittent registration history and have been involved with the Focus on Energy programs for the past 20 years. The

introduction of the bonus incentivized them to re-register, though their approach to assisting customers with applications remains unchanged, continuing to follow a customer-driven process.

Number of Registered Trade Allies

The trade ally bonus served as a motivating factor for registration among a subset of respondents. Five of the interviewed trade allies—representing 20% of the sample—reported that the bonus influenced their decision to register with Focus on Energy. Program-wide data shows that the highest growth in registered trade allies occurred in CY 2023 (14%) and CY 2024 (13%), as illustrated in Figure 121. While this growth aligns with the launch of the trade ally bonus, it is worth noting that the upward trend in registrations began in CY 2022, prior to the bonus's introduction.

Figure 121. Number of Registered Trade Allies



Source: Nonresidential trade ally registration data through December 5, 2024.

Program Feedback from Trade Allies

The interviews included open-ended questions that allowed trade allies to share broader feedback on their experiences with Focus on Energy beyond the application process and trade ally bonus. Approximately one-third of respondents (eight trade allies) described the program as a valuable sales tool. For some, this value came through positive word-of-mouth and lead generation (two respondents), while others highlighted the ability to use qualifying measures as a compelling selling point (four respondents). These trade allies noted that customers appreciate the incentive packages, anticipated energy savings, and the credibility associated with the Focus on Energy brand. They explained that these elements help position their proposals as "no-brainer" options when

> *"[Focus on Energy is a] great system for conserving energy in the State of Wisconsin."*
>
> ***- Trade Ally***

presenting to decision-makers and can be leveraged to generate additional leads through their networks.

Ten trade allies emphasized the importance of the program in helping their customers save both energy and money. However, three lighting-focused trade allies observed that the program's impact was more pronounced when LED technologies were first introduced, particularly in terms of customer incentives.

At the same time, eight respondents—representing a range of trade ally types—expressed dissatisfaction with the current incentive offerings. Their concerns centered on both the incentive amounts and the limited range of qualifying products. One trade ally participating in the Business and Industry Program offered a unique perspective, suggesting a shift in strategy: "The goal of Focus is to raise the bar. I suggest eliminating incentives for standard LED lighting in hallways, the R value of envelope insulation, and stuff like that. Take away the low-hanging fruit incentives and give real incentives to the big cost items… up the ante on dollars and eliminate the low stuff people are doing anyway."

Overall, trade allies expressed general satisfaction with Focus on Energy's offerings and support. In many cases, interviewers needed to probe to uncover areas for improvement or suggestions for additional support.

Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations with regard to the trade ally bonus.

Outcome 1. There is evidence that the trade ally bonus induced positive impacts and sentiment toward the Focus on Energy programs that help to foster goodwill. From conversations with 25 trade allies, the evaluation team found that the trade ally bonus motivated some to do the following:

- Become a registered trade ally
- Complete more of the incentive applications
- Recommend more qualifying measures
- Improve record-keeping for installed measures

Outcome 2. Awareness of the bonus is not correlated with the specific programs that trade allies engage in. Of the six respondents who were not aware of the bonus prior to the interview, four were HVAC contractors with experience using each of the nonresidential programs.

Outcome 3. The bonus process does not pose a barrier to participation, evidenced by a lack of negative comments or suggestions for improvement.

Outcome 4. The feedback suggests there are no sweeping changes to what measures trade allies are recommending or changes in their current approach to assisting customers with the required paperwork. For the majority of trade allies interviewed (17 respondents), the bonus did not motivate a change in their approach to assisting customers. While some expressed that getting a bonus for

something they were already doing is a positive reinforcement, the overall sentiment was captured particularly well by one trade ally, "[the bonus is] not a decision-maker…if [the] bonus went away, we'd still work with Focus." This aligns with the evaluation team's findings from energy advisor interviews, which indicate limited confidence that the bonus significantly increased savings or products. However, the advisors did observe an improvement in the quality and timeliness of application materials submitted by trade allies. Ultimately, many of the trade allies are focused on their customers' needs and providing the right products for the job, regardless of the bonus. If those products qualify for incentives, trade allies proceed through their existing workflow to go from there, whether it be completing applications for their customers, passing them off to energy advisors, or supporting the application process when asked by customers or energy advisors.

Outcome 5. The findings suggest that agriculture trade allies have had different experiences with the trade ally bonus than the other trade ally types, which aligns with the higher level of involvement energy advisors are known to have with this group. None of the agriculture trade allies handled the complete submission of application paperwork, whereas about two-thirds of the other trade allies complete and submit application paperwork on behalf of their customers.

Outcome 6. The findings suggest there could be improvements in communications on program information, as well as the trade ally bonus specifically, as there were six trade allies who were unaware of the bonus prior to the interview. Additionally, there could be differences in communicated expectations on how trade allies should engage with the application, evidenced by the agriculture trade allies and others who are taking advantage of the bonus but take a hands-off approach to the application process. At a broader program level, four trade allies expressed a need for more proactive updates on qualifying measures and program changes.

Recommendation 1-6. Review the communications concerning the trade ally bonus and program information, such as changes to offerings and qualifying products. This communication review should address or include the following:

- *Awareness:* Ensure the details are reaching the right audience.
- *Desired application expectations:* If there is a desire to encourage trade allies to complete more of the application to take advantage of the trade ally bonus, develop communications to reset expectations around the application paperwork.
- *Tracking impact:* Track any communication efforts using related metrics, such as the number of bonuses requested, issued, changes to registration status, and the number of applications.

12.2. Non-Energy Benefits

The evaluation team conducted a survey of participants across all nonresidential programs to assess the broader benefits of program participation beyond energy and cost savings. The survey also explored participants' approaches to energy efficiency projects and their organizational goals related to

sustainability and energy conservation. Respondents were also invited to participate in follow-up interviews to provide deeper insights into key themes identified in the survey.

Methodology

The evaluation team sought to complete surveys with a total of 70 participants across the Business and Industry, Schools and Government (S&G), Large Industrial, and Agribusiness programs.[36] Large Industrial respondents were intentionally overrepresented in the survey, as the program represents nearly 50% of the nonresidential portfolio's lifecycle MMBtu savings. The team randomly sampled within each program. The sample frame sizes listed in Table 127 assumed a 10% response rate, consistent with the survey conducted as part of the 2023 process evaluation.

Most respondents (67) completed the surveys via online form, with only three completing it on the phone. The team achieved the target number of completed surveys for each program, with respondents receiving a $25 electronic gift card for participating.

The survey asked respondents if they would be willing to participate in a short interview (for an additional gift card incentive of $75) to expand on the themes discussed in the survey. The evaluation team first began outreach to those who responded *yes* (24 respondents), followed by outreach to those who responded *maybe* (19 respondents); the team sought a total of 10 completed interviews, with approximately even representation across the four nonresidential programs. Table 127 shows the final distribution of respondents across the survey and interview.

Table 127. Participant Samples for Surveys and Interviews

	Participant Sample for Survey			Participant Sample for Interview	
Program	Unique Participants	Sample Frame	Completes	Participants Open to Follow-up Interview	Interview Completes
Agribusiness	581	200	20	11	2
Business and Industry	910	300	30	19	3
Large Industrial	164	100	10	6	3
S&G	321	100	10	7	2
Total	**1976**	**700**	**70**	**43**	**10**

Respondent and Company Profiles

The evaluation team solicited survey responses from individuals named as their organization's "primary application contact" on their Focus on Energy incentive applications. Survey respondent roles varied. Most respondents (70%) were in a leadership role, including owners (30%), director/C-suite (20%), or managers (20%). Roles were representative of different areas of the business, including facilities, operations, administrative, environmental services, purchasing, and engineering. The majority of respondents were from smaller organizations operating one location in Wisconsin (61%), and two-thirds of all respondents employed less than 100 people in the state. Figure 122 through Figure 125 illustrate

[36] This approach provides findings at 90% confidence with ±10% precision at the portfolio level.

the full distribution of survey respondent locations within and outside of Wisconsin. Only 15 survey respondents (21%) operated at least one location outside of Wisconsin. Those with at least one location outside of Wisconsin tended to be from larger organizations.

Figure 122. Number of Locations in Wisconsin

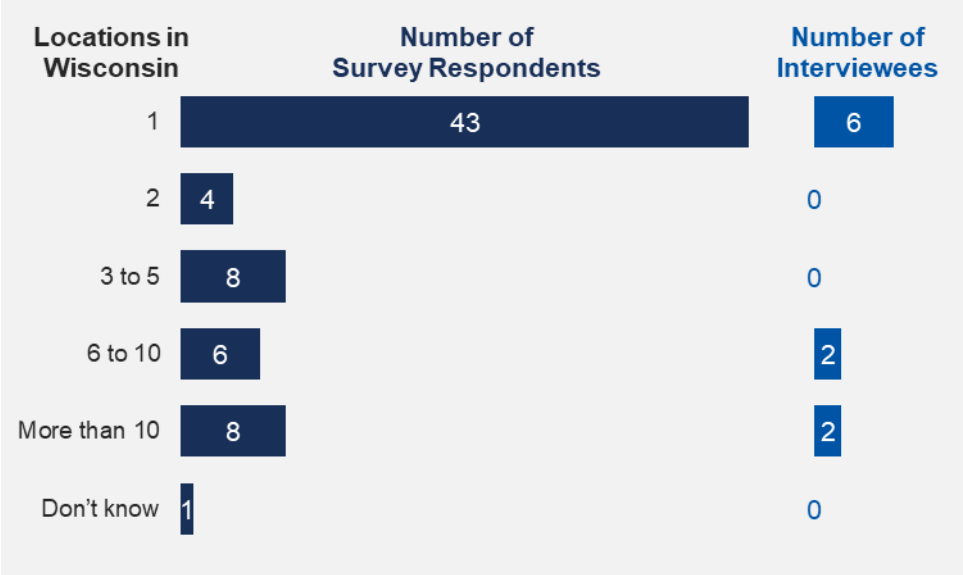


Figure 123. Number of Locations Outside of Wisconsin

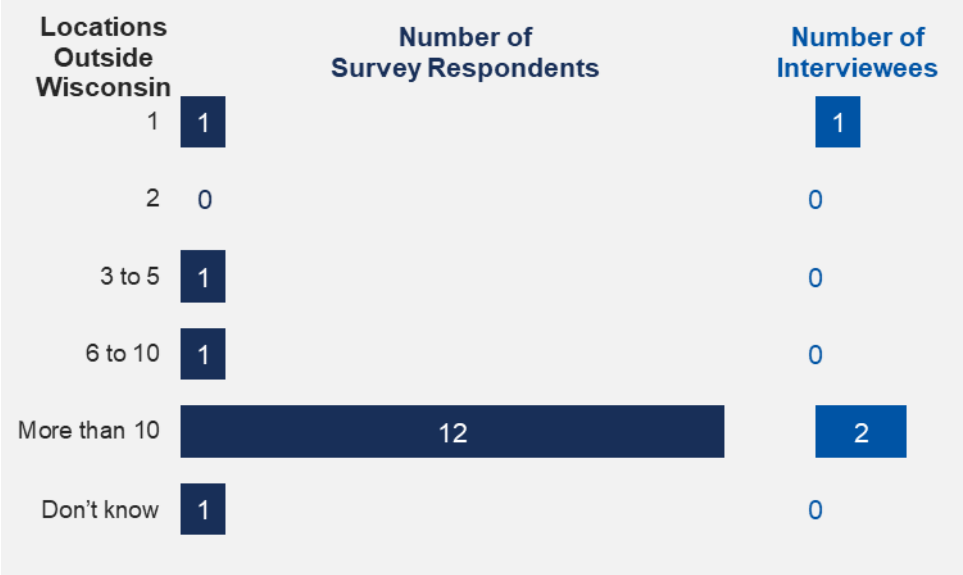


Figure 124. Number of Employees in Wisconsin

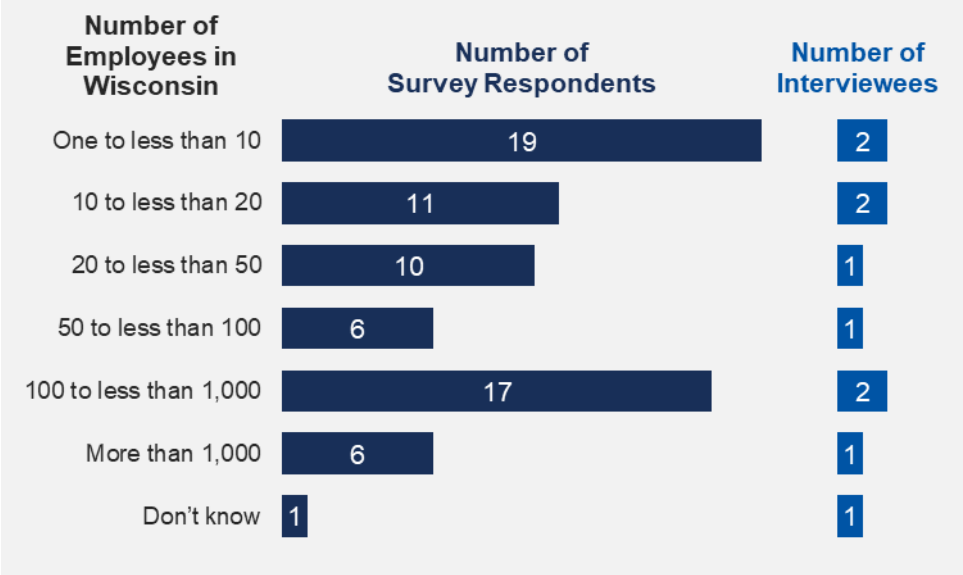
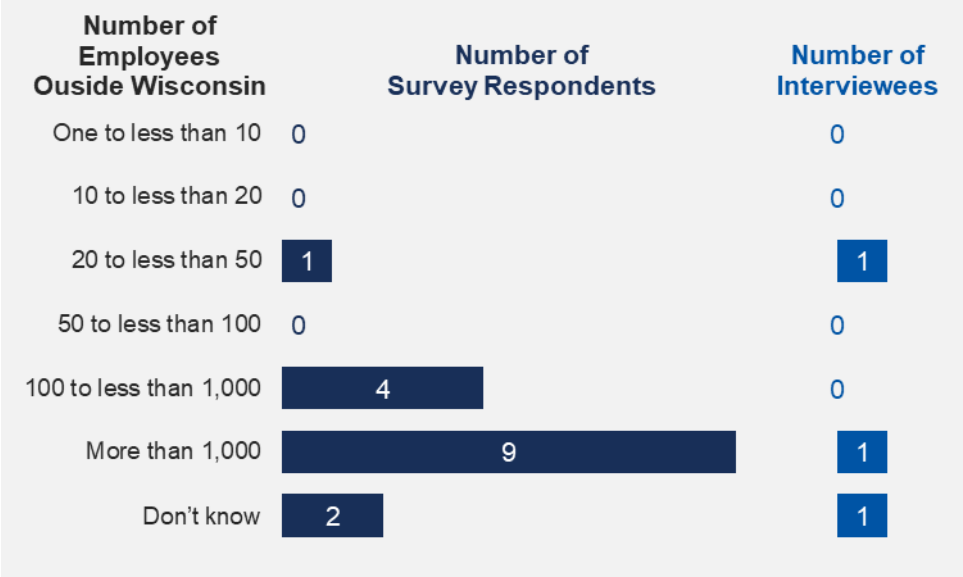


Figure 125. Number of Employees Outside of Wisconsin



The demographics of interviewees were similar to those of survey respondents. Out of 10 interviewees, six operated one location in Wisconsin and employed less than 100 people. Three interviewees operated at least one location outside of Wisconsin. Roles were representative of different areas of the business:

- Owner/Partner
- Public Works Coordinator
- Board of Directors
- President
- CEO
- Church Deacon
- Facilities Manager
- Director of Operations Support
- Facilities Service Manager
- Rebate Processor

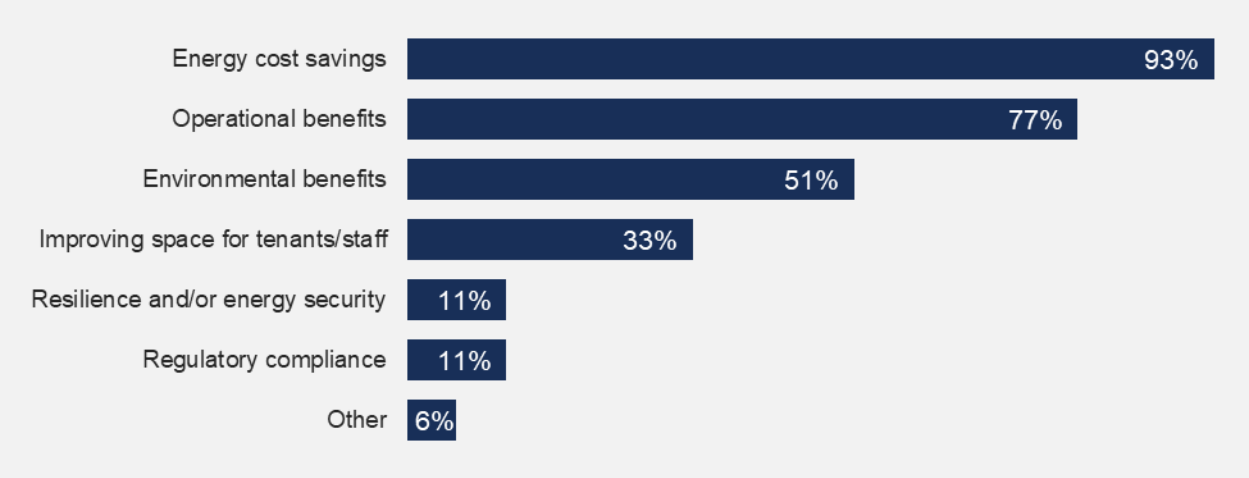
Motivations for Pursuing Energy Efficiency Projects

Energy cost savings were the primary reason the vast majority (93%) of respondents pursued energy efficiency projects (Figure 126). Additionally, operational benefits, such as reducing maintenance and improving the performance of equipment, systems, or production processes, were another important reason respondents pursued energy efficiency projects (77%).

"Our operating budget is extremely regulated and can't grow to keep up with demands. Energy cost savings help us balance our operating budget."

- S&G Participant

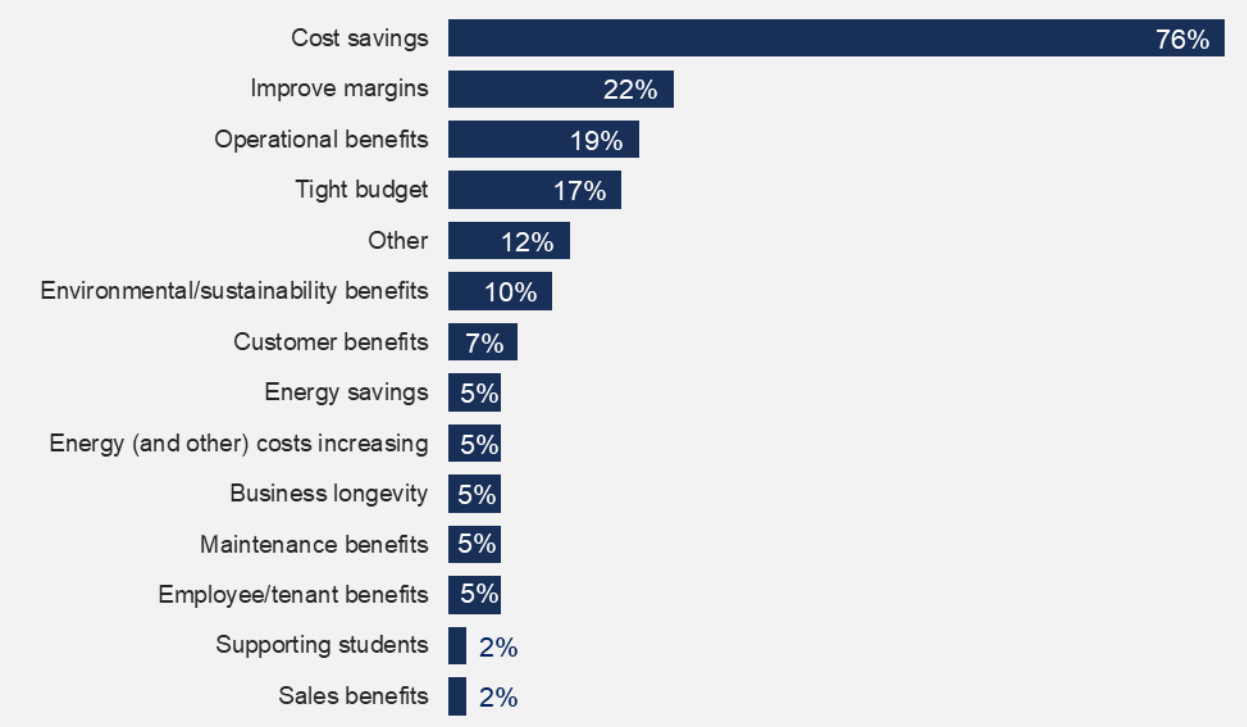
Figure 126. Primary Reasons Participants Pursued Energy Efficiency Projects



Source: Nonresidential Participant Survey Question: "What are the primary reasons that your organization considers and pursues energy efficiency projects like the one(s) you did with Focus on Energy?" (n=70, multiple responses allowed)

As illustrated in Figure 127, respondents primarily selected financial benefits as the reason it was important to save energy and operating costs: cost savings (76%), improving margins (22%), and addressing tight budgets (17%). Others specifically cited operational improvements (19%), which may be tied to financial benefits, as well as the extended effects of environmental and sustainability benefits (10%).

Figure 127. Why Participants Want to Save on Energy and Operating Costs



Source: Nonresidential Participant Survey Open-Ended Question: "Why is it important for your organization to save on energy and operating costs?" Asked of respondents who reported energy cost savings and/or operational benefits as a reason for pursuing energy efficiency projects. (n=59, multiple responses allowed)

> *"Saving on energy is more sustainable and important to our story. In order to be more sustainable, saving money in one area to use it in another helps that process."*
>
> ***- Agribusiness Participant***

Conversations with interviewees echoed the sentiments within the survey. All 10 interviewees reported the benefit of cost savings associated with energy efficiency projects, and many described the ripple effects of implementing such projects. For example, one Agribusiness participant noted operational improvements, explaining that a plate cooler helps cool milk faster, which in turn saves energy and increases operational efficiency. In another example, an S&G interviewee explained how their LED installations not only last longer, thereby reducing maintenance needs, but also improve the building environment with consistent lighting. Overall, cost savings from both the upfront incentives and ongoing operational cost savings allowed participants to invest in other areas of the business, whether that be on additional energy efficiency projects, projects specific to employee comfort or benefits, or the reallocation of resources within tight budgets.

"My organization has a "good neighbor" policy which is aimed at ensuring our manufacturing process does not adversely affect the environment in which we operate."

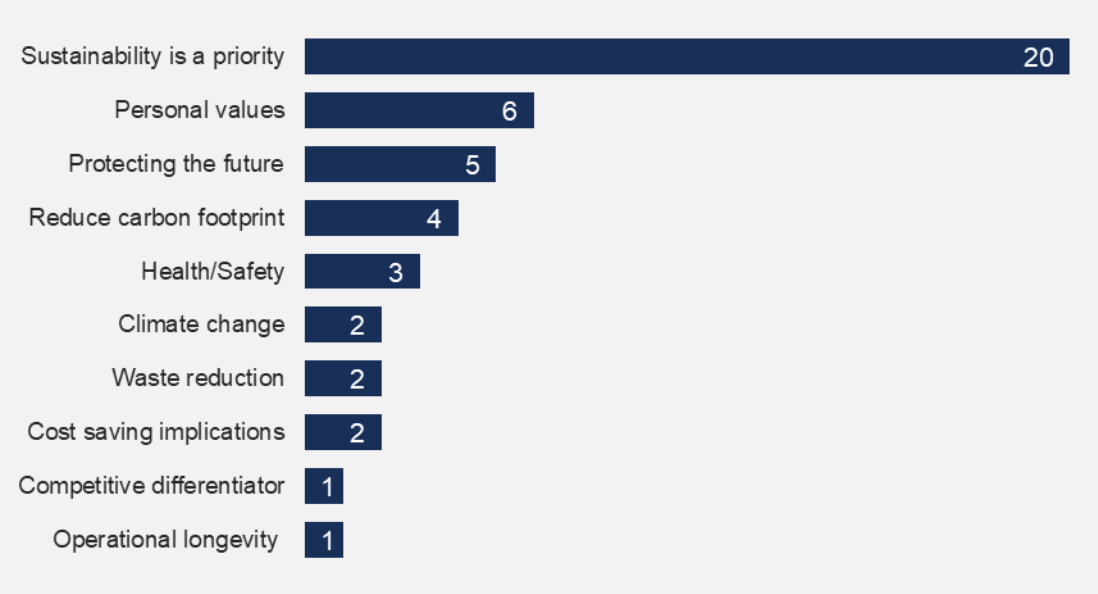
- Large Industrial Participant

"We want to leave the world in a better place than we found it, and it is a way we are different than our competitors."

- Business and Industry Participant

As shown in Figure 126, 51% of all survey respondents also cited environmental benefits as another important reason for pursuing energy efficiency projects. As shown in Figure 128, nearly two-thirds (65%) of the respondents who cited environmental benefits as a motivator said that sustainability is a priority for their organization. Other respondents said that environmental impacts were important due to mindfulness/morals (19%), protecting the future (16%), and reducing their carbon footprint (13%). Four out of the 10 interviewees also spoke about the importance of sustainability as a reason for pursuing energy efficiency projects, as it is a priority for them and contributes to their sustainability goals.

Figure 128. Why Participants Consider Environmental Impacts



Source: Nonresidential Participant Survey Open-Ended Question: "Why is it important for your organization to consider environmental impact?" Asked of respondents who reported environmental impacts as a reason for pursuing energy efficiency projects (n=31, multiple responses allowed)

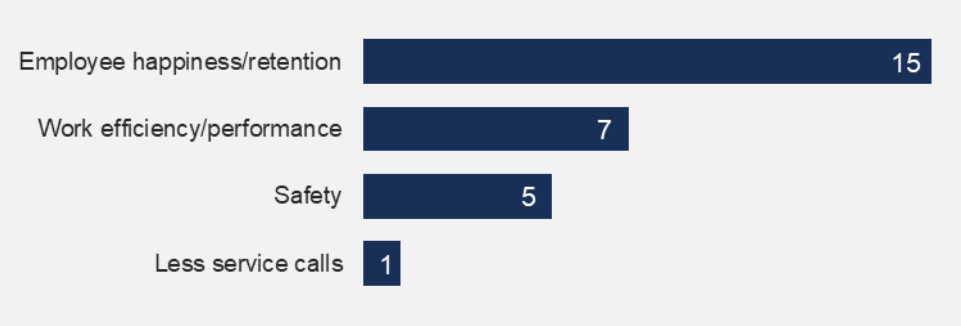
As shown in Figure 126, one-third (33%) of all survey respondents said improving space for tenants or staff, such as comfort, aesthetics, air quality, or health benefits, was a key reason for pursuing energy efficiency projects. As illustrated in Figure 129 below, when asked why this was important, most of these respondents cited employee happiness and retention (15 respondents). This was followed by prioritizing employee comfort and health to improve work efficiency and performance (seven respondents) and ensuring a safe working environment (five respondents). Three respondents specifically mentioned that

"We care about the health and comfort of everyone that uses our facility, we want them to have a safe and healthy workspace."

- Business and Industry Participant

better lighting improved the working conditions for their employees' benefit. Two of the interviewees mentioned employee comfort as a driver for energy efficiency projects; however, as discussed in a later section, more interviewees cited the benefits of employee comfort even though it was not highlighted as a primary driver.

Figure 129. Why Participants Consider Tenant or Staff Comfort/Health Important



Source: Nonresidential Participant Survey Open-Ended Question: "Why is tenant or staff comfort and/or health important for your organization?" Asked of respondents who reported improving space for tenants/staff as a reason for pursuing energy efficiency projects (n=21, multiple themes possible)

Some survey respondents said they pursued energy efficiency projects for regulatory compliance (11%) and resilience and/or energy security (11%). One Large Industrial participant cited EPA emissions compliance, and another stated more generally "environmental standards." One Business and Industry participant spoke to regulatory structures they need to comply with from the Public Service Commission of Wisconsin. Some respondents also commented on the longevity of their organizations, "performing optimally while using less resources." Others noted that the reduced energy costs and resource use resulting from efficiency upgrades could help their organizations succeed over the long term. Themes around regulatory compliance, resilience, and energy security did not explicitly come up in interviews.

> *"We have to stay vigilant for all. There are opportunity costs at every turn. If we don't work together, it will cost us more in the long run."*
>
> ***- Business and Industry Participant***

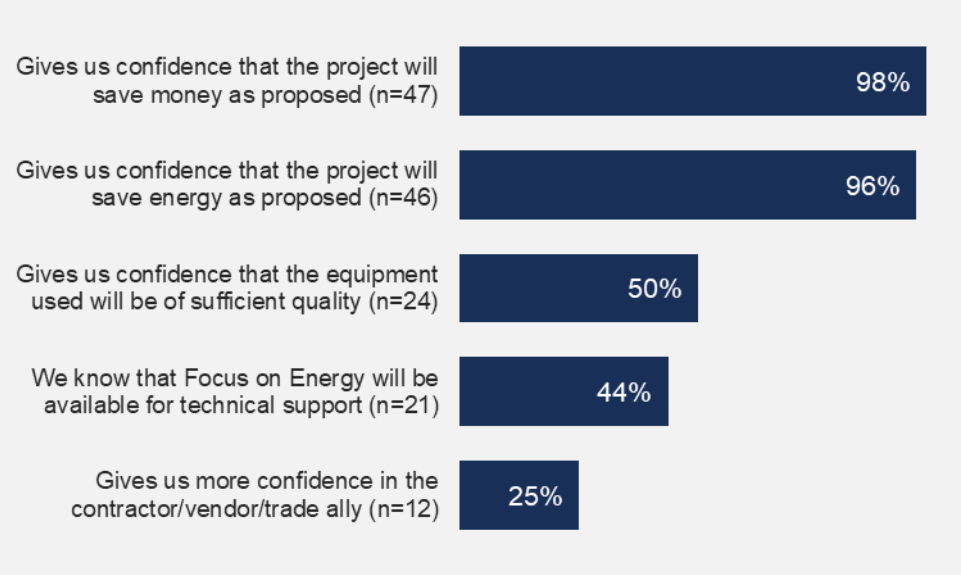
Four survey respondents specified "Other" as their primary motivation for pursuing these projects. Of these, three cited incentives received as their specific motivation, while one said their focus was on upgrades for dairy farms.

Organizational Goals Around Energy Efficiency Projects

All respondents had done at least one energy efficiency project with the support of Focus on Energy within the last year, describing Focus on Energy as a partner in technical support, education, and ultimately in the cost savings their organizations achieve. More than two-thirds of all survey respondents (69%) said that knowing a project meets Focus on Energy requirements and standards helps when deciding to implement the project. As shown in Figure 130, of those respondents who said it helps, nearly all said Focus on Energy gave them confidence that the project will save them money and energy as proposed (98%). This confidence translated into stronger pitches to decision-makers to move projects forward. As one respondent explained, "[Knowing a project meets the Focus on Energy

requirements is a] great sales point to the board that this is a worthy project, and [that they] can trust the savings."

Figure 130. How Meeting Focus on Energy Requirements Helps with Project Decisions



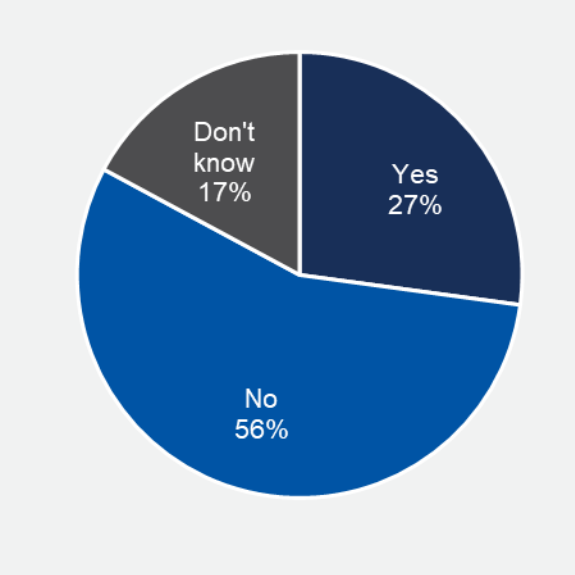
Source: Nonresidential Participant Survey Question: "In what ways does a project meeting the Focus on Energy requirements and/or standards help when deciding whether to implement a project? (Please check all that apply)" (n=48, multiple responses allowed)

Sustainability Goals Among Participants

Of the survey respondents, 27% stated that their organization has specific goals related to sustainability (Figure 131). However, as shown in Figure 132, most of these respondents said their goals were relatively general. Just five articulated specific, quantifiable goals, such as 100% renewable by 2035 (S&G participant) or net zero by 2030 (one S&G and one Large Industrial participant). The percentage of Large Industrial respondents reporting having sustainability or energy conservation goals (50%) was nearly twice that of the survey population as a whole.

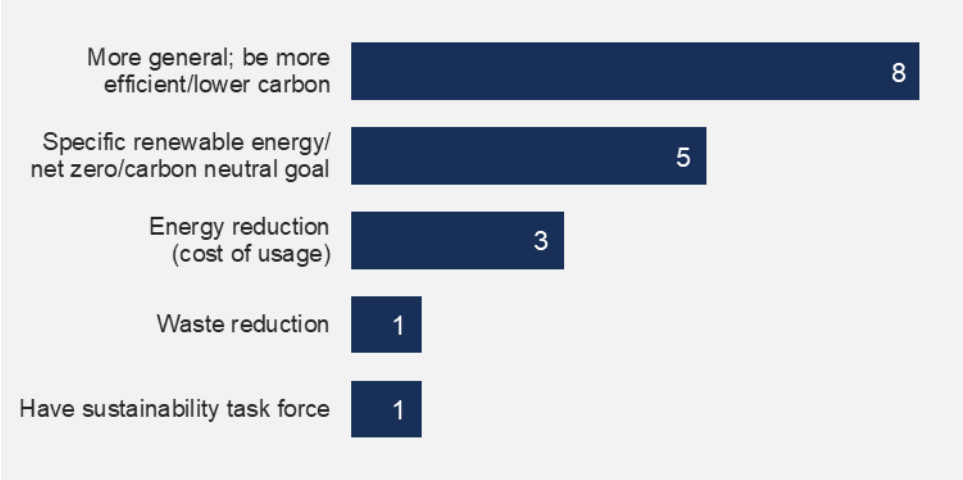
> *"It makes our organization understand what projects are of higher priority and sometimes those with energy or sustainability often are the first done."*
>
> ***- Agribusiness Participant***

Figure 131. Does the Organization Have Sustainability Goals



Source: Nonresidential Participant Survey Question: "Does your organization have specific goals related to sustainability or energy conservation?" (n=70)

Figure 132. Type of Sustainability Goal

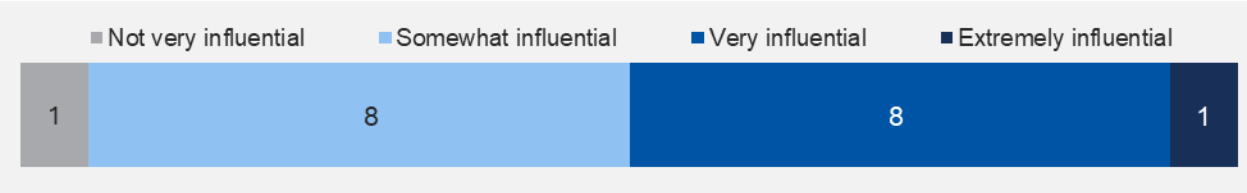


Source: Nonresidential Participant Survey Question: "In your own words, please describe your organization's sustainability or energy conservation goals." The team categorized goals. (n=19)

Nine of the surveyed participants with sustainability goals stated that their sustainability goals are *extremely influential* (one respondent) or *very influential* (eight respondents) in capital project decision-making (Figure 133). Respondents who reported that their sustainability goals were more influential in their capital project decisions explained that the cost savings associated with the type of efficiency projects tied to their sustainability goals make a stronger business case when they show return on investment and savings numbers (six respondents) and can bump the priority rating of project decisions

(two respondents). As one Large Industrial interviewee explained, “Incentives through Focus make it easier to justify projects and accelerate decision-making.”

Figure 133. Influence of Sustainability/Energy Goals on Capital Project Decisions



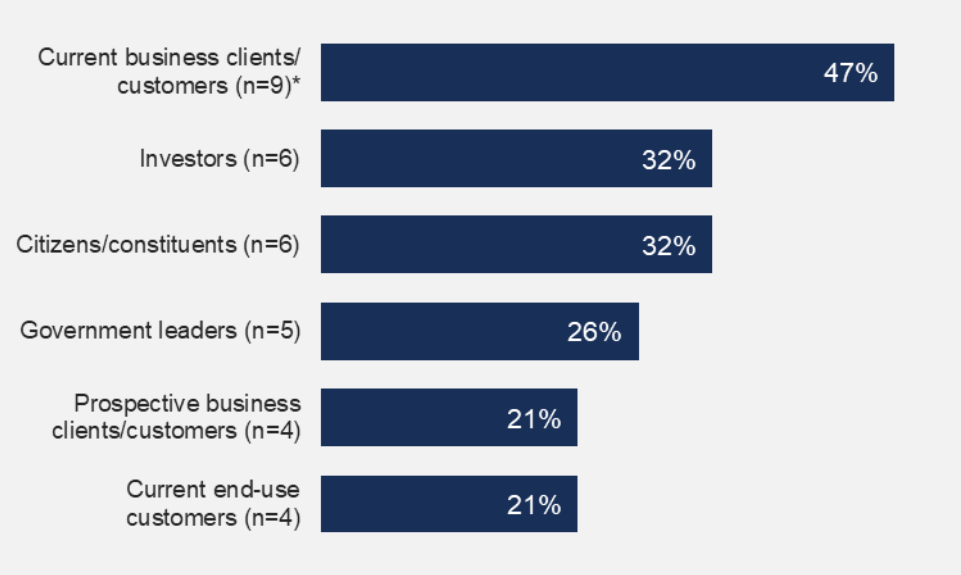
Source: Nonresidential Participant Survey Question: “How do your organization’s sustainability or energy conservation goals influence capital project decision-making?” (n=19)

A higher percentage of S&G participants (67%) than other respondent types found sustainability goals *very influential*, with one S&G participant stating explicitly, “Decisions are made to achieve our renewable energy goal.” This was a unique sentiment; while most respondents said they might consider sustainability as part of their upgrades, none (survey or interviews) suggested it was influential enough to be a primary driver of their capital project decisions.

As shown in Figure 134, survey respondents with sustainability goals reported that various stakeholder groups outside of their organization expressed concern about whether their sustainability goals were met, including business clients/customers (nine respondents), investors (six respondents), and citizens/constituents (six respondents). Two participants explained that having sustainability goals resonates with customers and strengthens community goodwill. They also discussed the marketability of their goals. A higher percentage of Agribusiness respondents reported that their current business clients/customers are concerned (80% of the Agribusiness respondents) about sustainability goals compared to respondents in other groups. Focus on Energy staff noted that prior research has found that organizations in the agriculture sector incorporate sustainability goals through a mindful land management lens but often do not have specific targets associated.

Although not shown below, both Business and Industry respondents and Large Industrial respondents who had sustainability goals most often reported that investors are concerned about these goals (50% and 60%, respectively).

Figure 134. Outside Stakeholder Groups Concerned with Sustainability Goals



* For example, retailers selling a company's products.

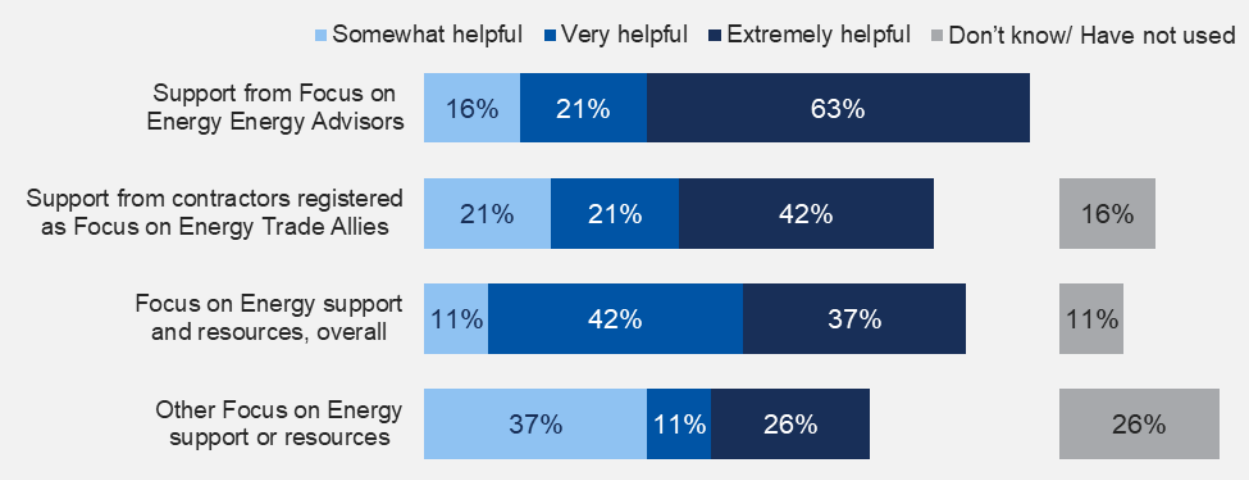
Source: Nonresidential Participant Survey Question: "Which stakeholder groups outside of your organization are vocally concerned about whether your organization meets its sustainability goals?" (n=19, multiple responses allowed)

Support from Focus on Energy Toward Sustainability Goals

Respondents with sustainability goals rated energy advisor support as the most highly valued Focus on Energy resource, with all resources reported to be at least *somewhat helpful* in supporting sustainability goals (Figure 135). No respondents selected the *not very helpful* or *not helpful at all* options. Notably, survey respondents did not suggest areas for improvement in how energy advisors work with respondents' organizations to support energy conservation goals. Two interviewees acknowledged that they should more actively engage their energy advisors regarding their sustainability goals, noting that they had previously overlooked the value of involving them in these efforts.

> *"[Our energy advisor is] very instrumental explaining various programs Focus on Energy has to offer and helping with justifications."*

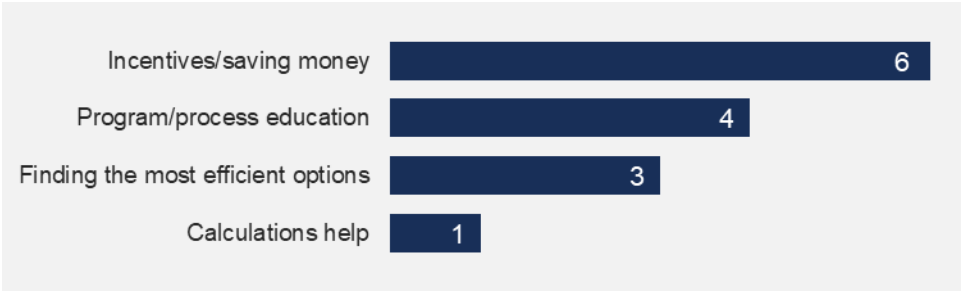
Figure 135. How Focus on Energy Resources Have Supported Sustainability Goals



Source: Nonresidential Participant Survey Question: "How helpful have each of the following elements of Focus on Energy's programs been in supporting your organization's efforts to achieve its sustainability/energy goals?" (n=19) The survey included *not very helpful* or *not helpful at all* options, but no respondents selected them, so they were not included in figure.

Survey respondents with sustainability goals valued the general program and technical expertise they received from energy advisors and Focus on Energy resources overall, rating their support on incentives and ideas for efficiency projects as two top categories (Figure 136 and Figure 137). One Large Industrial participant reported how impactful working with the strategic energy management team has been in identifying projects to help their sustainability goals. Another Large Industrial respondent said the Energy Summits and Wisconsin Public Service energy audits have especially helped them.

Figure 136. How Energy Advisors Help Organizations Achieve Sustainability Goals



Source: Nonresidential Participant Survey Question: "What did the Energy Advisor do to help your business achieve your energy savings or carbon reduction goals?" (n=14)

Figure 137. How Focus on Energy Support and Resources Help Organizations Achieve Sustainability Goals



Source: Nonresidential Participant Survey Question: "In what way(s) have support and resources from Focus on Energy, overall, helped your company achieve its sustainability goals?" (n=11)

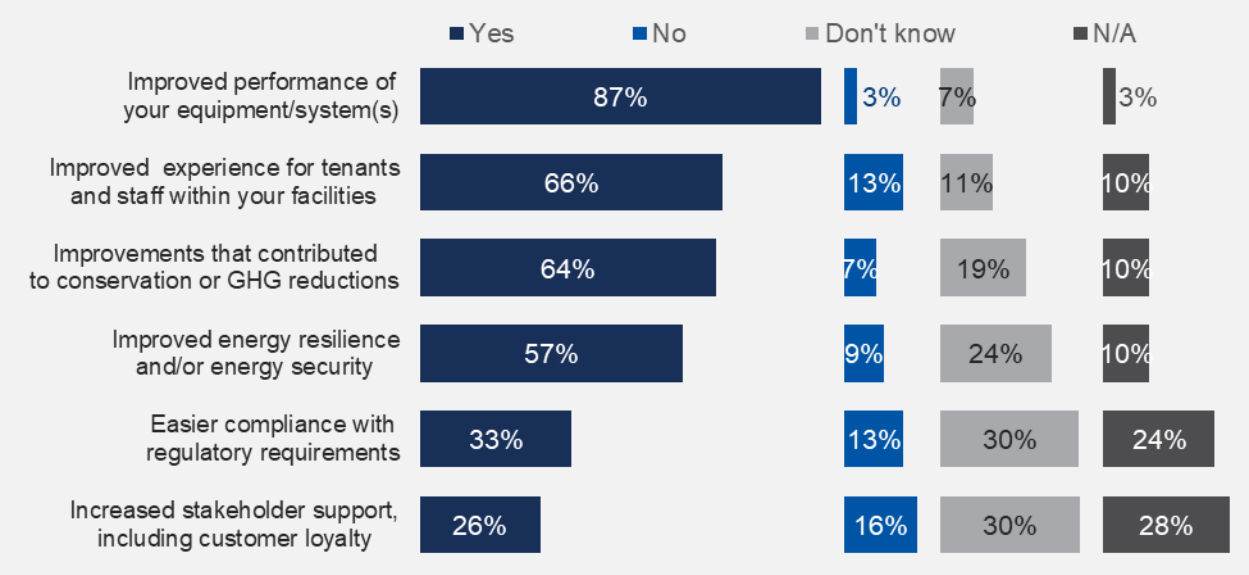
Realized Benefits (and Non-Energy Benefits)

Survey findings indicate that cost savings are ultimately the primary driver among program participants, including up front and ongoing savings, but participants also reported experiencing NEBs across the board. Even if cost savings is the primary driver, findings suggest respondents are paying attention to many other wider impacts to prioritize energy efficiency projects. A Large Industrial participant summarized this sentiment saying, "Cost savings are the main driver, but we also prioritize employee comfort, sustainability goals, and operational efficiency. For instance, we recently recovered heat from a compressor room, which improved working conditions while reducing energy costs. We also tied in older heaters to a building management system with Focus's support, which prevents wasted energy. [The cost savings] reduce overhead and free up resources for other investments. For example, we used rebate funds to justify purchasing capital equipment, which wouldn't have been possible otherwise."

> *"[The most important benefits we've experienced are] decreased utility costs for gas and electricity, increased comfort with more consistent temperatures and higher quality equipment that is easier to maintain."*
>
> ***- S&G Participant***

As illustrated in Figure 138, most survey respondents (87%) reported that improved performance of equipment/systems as the top NEB.

Figure 138. What Participants Have Experienced as a Result of Focus on Energy Projects



Source: Nonresidential Participant Survey Question: "As a result of your Focus on Energy projects, have you experienced: [select option from list]" (n=70)

Survey respondents also cited improved experience for tenants and staff within facilities as another important benefit (66%). Responses within the survey, as well as conversations during interviews, demonstrated this was a benefit participants appeared to be truly proud of. One Large Industrial participant explained, "…if we're able to reduce costs out in the plant and continue providing our customers, meeting all of their needs, that surplus is then shared with building improvements, with break room improvements, with workout facilities, and just all of these other things that can trickle down and benefit our employees."

"Healthy employees create a better work environment and better work efficiency. Better lighting also helps with safety."

- B&I participant

"Maintaining a comfortable and healthy work environment improves morale and productivity."

- LI participant

"Without our staff, we cannot function. They are just as important the bottom line."

- Agribusiness participant

This was closely followed by survey respondents who reported improvements that contributed to reductions in greenhouse gas emissions (64%). This is notable as only 27% of participants said that they have greenhouse gas emissions-related goals. A higher percentage of Large Industrial respondents reported experiencing this benefit (90%), aligning with the finding of a higher percentage also having sustainability or energy conservation goals.

"We want to have sustainable practices. If the environment is adversely affected, then it affects inputs, outputs, and the profitability of the business."
- Agribusiness participant

"We want to have sustainable practices. If the environment is adversely affected, then it affects inputs, outputs, and the profitability of the business."
- Agribusiness Participant

"We want to leave the world in a better place than we found it, and it is a way we are different than our competitors."
- B&I participant

"We want to leave the world in a better place than we found it, and it is a way we are different than our competitors."
- B&I Participant

"Our organization has carbon neutral goals to achieve by 2030."
- S&G participant

"My organization has a "good neighbor" policy which is aimed at ensuring our manufacturing process does not adversely affect the environment in which we operate."
- LI Participant

In total, 69 respondents identified at least one NEB from the provided list, indicating that almost all respondents recognized tangible benefits. One respondent said they recently installed their project, and therefore "are still in the process of experiencing these benefits through installation of our new systems." This person flagged that they expect to experience benefits, but it was too early to report. A subsequent open-ended prompt invited participants to describe, in their own words, the most significant benefits their organization experienced from completing energy efficiency improvements supported by a Focus on Energy Incentive, with a number of quotes shown below:

- "Our biggest benefit was proper lighting for employee safety." (Agribusiness participant)
- "The most important thing is the improved view, making repairs easier and safety issues more visible. It is also nice to know that these should last for years, reducing maintenance costs." (Business and Industry participant)
- "The change to LED fixtures has reduced maintenance time and improved the lighting in many spaces." (S&G participant)
- "Our electric bills have been reduced after the installation of this and the previous lighting project. Additionally, we do not need to continually use lifts to change light bulbs and have to find a place to recycle the hazardous bulbs we were using. Finally, the areas are better lit, more pleasant to be in, and there's no longer the hum of the old bulbs running." (Business and Industry participant)
- "Lower operating costs and improved reliability. Also, improvement of product quality, not having water in air lines." (Large Industrial participant)
- "Overall improvement to work environment as well as doing the right thing for the environment." (Agribusiness participant)
- "A more automated process allows employees to engage in other tasks while maintaining efficient operations of the affected system." (Large Industrial participant)

Participant Interviews Illustrate Realized Benefits and Realized Value from Focus on Energy

Interviews further expanded on the themes touched on in the survey. The examples below cover just three participant experiences but provide insight into the many facets of where participants realized benefits and value from Focus on Energy.

For Participant A (Large Industrial), partnering with Focus on Energy has been nothing short of a game-changer. Reflecting on their experience, Participant A shared, "Four years ago, I didn't even know [Focus on Energy] was really an option for what we would want to do." Since then, the program has proven to be an invaluable resource, helping their company streamline processes, cut energy costs, and enhance overall efficiency. One of the standout benefits is the customized support and incentives that make energy efficiency projects more feasible. Participant A recalled how Focus on Energy tailored solutions to fit their unique needs, saying, "Our Focus on Energy guru was able to specialize or tailor our needs to make them actually fit the program's requirements." This level of customization enabled their company to implement process improvements that significantly reduced energy consumption. Participant A also applauded the responsiveness of the Focus team, first describing their initial skepticism about working with an energy program, expecting delays and red tape, but instead found the opposite: "Honestly, anytime you seem to work with the government, it usually takes a long time, but when you work with Focus, it was very responsive—quick feedback, on-site visits, and answers within 24 to 48 hours."

Beyond cost savings, the impact extends to employee retention and workplace benefits. "There's a financial benefit for us to save money, but then there's also the marketability of being a renewable company," they explained. Not only does the company reinvest its savings into employee profit-sharing, but it also enhances workplace facilities, making it a more attractive place to work. Another major advantage has been the ability to increase production capacity without increasing energy consumption. Thanks to efficiency improvements and strategic upgrades, Participant A's organization has been able to do more with the same energy footprint. "By becoming more efficient in all these areas, we're actually maximizing our potential for production without having to bring in additional energy usage," they explained. This has allowed them to expand operations without the added cost of upgrading their power infrastructure. Participant A emphasized that Focus on Energy is more than just an incentive program; it's a true partner in energy efficiency. Whether through comprehensive energy audits, expert advice, or helping the company navigate sustainability goals, the program has helped them maximize their potential. "It's a free resource for us to use that betters our company as a whole. I mean, why wouldn't you want to take advantage of it?"

For Participant B (S&G), Focus on Energy has been a trusted partner in reducing costs, improving efficiency, and making meaningful upgrades that benefit both employees and the community. The journey began with something simple—outdated fluorescent lights that flickered constantly—a problem that was both frustrating and inefficient. "It was like a disco in here!" Participant B recalled. The benefits extended far beyond just saving money. Improved employee comfort was a key factor, as the new lighting eliminated the constant flickering, preventing what Participant B jokingly called "disco headaches." Plus, maintenance time was significantly reduced—no more frequent bulb replacements or dealing with failing ballasts. They also used their partnership with Focus on Energy to upgrade street lighting, making public spaces safer and more efficient. One of the biggest surprises for Participant B was

how simple the entire process was. “There wasn’t a lot of back and forth—it was just easy.” The Focus on Energy team followed up with an on-site visit to confirm the installation, which Participant B appreciated, noting that they were professional and respectful of their limited budget and resources. The savings also allow them to reallocate funds for other priorities, such as holiday lighting and additional community projects. When asked whether they would work with Focus on Energy again, Participant B’s response is immediate: “Oh my gosh, yeah!” They also see huge potential for residents to benefit from the program. “They even work with homes. We’ve taken advantage of their yearly programs through our utility provider.” For Participant B, Focus on Energy is not just about rebates—it is about making smart, cost-effective decisions for the long term.

Participant C (Large Industrial) is participating in the strategic energy management program and considers Focus on Energy to be an indispensable partner in driving efficiency, cutting costs, and advancing sustainability initiatives. “They’re like free consultants,” Participant C explained. “They know the programs, they see what other industries are doing, and they bring that knowledge to us.” One of the standout aspects of working with Focus on Energy is the seamless, hands-on support they provide. Participant C highlighted how their energy advisor has been instrumental in making projects easier to execute. “He quickly ran calculations for a project involving fans and even prefilled the application for us. He knows our operations well and brings valuable ideas to the table.” This proactive approach has helped Participant C’s team maximize incentives, including securing a $7,500 planning grant, which allowed them to invest in energy-efficient LED lighting before budget constraints set in.

Beyond cost savings, Focus on Energy has helped Participant C’s organization enhance employee comfort, sustainability efforts, and operational efficiency. For example, Participant C noted a recovering heat from a compressor room, which “improved working conditions while reducing energy costs.” They also leveraged Focus on Energy resources to integrate older heaters into a building management system, preventing wasted energy and improving overall facility performance. Participant C has also been impressed by Focus on Energy’s ability to uncover hidden opportunities. “Sometimes we’ll assume a project isn’t eligible for a rebate, and they’ll find a way to package it to qualify,” they note.

The guidance from Focus on Energy has even extended to connecting their company with key industry groups and supporting broader energy management initiatives like ISO 50001. Reflecting on the bigger picture, Participant C emphasized that Focus on Energy is not just about rebates—it’s about long-term business growth and sustainability. The program has helped their company allocate resources more effectively, allowing them to reinvest cost savings into capital equipment and other strategic initiatives. “We used rebate funds to justify purchasing equipment that wouldn’t have been possible otherwise,” they shared. While Participant C sees room for improvement, such as more regular check-ins and a stronger alignment with her company’s sustainability goals, they were overwhelmingly positive about the partnership. “Why wouldn’t you take advantage of it? It’s an invaluable resource that helps us save money, improve operations, and plan for the future.”

Opportunities to Strengthen Program Benefits

> *"The beauty of working with Focus on Energy is that they're genuinely there to help you, not sell you something. They're realistic, unlike salespeople who might overpromise."*
>
> ***- Large Industrial Participant***

Respondents were forthcoming about the wide range of benefits they experienced through their collaboration with Focus on Energy. Beyond cost savings, a recurring theme in both the survey and interviews was a high level of satisfaction with energy advisors and trade ally support. Respondents described energy advisors as trusted partners who bring innovative ideas, instill confidence in decision-making, and help with the application process. Interviewed energy advisors also described these types of support as an important part of their role, noting that their greatest value to the program was in customer application assistance, advocating for customers' participation, and being a source of information and expertise for energy upgrades. As one energy advisor stated, "[participants] might not understand the technical requirements for a lot of the measures, they have trouble completing the application, they don't know what some of the questions mean or how to fill out the equipment information." One Large Industrial interviewee highlighted a specific example in which their energy advisor facilitated a collaboration with the U.S. Department of Energy to get additional project funding, enabling them to maximize their return on investment. Respondents expressed confidence in trade allies' expertise and praised the seamless collaboration between energy advisors, trade allies, and themselves to ensure projects are completed efficiently and effectively.

> *"[Our Energy Advisor] is great—he's our go-to guy here. I think he just services the central Wisconsin area, and I don't know if he's retiring or not, but if he is, don't let him."*
>
> ***- Large Industrial Participant***

Opportunities for Improvement

With high satisfaction reported by nearly all respondents in both the survey and interviews, only a small number identified areas for improvement. For example, one respondent from the Business and Industry sector expressed dissatisfaction with the incentive process, citing the need to consistently reach out to check on progress and frustration over the length of time it took to receive the incentive. They ultimately stated that, due to this experience, they would "not consider Focus on Energy as a contributing factor in any future decisions," though they acknowledged that a previous experience with the program had been more positive.

Similarly, one interviewee from the Business and Industry sector shared concerns about the incentive process, including delays, the need to follow up frequently, and the burden of paperwork relative to the incentive amount. However, unlike the survey respondent, this individual indicated they would continue to use Focus on Energy offerings, as it is the only program available to them locally. These were the only respondents who reported an overall negative experience.

Other open-ended interview responses suggested a few additional opportunities for improvement, including the following:

- **Incentive Offerings**
  - *More innovative qualifying measures:* One Agribusiness interviewee said they had done all they could with the current offerings. To get them closer to their net zero goal, they looked into other solutions and government incentives for projects like solar panels and digesters.[37] They would like to see more "advanced" offerings from Focus on Energy.
  - *Expansion of food service offerings:* One Business and Industry participant was looking for more prescriptive kitchen equipment rebates for commercial clients.
  - *Larger incentives:* Three interviewees made this suggestion, with one respondent speaking to their experience as a rebate processor working with clients across the country. This respondent observed that Focus on Energy rebates tend to be smaller than those offered in other jurisdictions, and when clients with locations in multiple states "see lower incentives, they prioritize higher incentives in other areas of the country instead of the Focus on Energy ones."
- **Other Financial Offerings**
  - One Large Industrial interviewee suggested offering low-cost or fully discounted full energy assessments, as well as low-interest loans through the program. In 2009, they used a low-interest loan program through a partnership between Focus on Energy and Clean Tech Partners. With this loan, they were able to complete a $400,000 scrap reduction project with no money down. The ongoing savings from the project were then split between the loan payment and money back to their company. They were extremely satisfied with that offering and were looking for more like it.[38]
- **Communication**
  - Three respondents suggested a better system to learn about program changes or updates, though they did not provide specific suggestions on the best delivery mechanism.
  - One respondent would value regularly scheduled meetings with their energy advisor, suggesting a quarterly cadence to touch base on their upcoming projects and sustainability goals.

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[37] Focus on Energy currently offers incentives for solar PV and biogas projects. More information can be found at https://focusonenergy.com/business/custom-incentives. Additionally, custom incentives are available for energy-saving projects that may not be found within the Focus on Energy Incentive Catalogs. Program requirements apply, see more details at https://focusonenergy.com/business/custom-incentives.

[38] The low- or no-interest loan offering through the CleanTech Partners and Focus on Energy partnership is still available to Commercial and Industrial customers, known as the Technology Investment Fund. For more information, see Project-Financing-for-Businesses-Final.pdf.

- Another respondent valued the forums they had attended, though they suggest they be smaller groups to make them more interactive. This respondent reported that smaller group discussions have been more effective than the larger, more lecture-style sessions they had attended.

Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations from surveying and interviewing participants of the nonresidential programs.

Outcome 1. The top realized NEB is operational improvements. While cost savings are the top reason participants are pursuing energy efficiency projects, the cascading impacts on operational improvements, improved experience for tenants and staff, and improvements that contribute to conservation or environmental targets are realized and appreciated by many. Participants attribute these successes across their businesses to the energy efficiency projects they have implemented with Focus on Energy.

Outcome 2. The support participants receive from energy advisors and other Focus on Energy support is invaluable. Energy advisors offer trusted guidance on incentives, technical items, industry knowledge, and program or process education. Their commitment to bringing new and creative ideas to organizations is highly valued.

Outcome 3. There is more to learn about sustainability goals among participants. Nearly two-thirds of respondents (64%) reported that their Focus on Energy projects contributed to conservation or greenhouse gas reduction efforts. However, fewer than one-third (27%) reported their organization has greenhouse gas reduction or sustainability goals, and fewer still (7%) were able to articulate a specific, measurable, and time-bound goal. Further, only half of the respondents with sustainability goals indicated that these goals were at least *very influential* in capital project decision-making.

Recommendation 1. Consider additional research to deepen the understanding of participants' sustainability goals and communication preferences. A comprehensive analysis of how different stakeholders perceive and engage with sustainability could uncover strategic opportunities to promote energy efficiency projects more effectively. This research would not only clarify the motivations behind sustainability efforts but also help identify pathways for Focus on Energy to support the development and execution of sustainability and conservation goals. Strengthening this alignment could enhance partnerships and provide valuable insights into customer-specific runways, ultimately fostering program growth. Suggested elements include the following:

- *Bridging the Gap Between Goals and Action:* Investigating why some participants incorporate sustainability into capital improvements, while others do not, could provide targeted strategies for Focus on Energy to better position its programs. Many participants expressed interest in sustainability but may lack clear guidance or starting points—an opportunity for Focus on Energy to step in as a key resource.

- *Tailoring Engagement Strategies:* Research should explore preferred communication cadence, key topics of interest, and standardized engagement methods for discussing sustainability goals.
- *Sector-Specific Insights:* A targeted deep dive into how agricultural businesses define and approach sustainability could provide tailored engagement strategies.
- *Enhancing Program Awareness and Accessibility:* The planned CY 2025 evaluation should incorporate further research into the optimal timing, frequency, and delivery methods of program information. Participants explicitly requested clearer guidance, and gaps in awareness, such as the underutilized low-interest loan through the Clean Tech/Focus on Energy partnership, demonstrate the need for a more effective information-sharing approach. Aligning this research with the sustainability goal deep dive will ensure the right information reaches the right decision-makers, driving greater participation in energy efficiency initiatives.

By proactively addressing these research areas, Focus on Energy can strengthen relationships, enhance program reach, and drive deeper engagement in sustainability-driven capital projects.

13. CROSS-CUTTING PROGRAMS

This section presents the evaluation results for CY 2024 for Focus on Energy cross-cutting programs.

Midstream and Instant Discount Programs

- Commercial Sector
- Residential Sector

Renewable Rewards

- Residential and Business

Pilots

- Community Impact Pilot
- Life Sciences Midstream Pilot

14. Midstream and Instant Discount Programs

In CY 2024, Focus on Energy transitioned from offering midstream discounts through the Midstream Program to offering them through the Instant Discount Program. This section presents an evaluation of both programs; however, CY 2024 evaluation activities and the resulting outcomes and recommendations are primarily applicable to the Instant Discount Program.

The Midstream Program, which operated from January 2020 through March CY 2024, engaged distributors to provide discounted or no-cost equipment to residential and commercial customers. The program included two primary offerings:

- **Midstream Contractor offering**: This offering provided incentives to distributors who promote and sell these measure types:
  - *Commercial food service equipment,* such as fryers, hot food holding cabinets, steamers, dishwashers, ice makers, and refrigerators
  - *Water heaters*, such as heat pump water heaters and high-efficiency natural gas water heaters
  - *Variable-speed circulator pumps*
- **Community-Based Organization (CBO) Distribution offering:** This initiative provided kits containing energy-efficient products at no cost to income-qualified customers, distributed through nonprofit organizations that serve these communities. Three kit options were available, each focused on a specific category of measures: water-saving, weatherization, or lighting.

In April 2024, Focus on Energy launched the Instant Discount Program to replace the Midstream Program. Like the Midstream Program, the Instant Discount Program partners with distributors to provide instant discounts to residential and commercial customers for select measure types. At the time it launched, the program offered incentives for commercial food service and water heating equipment. Focus on Energy added residential-sized HVAC equipment to the program on July 1, 2024, which coincided with the timing of removing HVAC measures from the Trade Ally Solutions Program.

In CY 2024, APTIM administered both the Midstream and Instant Discount Programs. ICF implemented the Midstream Program through April 2024, with support from its manufacturer partner, Greenlite, for the CBO Distribution offering. Starting in April 2024, Energy Solutions began implementing the Instant Discount Program.

Because the Instant Discount Program was intended to replace the Midstream Program, the evaluation team combines savings and impacts for the two programs throughout this report. Where appropriate, the team allocates savings to the residential and commercial sectors.

Table 128 summarizes the impacts of the combined Midstream and Instant Discount Programs in CY 2024.

Table 128. CY 2024 Midstream and Instant Discount Summary

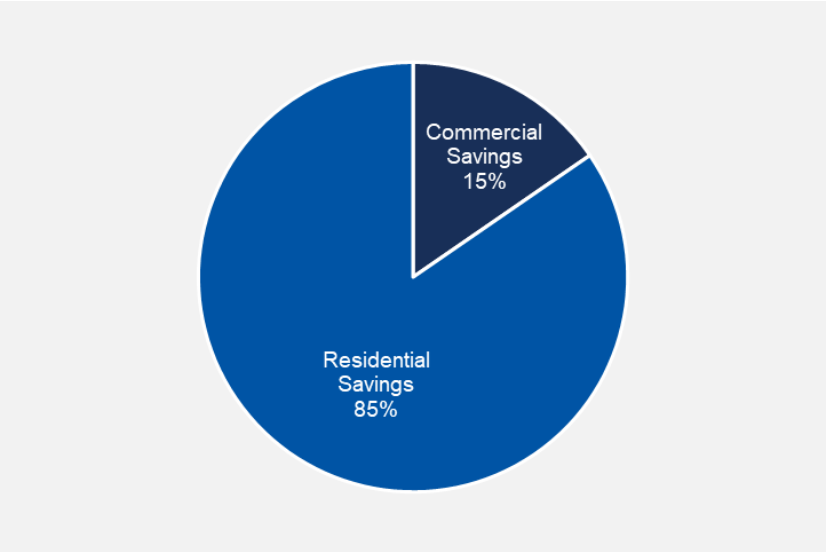
Item	Units	CY 2024
Incentive Spending [a]	$	$1,779,643
Participation	Number of Participants	9,543
Verified Gross Lifecycle Savings	kWh	-10,228,812[a]
	kW	631
	therms	17,736,797[a]
Verified Gross Lifecycle Realization Rate	% (MMBtu)	101%
Annual NTG Ratio	% (MMBtu)	61%
Net Annual Savings	kWh	-481,738
	kW	390
	therms	616,294
Net Lifecycle Savings	MMBtu	1,070,062
Cost-Effectiveness [b]	TRC Test: Benefit/Cost Ratio	0.95

[a] The program had a negative kWh impact and high therms impact in CY 2024 because of air-source heat pumps that replace gas heating systems. These systems add significant electric heating load to a home and achieve significant therm savings because they reduce the gas heating load.

Direct comparison of the CY 2023 Midstream and CY 2024 Midstream and Instant Discount Programs is not recommended due to the transitional nature of the programs in CY 2024 and the significant share of the CY 2023 Midstream savings from the CBO Distribution offering. In CY 2023, the CBO Distribution offering accounted for 92% of the Midstream Program's lifecycle savings and 97% of the program's participation. This offering ended in March 2024 and made up a small share of the total CY 2024 activity.

Figure 139 shows the percentage of Midstream and Instant Discount Program lifecycle MMBtu savings by residential and commercial sectors.

Figure 139. Midstream and Instant Discount Gross Lifecycle Savings by Sector



14.1. Achievement Against Goals

The team did not assess the combined programs' progress toward goals in CY 2024 because the status does not accurately reflect the programs during this transitional period. Future evaluations will include progress toward goals for the Instant Discount Program.

14.2. Impact Evaluation

This section contains the findings for the CY 2024 impact evaluation at the program level, followed by a discussion of each sector.

Impact Evaluation Methodology

The evaluation team conducted an impact assessment of the CY 2024 Midstream and Instant Discount Programs using a combination of primary and secondary data sources. Given the transitional nature of these programs in CY 2024, no new impact research was undertaken. Instead, the team analyzed the program tracking database to review all implemented measures, calculated gross energy savings based on the methodologies outlined in the 2024 TRM and approved work papers, and applied NTG ratios derived from prior evaluation years. The following sections provide further detail on the data sources, methodologies, and analytical activities used in this evaluation.

Verified Gross Savings Results for Midstream and Instant Discount Programs

Table 129 lists the first-year and lifecycle realization rates for CY 2024 by sector within the commercial and residential sectors, and

Table 130 lists the verified first-year and lifecycle savings by sector. Overall, the Midstream and Instant Discount Programs achieved a first-year evaluated realization rate of 101%, weighted by total (MMBtu) energy savings. The next section discusses detailed findings for each sector, including factors affecting the realization rates.

Table 129. CY 2024 Midstream and Instant Discount First-Year and Lifecycle Realization Rates

Sector/Measure Type	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Commercial Food Service	102%	100%	102%	102%	102%	102%	102%
Commercial HVAC	89%	84%	100%	100%	90%	100%	100%
Commercial Water Heating	100%	100%	100%	100%	100%	100%	100%
Hand Dryers	100%	100%	N/A	100%	100%	N/A	100%
Commercial Total	**102%**	**99%**	**102%**	**102%**	**101%**	**101%**	**101%**
Residential HVAC, Standard Income	102%	96%	101%	101%	102%	101%	100%
Residential HVAC, Income Qualified	116%	92%	100%	100%	136%	100%	100%
Residential Water Heating	100%	100%	100%	100%	100%	102%	102%
CBO Kits	100%	100%	100%	100%	100%	101%	101%
Circulator Pumps	100%	100%	N/A	100%	100%	N/A	100%
Residential Total	**102%**	**96%**	**101%**	**100%**	**102%**	**101%**	**101%**
Overall Realization Rate	**57%[a]**	**97%**	**101%**	**101%**	**104%**	**101%**	**101%**

[a] The overall first-year kWh realization rate is notably lower than the sector-level first-year kWh realization rates. The difference is caused by the significant amount of negative kWh savings in the Residential sector offsetting positive kWh savings in the Commercial sector. Overall, MMBtu realization rates and kWh realization rates for each sector present a more accurate summary of the program's achievement.

Table 130. CY 2024 Midstream and Instant Discount First-Year and Lifecycle Verified Gross Energy Savings

Sector/Measure Type	Verified Gross First-Year Savings				Verified Gross Lifecycle Savings		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Commercial Food Service	1,325,371	244	137,121	18,234	13,645,489	1,612,670	207,825
Commercial HVAC	21,741	6	21,428	2,217	393,974	494,648	50,809
Commercial Water Heating	3,030	2	8,205	831	36,360	87,489	8,873
Hand Dryers	20,192	2	0	69	201,920	0	689
Commercial Total	**1,370,334**	**254**	**166,754**	**21,351**	**14,277,743**	**2,194,807**	**268,196**
Residential HVAC, Standard Income	-1,939,690	337	716,511	65,033	-32,363,410	14,234,880	1,313,064
Residential HVAC, Income Qualified	-8,586	5	13,759	1,347	-82,223	284,959	28,215
Residential Water Heating	300,680	19	76,695	8,695	3,608,160	1,007,622	113,073
CBO Kits	7,726	0	1,386	165	77,669	14,529	1,718
Circulator Pumps	283,550	17	0	967	4,253,250	0	14,512
Residential Total	**-1,356,320**	**378**	**808,351**	**76,207**	**-24,506,554**	**15,541,991**	**1,470,583**
Overall Savings	**14,014**	**631**	**975,104**	**97,558**	**-10,228,812**	**17,736,797**	**1,738,779**

Commercial Sector: Verified Gross Savings Results

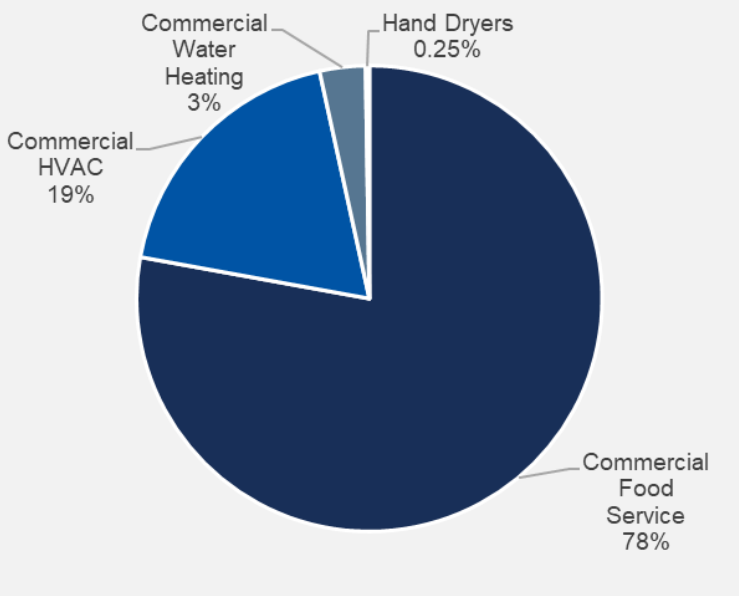
Table 131 lists the CY 2024 *ex ante* and verified gross first-year and lifecycle savings for the commercial sector. For CY 2024, the commercial sector had a gross lifecycle realization rate of 101% (MMBtu).

Table 131. CY 2024 Commercial Sector *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
First-Year Gross Savings	1,349,895	255	164,282	1,370,334	254	166,754
Lifecycle Gross Savings	14,086,022	255	2,169,323	14,277,743	254	2,194,807

Figure 140 shows the breakdown of total verified gross lifecycle energy savings in the commercial sector by equipment type. Most savings are from commercial food service measures, followed by HVAC measures.

Figure 140. Commercial Sector Gross Lifecycle MMBtu Savings by Equipment Type



The evaluation team relied on the 2024 TRM for most measures. For measures that were not in the 2024 TRM, the evaluation team relied on the 2025 TRM for two measures (MMID 10103 and 10104) and a database review for any remaining measures to assess savings from the commercial sector in CY 2024. The team found various differences between *ex ante* and verified gross savings at the measure level. Table 132 describes evaluation findings when measure-level realization rates were not 100%. The MMID Realization Rate column shows the ratio between the verified (*ex post*) and *ex ante* savings value for each listed MMID.

Table 132. CY 2024 Commercial Sector Tracking Data and Savings Analysis Findings

Equipment Category	MMID/ Measure Type	Gross Savings Finding	MMID Realization Rate
Commercial HVAC	10291/Mini-Split Heat Pump	*Ex ante* savings applied unvetted savings. *Ex post* savings applied savings from the same measure in the 2024 TRM, under MMID 5550. *Ex post* savings were lower than *ex ante* savings, resulting in low realization rates.	RR_{kW}: 77% $RR_{kWh\text{-}annual}$: 55.7%
Commercial Food Service	2299/Dishwasher	*Ex ante* savings did not account for electric or demand savings that are deemed in the TRM. *Ex post* savings applied the deemed TRM values.	N/A
	3906/Ice Machine	*Ex ante* savings did not use 2024 TRM values and instead used updated 2025 TRM values. *Ex post* savings applied the 2024 TRM values, which were higher than *ex ante* values and resulted in slightly higher realization rates.	$RR_{kWh\text{-}annual}$: 100.4%
	10103/Ventilation Controls	*Ex ante* savings did not factor in horsepower value as directed in the 2025 TRM. The evaluation team followed the TRM, incorporating the horsepower value(s) provided, which resulted in higher *ex post* savings and realization rates above 100%.	RR_{kW}:102% $RR_{kWh\text{-}annual}$: 197% $RR_{therms\text{-}annual}$: 200%
	10104/Ventilation Controls	*Ex ante* savings did not factor in horsepower value as directed in the 2025 TRM. The evaluation team followed the TRM, incorporating the horsepower value(s) provided, which resulted in lower *ex post* savings and realization rates below 100%.	RR_{kW}: 50.9% $RR_{kWh\text{-}annual}$: 98.2%

Residential Sector: Verified Gross Savings Results

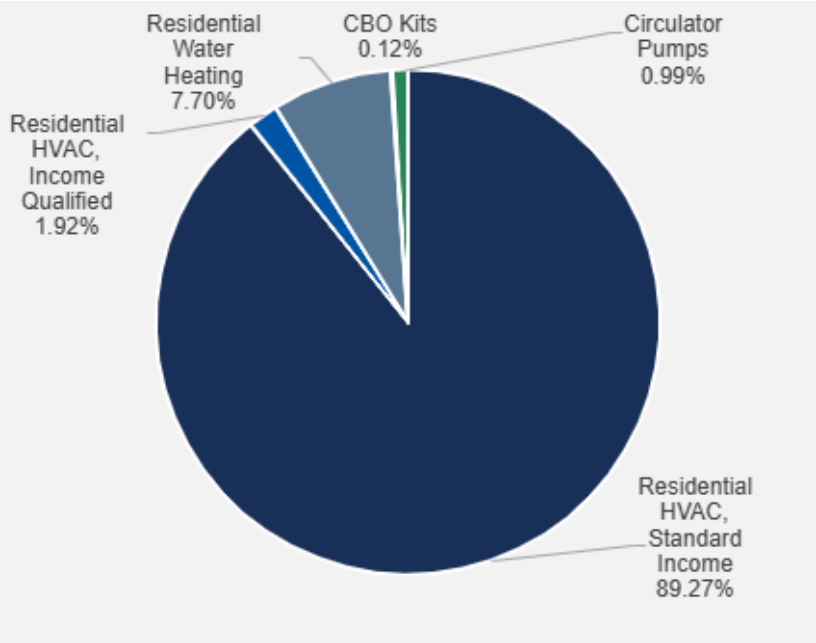
Table 133 lists the CY 2024 *ex ante* and verified gross first-year and lifecycle savings for the residential sector. For CY 2024, the sector had a gross lifecycle MMBtu realization rate of 101%.

Table 133. CY 2024 Residential Sector *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
First-Year Gross Savings	-1,325,140	393	803,927	-1,356,320	378	808,351
Lifecycle Gross Savings	-23,948,494	393	15,439,634	-24,506,554	378	15,541,991

Figure 141 shows the breakdown of total verified gross lifecycle energy savings in the residential sector by equipment type. Most savings are from residential HVAC measures, followed by residential water heating.

Figure 141. Residential Sector Gross Lifecycle MMBtu Savings by Equipment Type



The evaluation team relied on the 2024 TRM for most measures. For measures not found in the 2024 TRM, the evaluation team relied on the 2025 TRM for one measure (MMID 5586) and a database review for any remaining measures to assess savings from the residential sector in CY 2024. The team found various differences between *ex ante* and verified gross savings at the measure level. Table 134 describes evaluation findings when measure-level realization rates were not 100%. The MMID Realization Rate column shows the ratio between the verified (*ex post*) and *ex ante* savings value for each listed MMID.

Table 134. CY 2024 Residential Sector Tracking Data and Savings Analysis Findings

Equipment Category	MMID/ Measure Type	Gross Savings Finding	MMID Realization Rate
Residential Water Heating	5586/Instant Water Heater	*Ex ante* savings used a lifecycle therm value that was lower than the value in the 2025 TRM. *Ex post* savings followed the 2025 TRM, resulting in higher lifecycle savings and a high realization rate.	$RR_{therms\text{-}lifecycle}$: 117.6%

Equipment Category	MMID/ Measure Type	Gross Savings Finding	MMID Realization Rate
Residential HVAC, Standard Income	4963/Furnace	*Ex ante* savings only accounted for a single unit in some applications, although multiple units were rebated. *Ex post* savings accounted for all units, resulting in higher savings and a realization rate above 100%.	$RR_{therms\text{-}annual}$: 100.16%
	4964/Furnace	*Ex ante* savings only accounted for a single unit in some applications, although multiple units were rebated. *Ex post* savings accounted for all units, resulting in higher savings and a realization rate above 100%.	$RR_{therms\text{-}annual}$: 100.12%
	10126/Ductless Heat Pump	*Ex ante* savings only accounted for a single unit, although multiple units were rebated. *Ex post* savings accounted for all units, resulting in higher savings and a realization rate above 100%.	RR_{kW}:105% kW $RR_{kWh\text{-}annual}$: 105% $RR_{therms\text{-}annual}$: 105%
	10128/Ductless Heat Pump	*Ex ante* savings only accounted for a single unit, although multiple units were rebated. *Ex post* savings accounted for all units, resulting in higher savings and a realization rate above 100%.	RR_{kW}: 105% kW $RR_{kWh\text{-}annual}$: 105% $RR_{therms\text{-}annual}$: 105%
	10130/Ductless Heat Pump	*Ex ante* savings only accounted for a single unit in some applications, although multiple units were rebated. *Ex post* savings accounted for all units, resulting in higher savings and a realization rate above 100%.	$RR_{kWh\text{-}annual}$: 100.8% $RR_{therms\text{-}annual}$: 100.8%
	10198/Air Source Heat Pump	*Ex ante* savings applied unvetted savings. *Ex post* savings applied savings from the same measure in the 2024 TRM, under MMID 2292. *Ex post* savings were lower than *ex ante* savings, resulting in low realization rates.	RR_{kW}: 77.7% kW $RR_{kWh\text{-}annual}$: 93.1%
	10199/Air Source Heat Pump	*Ex ante* savings applied unvetted savings. *Ex post* savings applied savings from the same measure in the 2024 TRM, under MMID 2292. *Ex post* savings were lower than *ex ante* savings, resulting in low realization rates.	RR_{kW}: 38.7% kW $RR_{kWh\text{-}annual}$: 47.9%
	10200/Mini-Split Heat Pump	*Ex ante* savings applied unvetted savings. *Ex post* savings applied savings from the same measure in the 2024 TRM, under MMID 5550. *Ex post* savings were lower than *ex ante* savings, resulting in low realization rates.	RR_{kW}: 2.54% kW $RR_{kWh\text{-}annual}$: 75.1% kWh
	10201/Mini-Split Heat Pump	*Ex ante* savings applied unvetted savings. *Ex post* savings applied savings from the same measure in the 2024 TRM, under MMID 5550. *Ex post* savings were lower than *ex ante* savings, resulting in low realization rates.	RR_{kW}: 2.41% kW $RR_{kWh\text{-}annual}$: 68.8%

Equipment Category	MMID/ Measure Type	Gross Savings Finding	MMID Realization Rate
	10291/Mini-Split Heat Pump	*Ex ante* savings applied unvetted savings. *Ex post* savings applied savings from the same measure in the 2024 TRM, under MMID 5550. *Ex post* savings were lower than *ex ante* savings, resulting in low realization rates.	RR_{kW}: 2.09% kW $RR_{kWh\text{-}annual}$: 57.3%
	10292/Mini-Split Heat Pump	*Ex ante* savings applied unvetted savings. *Ex post* savings applied savings from the same measure in the 2024 TRM, under MMID 5550. *Ex post* savings were lower than *ex ante* savings, resulting in low realization rates.	RR_{kW}: 2.09% kW $RR_{kWh\text{-}annual}$: 57.3%

Verified Net Savings Results for the Midstream and Instant Discount Programs

The evaluation team relied on a variety of historical sources to calculate NTG ratios for the Midstream and Instant Discount Programs in CY 2024. Table 135 summarizes NTG sources by sector and measure type. More information about the NTG sources can be found in the applicable calendar year evaluation report.

Table 135. CY 2024 Midstream/Instant Discount NTG Sources

Measure Category	NTG Ratio	NTG Source
Commercial Food Service	48%	CY 2022 Delphi Panel
Water Heating	68%	Average NTG of other Midstream/ Instant Discount Program measures
Hand Dryers	68%	Average NTG of other Midstream/ Instant Discount Program measures
Air Source Heat Pump, Standard Income	73%	CY 2023 Trade Ally Solutions HVAC Participant Surveys
Boiler, Standard Income	54%	CY 2023 Trade Ally Solutions HVAC Participant Surveys
Ductless Mini-Split Heat Pump, Standard Income	67%	CY 2023 Trade Ally Solutions HVAC Participant Surveys
Furnace, Standard Income	53%	CY 2023 Trade Ally Solutions HVAC Participant Surveys
Ground Source Heat Pump, Standard Income	68%	CY 2023 Trade Ally Solutions HVAC Participant Surveys
Variable-Speed Drive Pumps	71%	CY 2023 Midstream Contractor Surveys
Income Qualified, All Measures	100%	Assume 100% NTG
CBO Kits	100%	Assume 100% NTG

The evaluation team calculated an overall NTG estimate of 61% for the combined programs in CY 2024. The total NTG is largely driven by residential standard income HVAC measures, which make up the majority of verified gross savings and have a 63% NTG. Table 136 shows the weighted average NTG ratio by sector as well as the total first-year gross and net savings.

Table 136. CY 2024 Midstream and Instant Discount First-Year Net Savings and NTG

Sector/Measure Type	First-Year Gross Verified Savings (MMBtu)	First-Year Net Savings (MMBtu)	NTG Ratio
Commercial Food Service	18,234	8,752	48%
Commercial HVAC	2,217	1,251	56%
Commercial Water Heating	831	567	68%
Hand Dryers	69	47	68%
Commercial Total	**21,351**	**10,617**	**50%**
Residential HVAC, Standard Income	65,033	41,240	63%
Residential HVAC, Income Qualified	1,347	1,347	100%
Residential Water Heating	8,695	5,930	68%
CBO Kits	165	165	100%
Circulator Pumps	967	687	71%
Residential Total	**76,207**	**49,369**	**65%**
Total Midstream/Instant Discount	**97,558**	**59,986**	**61%**

14.3. Process Evaluation

The CY 2024 process evaluation of the Midstream and Instant Discount Programs focused on understanding the new Instant Discount Program design and collecting early feedback from HVAC distributors about Focus on Energy transitioning HVAC incentives from a downstream program design through the Trade Ally Solutions Program to a midstream design through the Instant Discount Program.

Process Evaluation Methodology

In CY 2024, the evaluation team designed its process evaluation of the Instant Discount Program to assess program performance and collect early program feedback from HVAC distributors. Table 137 lists the data collection activities and sample sizes for all primary data collection.

Table 137. CY 2024 Instant Discount Program Process Evaluation Activities and Sample Sizes

Activity	CY 2024 Completes (n)
Program Documentation Review	✓
HVAC Distributor Interviews	9

Program Documentation Review

The evaluation team reviewed the Midstream Program and Instant Discount Program CY 2024 implementation and marketing plans to understand the programs' structures and how they were implemented in CY 2024. The team also reviewed miscellaneous documentation throughout the year, such as *ad hoc* updates from the program administrator and the administrator's quarterly performance reports to the PSC, to understand program updates and progress in CY 2024.

HVAC Distributor Interviews

The evaluation team conducted nine in-depth interviews with HVAC distributors who participated in the program in CY 2024. The team received a list of 21 participating distributors from the Instant Discount Program's implementation team in August 2024. Program staff sent an initial outreach email to these distributors in September 2024 requesting interviews, following up with reminder emails the weeks following the initial request to encourage participation. Interviews took place in September and October 2024 and lasted between 45 minutes and an hour each. Table 138 shows the primary objectives of the interviews.

Table 138. HVAC Distributor Interview Research Objectives

Key Research Topics	Areas of Investigation
Distributor profile	What equipment do distributors sell, and to whom and where?
Comfort level with high-efficiency equipment	How comfortable are distributor staff and contractors selling eligible high-efficiency equipment? How comfortable are end-customers switching to high-efficiency equipment?
Program expectations	What were the distributors' expectations about joining the program?
Program satisfaction	What has the distributors' experience been so far?
Baseline stocking practices	What were the distributors' stocking practices before partnering with the Instant Discount Program?
Suggestions to support growth	What else could Focus on Energy do to help increase the sales of high-efficiency equipment?

Although this research was aimed at HVAC distributors, one water heater distributor was included in the sample. Since the water heater distributor's responses were sufficiently similar to those of the HVAC distributors, the team included them in this report.

Design and Delivery

Focus on Energy offered midstream incentives through the Midstream Program from January through March of 2024. The program engaged food service, water heating, and variable-speed circulator pump distributors to provide discounts to residential and commercial customers. The program also distributed no-cost kits of energy-efficient products (water savings, weatherization, and lighting kits) to low-income customers through CBOs that provide services to those customers.

Focus on Energy launched the Instant Discount Program in April 2024 to replace the Midstream Program. Like the Midstream Program, the Instant Discount Program provides incentives to distributors who sell program-qualified equipment to contractors or commercial customers. With the introduction of the Instant Discount Program, Focus on Energy expanded midstream incentives to include residential-sized HVAC equipment. CBO Kits are not included in the Instant Discount Program. APTIM elected to pause the offering at the end of March 2024 and explore other avenues to offer similar kits in the future.

Focus on Energy's outreach strategy for the transition between Midstream and Instant Discount Programs consisted of two phases:

- **Phase 1. Transition Communications (February – March 2024).** Focus on Energy announced the program change to distributors and provided transition information through program contacts. Focus also distributed biweekly email updates, developed outreach tools with new program information for trade ally managers and program teams, and developed website content.
- **Phase 2. New Program Marketing to Distributors/Dealers (Mid-March – June 2024).** Focus on Energy introduced the new Instant Discount Program to current and potential distributors and dealers and encouraged participation. Communications provided details that distributors would need to move forward with the program, such as operational and administrative materials.

To ensure the program was accessible to all Focus on Energy customers, the program enrolled distributors serving all portions of the state and a variety of brands. For water heating and HVAC measures, Focus on Energy also analyzed which contractors were engaged in the downstream program to inform distributor enrollment priorities and contractor engagement strategy.

Distributors who participate in the Instant Discount Program are required to transfer a portion of the incentives to their customers as an instant discount to help offset the upfront cost of energy-efficient equipment. Distributors may keep the remaining incentive to help offset the additional administrative costs required to participate in the program. While distributors must be enrolled in the Instant Discount Program to offer discounts to their customers, contractors only need to work with a participating distributor.

To receive the instant discount, distributors must collect and report project, installation site, and equipment information, such as sales date, equipment make and model, installation address, building type, and the customer's electric and natural gas utility. Distributors submit reimbursement claims to Focus on Energy through an online submission portal called IRIS. This platform contains data from the qualified product lists to instantly verify equipment eligibility and ensure that required customer and sales information is collected. Distributors may submit individual sales or use the bulk upload feature to process multiple sales at once. The portal also offers payment tracking insights and reporting capabilities. Focus on Energy strives to reimburse distributors within 14 days of approving the claim.

HVAC Distributor Interview Findings

In September 2024, the evaluation team conducted in-depth interviews with eight HVAC distributors and one water heater distributor who were participating in the Instant Discount Program. This section presents the interview findings across several topics, including distributors' profiles and comfort with high-efficiency equipment, satisfaction and expected benefits, stocking practices, and general distributors' recommendations.

Distributor Profile

Of the eight HVAC distributors interviewed, four sold residential equipment only, and four sold commercial equipment. Of the nine total distributors interviewed, three sold equipment only in Wisconsin, and six sold equipment inside and outside of Wisconsin. Four of those who conduct business

outside of Wisconsin said that Wisconsin sales represented between 80% and 99% of their total business; one said it was 49%, and one said that less than a fraction of their sales take place in Wisconsin (this distributor's headquarters is in Houston).

Six of the eight HVAC distributors said they worked exclusively with licensed contractors, and two worked with other businesses. All of the distributors previously participated in the Midstream Solutions Program, with six selling ductless heat pumps and six selling water heaters.

Nearly as many distributors sold heat pumps as natural gas equipment. Specifically, seven sold natural gas furnaces, six ductless heat pumps and air source heat pumps, six sold water heaters, and five sold natural gas boilers.

Comfort Level with High-Efficiency Equipment

The interview included a battery of questions to assess the comfort of distributors' staff, contractors, and end customers with high-efficiency equipment and heat pumps. When distributors were asked how comfortable, on a scale from 1 to 5, where 1 means *extremely uncomfortable* and 5 means *extremely comfortable*, they thought their staff was selling high-efficiency equipment that was eligible for the Instant Discount Program, six distributors reported their staff was *somewhat* or *extremely comfortable* (Figure 142).

Figure 142. Distributor Staff's Level of Comfort Selling Eligible Equipment



Source: Focus on Energy HVAC Distributor Survey Question: "How comfortable do you think your staff is with selling high-efficiency equipment that is eligible for the Instant Discount Program?" (n=9)

The three distributors who said their staff were *somewhat uncomfortable* provided the following reasons for their discomfort:

- Anything technical was difficult to understand (one response).
- Some staff members "simply took orders" and did not know about rebates in general or the Instant Discount Program specifically (one response).
- Understanding eligibility was "tricky" for staff members, and it was difficult to understand what equipment qualified for the Instant Discount Program (one response)

Distributors were asked how comfortable they thought their customers (contractors and businesses) were with high-efficiency equipment that is eligible for the Instant Discount Program using the same scale. Distributors' customers included contractors and organizations, such as schools and hospitals. Six distributors reported that their customers were *somewhat* or *extremely comfortable,* and three reported *somewhat* or *extremely uncomfortable* (Figure 143).

Figure 143. Distributor Customers' Level of Comfort with Eligible Equipment



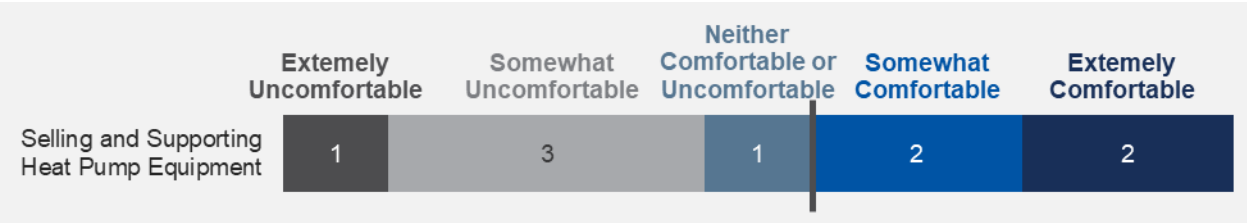
Source: Focus on Energy HVAC Distributor Survey Question: "How comfortable do you think your customers (contractors and businesses) are with selling high-efficiency equipment that is eligible for the Instant Discount Program?" (n=9)

Distributors reported the following reasons for their customers' discomfort with eligible equipment:

- The high-efficiency equipment was new, and some contractors had not installed it before (one response)
- Distributors and end users knew about the product, but the contractors were not motivated to learn since they were "in the middle" (one response)
- Given the amount of training that contractors undergo, if they were uncomfortable, the reason was "political, related to not believing in the technology" (one response)

When asked, more specifically, how comfortable distributors thought their staff was with selling and supporting heat pump equipment, half reported that their staff were comfortable, half were uncomfortable, and one was neither comfortable nor uncomfortable (Figure 144).

Figure 144. Distributor Staff's Level of Comfort Selling/Supporting Heat Pump Equipment

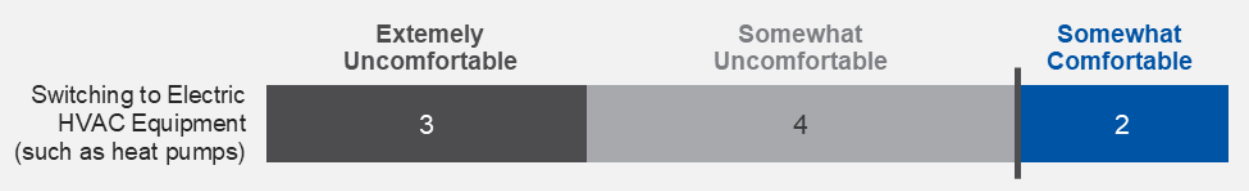


Source: Focus on Energy HVAC Distributor Survey Question: "How comfortable do you think your staff is with selling and supporting heat pump equipment that is eligible for the Instant Discount Program?" (n=9)

For those who reported discomfort, the main reason was not understanding the technology or, in other words, not being able to explain how heat pumps work.

Distributors were also asked about end-user (not contractor) comfort levels when switching to electric HVAC equipment, such as heat pumps. Seven out of nine distributors reported that end users were not comfortable switching to electric HVAC equipment (Figure 145).

Figure 145. End-Users' Level of Comfort Switching to Electric HVAC Equipment



Source: Focus on Energy HVAC Distributor Survey Question: "How comfortable do you think end customers are with switching to electric HVAC equipment, such as heat pumps?" (n=9)

Respondents who reported some level of discomfort unanimously agreed that these customers were, in general, reluctant to change. However, they agreed that there was no specific predisposition to heat pumps.

Only one of the nine distributors reported that they sold residential-sized HVAC equipment to businesses (e.g., retail, offices). The evaluation team also asked distributors if they knew how often residential-sized heat pumps were installed in commercial building applications. Seven respondents said only occasionally, one said never, and one said about half of the time. As a follow-up question, the team asked distributors if they were aware of what equipment was replaced by heat pumps in these cases. Seven of the nine distributors provided a variety of answers that included electric wall units, chimney vents, regular air conditioning equipment, and furnaces.

Program Expectations

The evaluation team asked distributors to identify the main benefits they expected from participating in the Instant Discount Program (Figure 146). Most distributors reported the ability to provide discounts (four respondents) or to increase their sales of high-efficiency equipment (four respondents). Three distributors also selected staying competitive in the market, increasing awareness, and having access to training opportunities (one each), while two said increasing customer satisfaction and loyalty.

Figure 146. Benefits Distributors Expect from the Instant Discount Program



Source: Focus on Energy HVAC Distributor Survey Question: "What are the main benefits that you expect from participating in the Instant Discount Program?" (n=9)

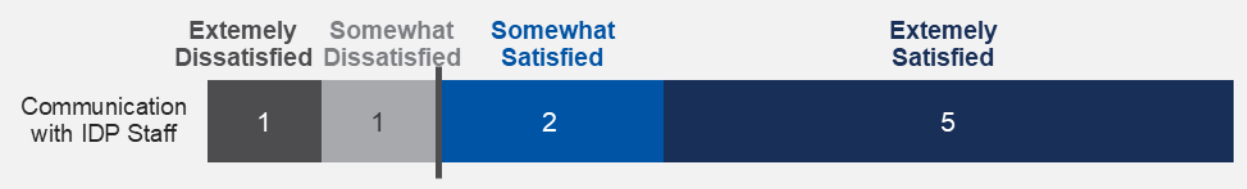
When the evaluation team gave the distributors the opportunity to answer without any prompt or suggestion, they also mentioned educating contractors to educate customers, providing a service to contractors, reaching their environmental goals, and giving contractors a variety of options. These answers were captured as "Other" in Figure 146.

Program Satisfaction

Distributors were also asked about their satisfaction with different aspects of the program. Regarding their communication with Focus on Energy's staff, five were *extremely satisfied,* and two were *somewhat satisfied* (Figure 147). One respondent, who was *extremely satisfied,* shared that in the beginning, they were *very dissatisfied* because the program was launched without the distributors' input; however, after voicing their dissatisfaction, the representative set up regular meetings and improved communication.

> *"After I expressed my dissatisfaction to [the Focus on Energy representative], we began to meet on a regular cadence. Since then, the communication has been great."*

Figure 147. Satisfaction with Communication with Focus on Energy Staff



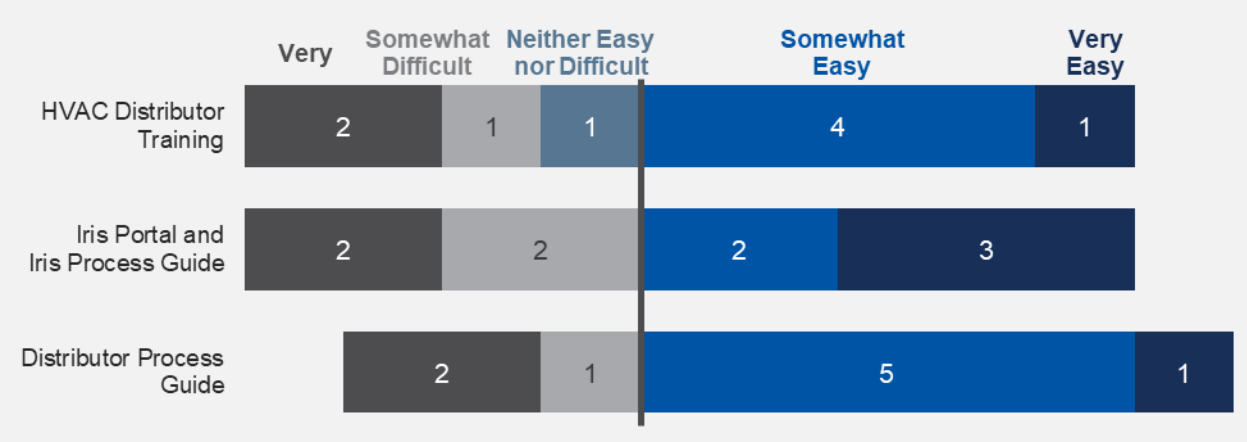
Source: Focus on Energy HVAC Distributor Survey Question: "So far, how satisfied are you with the level of communication from the Instant Discount Program staff?" (n=9)

"We are looking for scenarios, examples, and a narrative of why we would want to offer this to the customers."

One of the two dissatisfied distributors remarked, "Please update us more frequently. We have to reach out to Instant Discount Program staff and go to different websites to find information, a wild goose chase that can be confusing." The other one recommended revising the style of the PowerPoint presentations, emphasizing the importance of moving beyond reading a step-by-step explanation of the program's process. Instead, they suggested incorporating scenarios, examples, and a compelling narrative to highlight the value of offering this to customers.

When asked about satisfaction with program materials and resources, over half of the respondents thought they were *very easy* or *somewhat easy* to understand (Figure 148). When talking about the guides, one participant said the "in-person demonstration was so phenomenal that we had no need to read the materials." Regarding the HVAC Distributor Training and the Distributor Process Guide, two respondents thought they were *very difficult*, and one thought they were *somewhat difficult*. Two of them thought the IRIS Portal and Process Guide were *very difficult*, and two thought they were *somewhat difficult*.

Figure 148. Ease of Understanding Program Materials and Resources



Source: Focus on Energy HVAC Distributor Survey Question: "During onboarding for the program, you would have received some training materials from program staff. On a scale of 1 to 5, where 1 is *very difficult* and 5 is *very easy*, how easy was it to understand the program information that you've received from Focus on Energy? The materials include the HVAC distributor training, the IRIs Portal and Process Guide, and the Distributor Process Guide. (n=9)

The IRIS portal stood out as a resource that was more difficult to understand and received the most comments from distributors during the interview. As one distributor explained, "Not all contractors are loaded in the system. IRIS should have a manual add-on for contractors, or try using a different platform." Three distributors said they had to make their own PDF form that contractors could use to share required information, since program staff did not provide any. One respondent said it was "problematic that contractors don't have access to submit information in IRIS" and asked, "Why not type the information only once?" This respondent said that the portal required a substantial amount of information. Another distributor explained that data collection was inefficient since, when contractors typed errors, distributors had to call them to verify their records and find the error. This respondent said this represented a heavy lift in their day-to-day operations. Two other distributors expressed frustration that the portal did not provide status updates or more information on the payments. One noted that when Focus on Energy issues a payment, the check lacks identifying details. As a result, they must log into the portal and manually cross-reference the payment amounts to determine which customer the discount should be applied to.

> *"We lost control of our relationship with the customer [contractor]. We do not send a check until it is sent to us, but that causes consternation with our customers, who are our partners and friends. We did not want to damage these relations by withholding thousands of dollars or finding out that a furnace did not qualify. We dislike not having control on how we service our customers."*

When asked about concerns they had prior to participating in the Instant Discount Program, five distributors cited setting up and managing a point-of-sale system to collect the required data, three cited timely reimbursement for incentive payments, and one mentioned how they were going to calculate sales commissions. Regarding sales commissions, the participants further explained that they were concerned about how the distributor's spiff would be calculated and whether they would be required to pass it to the contractor or customer.

> *"From the beginning, we did not know the amount of time that we were going to devote to the program, and we did not get many answers to our questions. For example, are we going to have to hire staff to manage the program? I wanted to know beforehand the consequences of not participating."*

When asked to share other concerns, distributors said they would offer instant discounts if there was no question that they would be reimbursed; however, there is no guarantee, so the program is not really an "instant discount." Another distributor said that by late September 2024, they had not received checks on all their claims, which they had filed in the summer of 2024. This respondent explained that this was a liability since they did not know if the customer who purchased the equipment qualified.

Six distributors reported that the Instant Discount Program involved a substantial administrative burden, particularly due to the volume of paperwork and the difficulty of tracking rebate checks. Several noted that their staff found the data collection process overwhelming, citing the excessive workload and the complexity of managing large amounts of data. Four distributors said that customers should have direct access to rebates, rather than relying on distributors to facilitate them. Additionally, six respondents were displeased with the recent reduction in rebate amounts.

Respondents also said the program had put constraints on their relationship with the contractors, who got frustrated with them. Two respondents explained that this was especially true for contractors who buy in bulk; they take out their frustration on distributors if someone does not qualify or if they perceive that distributors are withholding money.

"This added a lot to our plate, we have more than 180 claims pending, and sometimes we get 40 claims per day."

Four distributors said they preferred the previous Midstream Program design, noting that it placed more responsibility and choice in the hands of the customer and eliminated the need for a "middle person" — namely, the distributor. However, one distributor viewed the Instant Discount Program as a good opportunity to learn.

Baseline Stocking Practices

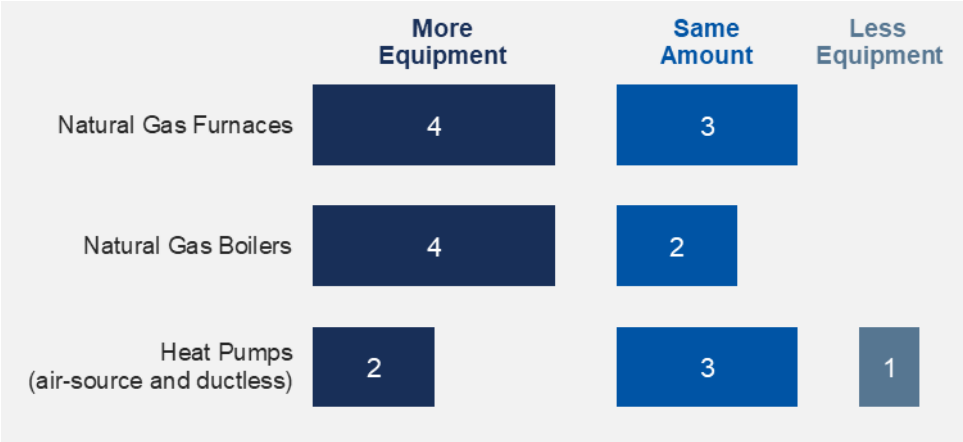
The evaluation team aimed to gather information about distributors' typical stocking and promotional practices of high-efficiency equipment before participating in the Instant Discount Program.

When asked how they made their decisions about stocking natural gas furnaces and boilers, all of the distributors reported that they forecast sales based on previous years' sales and made growth projections. Five mentioned having a purchasing department. All distributors agreed that furnace stocking fluctuates seasonally; however, stocking is constant for natural gas boilers. In addition, one distributor said that industry changes or new products influence their stocking decisions for natural gas boilers.

In terms of their stocking practices for heat pumps, one distributor said that they did not "promote novelties" and preferred to be "late in the game for new technologies." Another distributor said that this decision was a challenge because they have goals to increase heat pump sales, but the historical numbers do not support their goals. Two distributors said they stocked heat pumps as they needed them, and one more said that they stocked a large amount based on lead times since availability had been low in the past. One respondent said they were increasing their heat pump stock because of the rebates, mainly those offered by the IRA. Five distributors said heat pump stocking was constant throughout the year.

Figure 149 shows how distributors anticipated they would stock high-efficiency natural gas furnaces, natural gas boilers, and heat pumps through the end of 2024 compared to what they stocked before participating in the Instant Discount Program.

Figure 149. Stocking of High-Efficiency Equipment Prior to Enrolling in the Instant Discount Program



Source: Focus on Energy HVAC Distributor Survey Question: "Before you enrolled in the Instant Discount Program approximately how many high-efficiency natural gas furnaces, natural gas boilers, air-source heat pumps, and ductless heat pumps did your company normally keep available in stock? More the same, or less?" (n=7)

When asked why they would stock more equipment, distributors provided several responses:

- They were responding to demand, industry trends, and changing laws
- Homeowners were more conscious of savings and rebates
- Contractors were pushing more high-efficiency equipment

One distributor said, "The Instant Discount Program Incentives could be part of [stocking changes], but only a very small part."

Figure 150 shows other potential stocking influences that distributors cited for natural gas furnaces, natural gas boilers, and heat pumps.

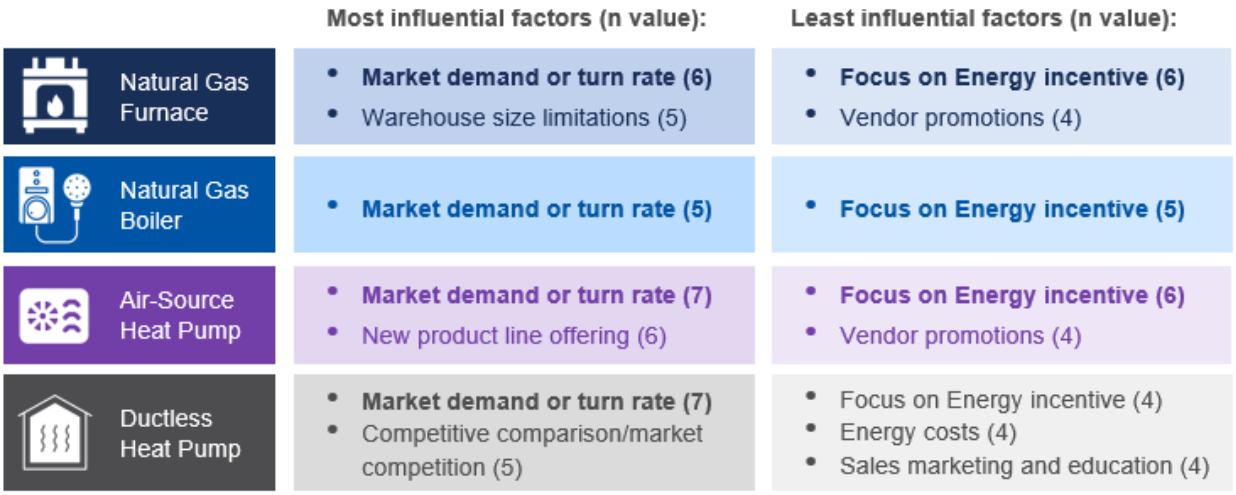
Figure 150. Factors that Could Influence Stocking Practices for High-Efficiency Equipment



Source: Focus on Energy HVAC Distributor Survey Question: "I'm going to read you a list of potential factors. I will ask you how influential these factors were on your company's decisions to stock natural gas furnaces, natural gas boilers, air-source heat pumps, and ductless heat pumps. For each influence, please rate how influential they are using a 1 to 5 scale, where 5 means *very influential*, and 1 means *not at all Influential*."

Figure 151 shows which factors distributors reported were the most influential and least influential for stocking high-efficiency options for each equipment type. Most distributors selected market demand or turn rate as the most influential stocking factor for all equipment types. Other influential reasons included warehouse size limitations, new product lines, and market competition. Distributors said the least influential factors for stocking high-efficiency equipment were incentives, promotions, energy costs, and marketing or education.

Figure 151. Most and Least Influential Factors in Stocking High-Efficiency Equipment



Source: Focus on Energy HVAC Distributor Survey: "I'm going to read you a list of potential factors. I will ask you how influential these factors were on your company's decisions to stock natural gas furnaces, natural gas boilers, air-source heat pumps, and ductless heat pumps. For each influence, please rate how influential they are using a 1 to 5 scale, where 5 means *very influential*, and 1 means *not at all Influential*.".

When asked about contractor awareness of the Instant Discount Program Incentive, five out of nine respondents reported that contractors were not very aware of it (Figure 152). Given that these interviews took place within three months of the program's launch, relatively low levels of awareness are not unexpected given the program's limited time in the market.

Figure 152. Contractor Awareness of the Instant Discount Program Incentive



Source: Focus on Energy HVAC Distributor Survey Question: "Thinking about contractor awareness, on a scale of 1 to 5, where 1 is *not aware* and 5 is *very aware*, how aware would you say contractors are of the Focus on Energy discount through the Instant Discount Program? (n=9)

Distributors shared several recommendations to increase contractor awareness of the Instant Discount Program incentive, including having more in-person contact, trainings, and meetings with contractors throughout the year and motivating them by making the program easier and removing administrative and data collection responsibilities. Six distributors agreed that the financial incentive was not a strong enough motivation, but four reported that showing contractors the steps with a narrative that "makes them care" would be more persuasive. Another distributor said that the flyers were not enough

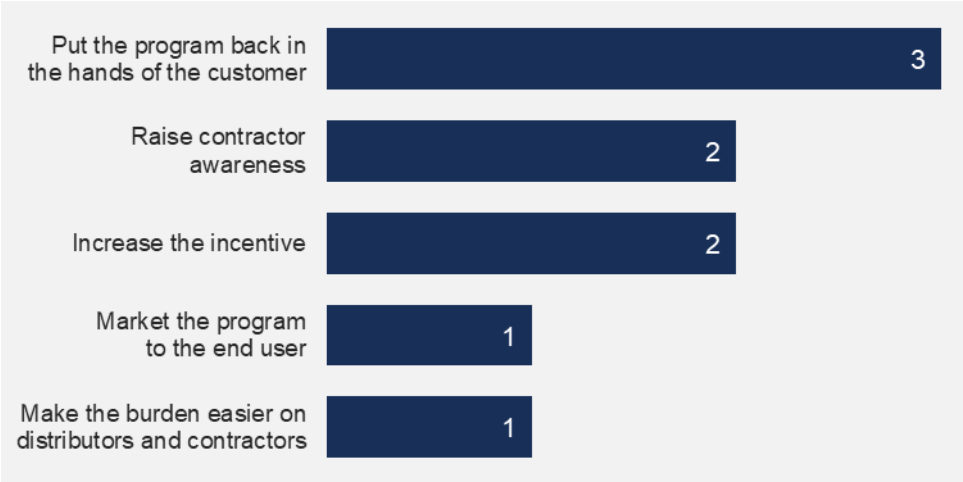
> *"[Focus on Energy] could have reached out and asked if they could do ride-alongs and meet contractors face to face. The incentive is not enough. Contractors don't care because they are not making the decision, the customer does."*

and recommended having a wider variety of marketing materials in print and putting them on distributors' counters.

Suggestions to Support Growth

Distributors made several suggestions for enhancing the program when asked what else they thought Focus on Energy could do to help promote or sell more energy-efficient equipment. The three top recommendations included putting the program back in the hands of end customers (three respondents), raising contractor awareness about the existence of the program and the incentives (two respondents), and increasing the incentive amount (one respondent). Other recommendations included marketing the program to the end user and lessening the burden on distributors and contractors.

Figure 153. How Focus on Energy Can Help Promote/Sell More Energy-Efficient Equipment



When prompted to share more specific recommendations, distributors shared the following, some of which restate what they previously said:

- Link the payments to a claim with reference numbers.
- Improve communication, follow up on emails, and make sure they do not go to spam; provide timely updates on product categories and eligibility.
- Increase incentives to encourage contractors. They will not change their operations for a low-impact program. It is challenging for distributors when contractors have not decided if the incentive is worth the effort.
- Lessen the data collection responsibilities for distributors.
- Improve IRIS with constant updates to streamline invoice reconciliation.
- Educate and meet contractors.
- Ensure that eligible equipment aligns with what distributors sell.

"Give the responsibility and choice back to the end customer; let them provide the data and handle eligibility themselves. What's in it for distributors? Being environmentally conscious does not pay our bills."

"Include distributors in the program design; they have better insights into the challenges. I'd like to see the program being more a partnership than a handoff if they want the contractors to be more influential."

One distributor said that the program manager's visits to distributors' branches were a good sign that there was a "willingness to listen and work things out."

14.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test. Table 139 lists the CY 2024 incentive costs for the Midstream Program.

Table 139. CY 2024 Midstream Incentive Costs

Offering	Incentive Costs
Residential Midstream	$278,253
Business Midstream	$82,550
Instant Discount	$1,418,841
Total	**$1,779,643**

The evaluation team found that the CY 2024 Midstream Program was not cost-effective (0.95). Table 140 lists the evaluated costs and benefits.

Table 140. CY 2024 Midstream Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$87,696
Delivery Costs	$997,270
Incremental Measure Costs	$7,136,361
Total Non-Incentive Costs	**$8,221,327**
Benefits	
Electricity Benefits (kWh)	-$257,282
Capacity Benefits (kW)	$983,235
Gas Benefits	$281,637
Emissions Benefits	$5,027,908
T&D Benefits (kW)	$1,750,793
Total TRC Benefits	**$7,786,291**
Net TRC Benefits	**-$435,037**
TRC Benefit/Cost Ratio	**0.95**

14.5. Outcomes and Recommendations

This section outlines the current outcomes and recommendations based on feedback from distributors regarding the sale and support of high-efficiency equipment, as well as their experiences with the Focus on Energy Instant Discount Program and related processes.

Outcome 1. There were multiple instances of project data discrepancies across various measures and applications, leading to realization rates that varied from 100%. These discrepancies included *ex ante* savings values differing from the TRM, which either increased or decreased savings. Additionally, some *ex ante* savings values did not accurately reflect equipment parameters, and others were manually adjusted to zero due to duplicate applications created to avoid delays in incentive payments.

Recommendation 1. Consider adding a quality-control step to verify that the savings values are in alignment with expected TRM savings values. Additionally, consider adding a field that identifies whether manual savings adjustments have been made for each measure within each application.

Outcome 2. Unvetted *ex ante* savings achieved low measure-level realization rates. *Ex ante* savings for heat pumps replacing propane furnaces did not follow the established review and approval process. Additionally, some *ex ante* savings sources and assumptions were not available to the evaluation team. The evaluation team disagreed with *ex ante* savings and some available assumptions, which resulted in low realization rates for these measures.

Recommendation 2. Follow established approval procedures before reporting *ex ante* savings to ensure that evaluators, administrators, and implementers agree on savings. This process has been established to provide some assurance that realization rates will not vary significantly from 100%.

Outcome 3. Current heat pump baseline fuel assumptions might have limited applicability in the Instant Discount Program. Heat pump savings vary greatly depending on the baseline fuel type (electric or natural gas). The current savings use a weighted baseline fuel distribution based on heat pump activity in the CY 2023 Trade Ally Solutions Program. Although the evaluation team considered these assumptions accurate for the transitional CY 2024 program, they might have limited applicability in the future due to the new delivery design and the rapidly increasing number of heat pump measures that are processed each year. Further, complete and accurate baseline information is no longer easily accessible, as information in the Instant Discount Program tracking data is reported by the distributor, who is likely unfamiliar with replaced equipment at each site.

Recommendation 3. Conduct research regularly to verify heat pump baseline fuel types in the Instant Discount Program and, if necessary, update the baseline fuel assumptions in the heat pump savings calculations. To aid this research, the implementation team should gather as much end-user and site-specific information as possible to allow for future evaluation data collection. Ideally, have program staff track replaced equipment types and fuel types, and collect photographic proof of any fuel switching measures to offset uncertainty around the distributor's awareness of the replaced equipment type. However, the evaluation team recognizes that these data can be very difficult to obtain in a midstream program design, and collecting these data risks straining relationships with participating distributors. At

a minimum, program staff should collect end-user contact information that allows the evaluation team to conduct follow-up surveys with end-users to verify baseline fuel types.

Outcome 4. The majority of distributors and their staff are generally comfortable with selling high-efficiency equipment, including heat pumps, but there is notable discomfort around contractors' technical understanding of newer technologies and product eligibility. Moreover, contractors' awareness of the Instant Discount Program was low at the time of interviews, with most distributors reporting that contractors are only *somewhat aware* or *unaware* of the incentive. Given the program's short time in the market at the time of interviews, low contractor awareness is not unexpected.

Recommendation 4. Increase in-person contractor visits and training, especially on the technical aspects of high-efficiency equipment that is eligible for the Instant Discount Program. Additionally, increase print and virtual materials to raise awareness and enthusiasm for the Instant Discount Program. Presentations that incorporate case studies are more engaging and can capture the attention of contractors and distributors more than descriptions of the program.

Outcome 5. Distributors are generally satisfied with communication from Focus on Energy, but would benefit from additional training on the IRIS portal. Distributors expressed frustration regarding the IRIS portal's usability and inefficiencies in data collection. These frustrations led to concern about the impact the application process would have on distributors' relationships with contractors.

Recommendation 5. Address the difficulties with the IRIS portal by providing better training, improving its functionality (e.g., enabling manual contractor additions and more accessible data, enhancing invoice reconciliation), and streamlining the data submission process between distributor and contractor. This may help to reduce inefficiencies and ensure that updates are timelier and more reliable to reduce distributor and contractor frustrations.

Outcome 6. Distributors reported that contractors have been disengaged from the program, citing administrative work and lack of motivation. The Focus on Energy incentive has not been a sufficient driver of participation, particularly when contractors are required to provide extensive information.

Recommendation 6. Increase the rebate amount to make it more salient and competitive with other programs' rebates. Simplifying the administrative processes and reducing the data collection burden on contractors may not only motivate participation in the program and improve their interest in high efficiency, but may also increase the perceived value of incentives.

Outcome 7. Distributors expressed the need for greater empowerment of end-use customers in the participation process. They suggested shifting the responsibility for eligibility and data collection to the end users.

Recommendation 7. Focus on increasing contractor awareness and involvement in the program, with more educational efforts and better incentives to motivate their participation**.** Enhance transparency and communication regarding the program's setup and operational processes, particularly regarding reimbursement timelines and the data management workload, to better support distributors in

managing their participation without negatively impacting customer relationships. In CY 2025, the evaluation team will directly assess contractor experience, including awareness and preferred engagement strategies, via contractor interviews rather than relying on insights from distributors.

15. Renewable Rewards

The Renewable Rewards Program promotes the installation of solar PV measures through two offerings: the Residential and Business offerings. Through both offerings, the program pays incentives to customers who install qualified solar PV systems in their homes or businesses. The Residential offering also features a Rural Renewables Bonus, available to customers located in designated rural ZIP codes, and an Affordable Housing Pilot, which provides enhanced incentives to organizations installing solar PV systems on new affordable housing construction projects.

APTIM administered the Renewable Rewards Program in CY 2024, and the implementer, CLEAResult, conducted the day-to-day operations. Additional details about program design are provided in the *Process Evaluation* section of this chapter.

Table 141 summarizes the Renewable Rewards Program's impacts for CY 2024, including impacts of each of the Residential and Business offerings and the program as a whole. The Business and Residential offerings contributed similar amounts to the overall gross lifecycle MMBtu savings, at 48% and 52%, respectively.

Table 141. CY 2024 Renewable Rewards Program Summary

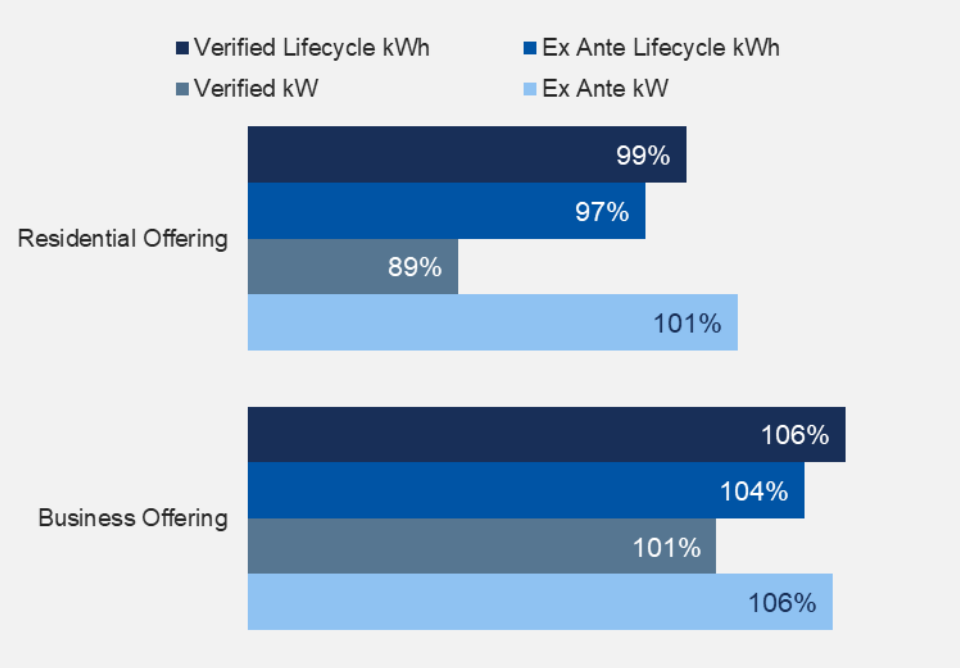
Item	Units	Residential Offering	Business Offering	Total Program
Incentive Spending	$	$1,804,346	$2,192,646	$3,996,993
Participation	Number of Participants	2,452	215	2,667
Verified Gross Lifecycle Savings	kWh	840,549,506	743,247,972	1,583,797,478
	kW	6,317	6,120	12,438
	therms	0	0	0
Verified Gross Lifecycle Realization Rate	% (MMBtu)	102%	102%	102%
Annual NTG Ratio	% (MMBtu)	54%	74%	63%
Net Annual Savings	kWh	16,210,598	19,642,982	35,853,580
	kW	3,411	4,529	7,940
	therms	0	0	0
Net Lifecycle Savings	MMBtu	1,548,696	1,876,612	3,425,308
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	**0.91**	**1.70**	**1.23**

15.1. Achievement Against Goals

Figure 154 shows the percentage of CY 2024 gross lifecycle savings goals achieved by each Renewable Rewards offering. The Residential offering's verified savings were slightly below its kWh savings goal, and its *ex ante* savings met the kW goal. However, verified savings did not meet the kW goal due to some projects' *ex ante* savings using kW savings from the 2023 TRM, which overestimates savings compared to the 2024 TRM.

The Business offering's savings met both the CY 2024 kWh and kW goals, which were 67% and 8% higher than its CY 2023 goals, respectively. The Business offering's goals increased in CY 2024 due to strong performance in CY 2023, when the offering nearly tripled its savings goal. However, the CY 2023 savings were driven by two large projects that accounted for 63% of the offering's *ex ante* total savings. In CY 2024, although there were four projects with over one million kWh of first-year savings, they accounted for only 26% of the overall *ex ante* total savings.

Figure 154. CY 2024 Renewable Rewards Program Achievement of Gross Lifecycle Savings Goals



100% *ex ante* gross lifecycle savings reflects the implementer's contract goals for CY 2024.
Verified gross lifecycle savings contribute to the administrator's portfolio-level goals.
Note: The Renewable Rewards Program does not generate therm savings.

15.2. Impact Evaluation

This section contains the findings for the CY 2024 impact evaluation for the Renewable Rewards Program.

Impact Evaluation Methodology

The evaluation team conducted an impact evaluation of the CY 2024 Renewable Rewards Program using a combination of TRM-defined deemed savings and assumptions, sampled project documentation from SPECTRUM, and information from the tracking database. Table 142 lists specific data collection activities and sample sizes used in the CY 2024 evaluation. Additional details about these activities and their findings can be found in the offering-specific discussions below.

Table 142. CY 2024 Data Collection Activities and Sample Sizes for Impact Evaluation

Activity	Renewable Energy, Residential	Renewable Energy, Business
Tracking Database Review	Census	Census
Desk Reviews	40	17

Verified Gross Savings Results for Renewable Rewards Program

Table 143 lists the first-year and lifecycle realization rates for CY 2024, and Table 144 lists verified first-year and lifecycle savings by offering. Overall, the Renewable Rewards Program achieved a first-year evaluated realization rate of 100%, weighted by total (MMBtu) energy savings. The lifecycle realization rate is slightly higher (102%) because *ex ante* savings for multiple Residential and Business offering projects applied a 25-year EUL from the 2023 TRM rather than the 28-year EUL from the 2024 TRM. The residential pilots did not include any projects using a 25-year EUL, resulting in a lifecycle realization rate of 100%.

Table 143. CY 2024 Renewable Rewards Program First-Year and Lifecycle Realization Rates

Offering	First-Year Realization Rate				Lifecycle Realization Rate		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Residential	100%	88%	N/A	100%	102%	N/A	102%
Residential Pilots	100%	100%	N/A	100%	100%	N/A	100%
Business	100%	95%	N/A	100%	102%	N/A	102%
Total	**100%**	**91%**	**N/A**	**100%**	**102%**	**N/A**	**102%**

Table 144. CY 2024 Renewable Rewards Program First-Year and Lifecycle Verified Gross Energy Savings

Offering	Verified First-Year Savings				Verified Lifecycle Savings		
	kWh	kW	therms	MMBtu	kWh	therms	MMBtu
Residential	29,679,031	6,249	0	101,265	831,012,873	0	2,835,416
Residential Pilots	340,594	68	0	1,162	9,536,633	0	32,539
Business	26,544,570	6,120	0	90,570	743,247,972	0	2,535,962
Total	**56,564,196**	**12,438**	**0**	**192,997**	**1,583,797,478**	**0**	**5,403,917**

Verified Gross Savings Results

The evaluation team conducted desk reviews of 40 Residential offering and 17 Business offering projects to verify *ex ante* savings using project-specific documentation and inputs. Assuming a coefficient of variation of 0.25, a sample size of 40 for the Residential offering of 2,577, and a sample size of 17 for the population of 247 Business offering provides a 90% confidence interval with a 5% relative precision target. The team randomly sampled all Residential projects for the desk review. The team also randomly sampled 15 of the 17 Business projects, selecting the two largest projects as the census stratum. The team then determined the relative precision of the kWh and kW realization rates to estimate the accuracy of the extrapolation of these results to the rest of the population. Generally, a relative precision less than ±10% is considered strong. Table 145 shows the relative precisions calculated for the Residential and Business samples. The relative precision results allowed the evaluation team to confidently apply the realization rates determined from the samples to all Residential and Business projects.

Table 145. Renewable Rewards Program Relative Precision

Offering	Relative Precision of kWh Realization Rate	Relative Precision of kW Realization Rate
Residential	0.64%	6.21%
Business	0.00%	1.57%

During desk reviews, the evaluation team reviewed project applications to verify equipment type, number of panels, array tilt, and array azimuth. The DC capacity and orientation system from the application, along with the 2024 TRM's average AC kWh/kWDC value for the appropriate orientation, determined the estimated AC kWh annual output for the system. For single systems comprised of multiple arrays with varying orientations, the team calculated the annual output for each array individually and then aggregated them to determine the annual output for the entire system.

The team found that one project in the Residential offering calculated savings based on miscategorized azimuth/compass direction for each set of module groups. Specifically, 16 modules that were facing east with an azimuth of 132 degrees had been categorized as south-facing modules. This discrepancy resulted in lower verified savings than *ex ante* savings with project realization rates of 90% for kWh and 73% for kW.

One Business offering project used a custom approach to calculate peak demand and energy savings because the tilt was less than the five degrees prescribed in the 2024 TRM. Differences between the *ex ante* and verified savings approaches resulted in project realization rates of 84% for kW and 98% for kWh:

- For peak demand reduction, *ex ante* assumed the 2023 TRM deemed peak demand reduction, while verified calculations used the PVwatts total electric energy production and hourly generation output to determine peak demand reduction according to the 2024 TRM.
- The module quantity used in *ex ante* savings did not include 15 as-built arrays.

- The application noted the module tilt as '3 degrees long and 1 degree short,' meaning 1,206 modules tilt 3 degrees east, 1,206 tilt 3 degrees west, and all 2,412 tilt 1 degree south. For 2,397 of these modules, *ex ante* assumed a tilt of 3 degrees south.
- Using PVwatts, the evaluation team tested both the split tilt scenario (1,206 modules at 3 degrees west and 1,206 at 3 degrees east) and a uniform tilt of 1 degree south for all 2,412 modules. The latter produced the highest savings, which the team used to calculated evaluated savings.

The evaluation team also found that *ex ante* used 2023 deemed peak demand reduction for two out of 17 Business projects and eight out of 40 Residential projects, rather than 2024 deemed peak demand reduction. The 2023 TRM values overestimated the demand savings compared to 2024 TRM values, which resulted in realization rates that deviated from 100%.

Table 146 shows the overall realization rates determined by the desk reviews for the Residential and Business offerings. The evaluation team applied these realization rates to *ex ante* gross savings to determine each offering's verified gross savings. As shown, the demand savings realization rates for the Residential and Business offerings are 88% and 95%, respectively.

Table 146. Renewable Rewards Program Realization Rates

Offering	Realization Rate kWh	Realization Rate kW
Residential	100%	88%
Business	100%	95%

Table 147 shows the *ex ante* and *ex post* verified gross savings for the Renewable Rewards Program by offering and the program overall.

Table 147. CY 2024 Renewable Rewards Program *Ex Ante* and Verified Gross Savings

	Ex Ante Gross			Verified Gross		
	kWh	kW	therms	kWh	kW	therms
Residential Offering						
First-Year Gross Savings	29,795,233	7,118	0	29,679,031	6,249	0
Lifecycle Gross Savings	815,780,104	7,118	0	831,012,873	6,249	0
Residential Offering, Pilots						
First-Year Gross Savings	340,594	68	0	340,594	68	0
Lifecycle Gross Savings	9,536,633	68	0	9,536,633	68	0
Business Offering						
First-Year Gross Savings	26,629,786	6,430	0	26,544,570	6,120	0
Lifecycle Gross Savings	730,575,828	6,430	0	743,247,972	6,120	0
Total Renewable Rewards						
First-Year Gross Savings	56,765,612	13,616	0	56,564,196	12,438	0
Lifecycle Gross Savings	1,555,892,565	13,616	0	1,583,797,478	12,438	0

Verified Net Savings Results for Renewable Rewards Program

To calculate net savings for the Renewable Rewards Program, the evaluation team applied NTG results from the CY 2024 participant survey. The survey included questions that allowed the team to calculate freeridership (measures that would have been purchased without the offering's influence) and spillover (offering-induced energy-saving actions).

To calculate final NTG ratios, the evaluation team combined self-report freeridership and spillover using the following equation. The team used the results from the CY 2024 participant survey in the CY 2024 evaluation.

$$NTG = 1 - Freeridership + Participant\ Spillover$$

Table 148 shows the self-reported freeridership, spillover, and final NTG ratios that the team applied to the Renewable Rewards Program in CY 2024.

Table 148. Renewable Rewards Program Freeridership and Spillover Results by Sector

Offering	Freeridership	Spillover	NTG (1 – Freeridership + Spillover)
Residential	46%	0%	54%
Residential Pilots	0%	0%	100%
Business	26%	0%	74%

Verified Net Savings Results

The evaluation team determined the NTG ratios shown below from the 2024 Renewable Rewards participant surveys, which it then applied to the residential and business sectors (Table 149). Overall, the Renewable Rewards Program had an NTG ratio of 63%.

Table 149. CY 2024 Renewable Rewards Program First-Year Net Savings and NTG

Offering	Total First-Year Verified Gross Savings (MMBtu)	Total First-Year Net Savings (MMBtu)	NTG Ratio
Renewable Energy, Residential	101,265	54,683	54%
Renewable Energy, Residential Pilots	1,162	628	54%
Renewable Energy, Business	90,570	67,022	74%
Total	**192,997**	**122,332**	**63%**

15.3. Process Evaluation

In CY 2024, customers' increased interest in renewable incentives caused incentive spending to rapidly outpace the planned budget. In an effort to slow spending from this unexpected interest, Focus on Energy reduced Renewable Reward incentives on May 1, 2024. The evaluation team designed the process evaluation activities for CY 2024 to gather program feedback from program participants and trade allies.

Process Evaluation Methodology

In CY 2024, Renewable Rewards process evaluation activities focused on assessing feedback from program participants, gathering in-depth insights from trade allies, and reviewing information about program design and delivery. Table 150 summarizes the process evaluation activities conducted in CY 2024, followed by a description of each activity.

Table 150. CY 2024 Process Evaluation Data Collection Activities and Sample Sizes

Activity	Residential Offering	Business Offering	Both	Total
Implementation Plan Review and Program Staff Interviews	✓	✓	✓	**N/A**
Participant Surveys	202	14	-	**216**
Trade Ally Interviews	4	3	5	**12**
Ongoing Customer Satisfaction Surveys	Combined with Trade Ally Solutions Participants	Combined with Trade Ally Solutions Participants	-	**N/A**

Implementation Plan Review and Program Staff Interviews

The evaluation team reviewed the implementation plan and interviewed program staff to gain insights into the operation of the Renewable Rewards Program during CY 2024. The implementer created detailed implementation plans to document key program aspects, including eligible measures, target participants, delivery channels, and the mechanisms by which the program design achieves energy savings. Through staff interviews, the team explored research areas of interest, identified program changes introduced since the beginning of the year, and clarified any gaps in the understanding of program details.

Participant Surveys

During November 2024, the evaluation team conducted online surveys with a random sample of 202 Residential and 14 Business Renewable Rewards program participants who participated between January 1 and August 31, 2024. Of those sampled participants, 94 residential and eight business participants participated before the incentive adjustments on May 1, 2024. The sample frame consisted of residential and business participants with contact information in the program tracking data. The survey covered topics such as customer awareness, motivation for participation, satisfaction with the program, feedback on trade allies and the application process, system operability, and financing options (including direct pay).

Trade Ally Interviews

In October and November 2024, the evaluation team conducted in-depth phone interviews with 12 trade allies who participated in the Renewable Rewards Program in CY 2024, with the following objectives:

- Assess trade ally awareness and perceptions of the Renewable Rewards Program
- Gather feedback on the program's incentive structure and alternative funding sources utilized by customers for their projects
- Identify barriers, challenges, and successes encountered by trade allies during program participation
- Examine the influence of the IRA on incentive applications and trade ally business operations
- Understand trade ally firmographics and gain insights into their perspectives on current market conditions

Ongoing Customer Satisfaction Surveys

Throughout CY 2024, the administrator emailed Renewable Rewards and Trade Ally Solutions participants links to the web-based satisfaction surveys with the following objectives:

- Understand customer satisfaction on an ongoing basis and respond to any changes in satisfaction before the end of the annual reporting schedule
- Help facilitate timely follow-up with customers to clarify and address service concerns

Using contact information stored in SPECTRUM, the administrator ran web-based satisfaction surveys throughout the year to CY 2024 participants. The survey covered several topics, including overall satisfaction, satisfaction with offering staff and trade allies, and the likelihood of recommending Focus on Energy.

Because this survey combined Trade Ally Solutions and Renewable Reward participant samples, results are not available for each individual program. Combined results are reported in the *Trade Ally Solutions Program* chapter.

Design and Delivery

The Renewable Rewards Program provides incentives to residential customers living in a single-family home, owners of multifamily buildings, and businesses that install a solar PV system. Customers work with trade allies to verify that their system meets program eligibility requirements and to reserve an incentive. Customers then apply to receive their reserved incentive after their solar PV system installation is complete.

Table 151 and Table 152 show Renewable Rewards incentives for CY 2024.

Table 151. Renewable Rewards Incentives, Residential Offering

Timeframe	Residential Incentive	Rural Residential Bonus[a]
January 1-April 30	$500 per system	$500
May 1-December 31	$300 per system	$300

[a] Rural residential customers living in eligible zip codes could receive a $300 bonus for installing a qualified system.

Table 152. Renewable Rewards Incentives, Business Offering

Timeframe	System Size in kW (DC)	Business Incentive	Maximum Incentive
January 1-April 30	Up to 5 kW	$200 per kW (DC)	$1,000
	5 kW-10 kW	$1,000 + $150 per kW above 5 kW	$1,750
	10 kW-100 kW	$1,750 + $125 per kW above 10 kW	$13,000
	100 kW-300 kW	$13,000 + $100 per kW above 100 kW	$33,000
	300 kW-500 kW	$33,000 + $85 per kW above 300 kW	$50,000 Multifamily and non-agricultural business $60,000 agricultural producer[a]
Starting May 1	All	$50/kW (DC)	$25,000 Multifamily and non-agricultural business $35,000 agricultural business[b]

[a] Solar PV systems 500 kW and above were capped at the maximum incentive of $50,000 for multifamily and non-agricultural customers, and capped at $60,000 for agricultural customers. Agricultural producers are eligible for an incentive match of up to $10,000.

[b] Solar PV systems 500 kW and above were capped at the maximum incentive of $25,000 for multifamily and non-agricultural customers and capped at $35,000 for agricultural customers. Agricultural producers are eligible for an incentive match of up to $10,000.

Affordable Housing Solar PV Pilot

Since its launch in mid-2022, the Affordable Housing Solar PV Pilot has operated under the Renewable Rewards Program and sought to foster cooperation among affordable housing developers and builders, and Focus on Energy in integrating solar PV systems into newly constructed homes for income-qualified individuals. This market has not historically integrated solar PV systems into new construction projects. To help encourage solar PV installations, the pilot offered higher incentives to affordable housing developers and builders compared to incentives in the standard Renewable Rewards Program.

The CY 2024 incentives were unchanged from CY 2023 at $1,250 per kWDC installed capacity, up to a maximum of 7 kWDC ($8,750 per system per home). The pilot concluded at the end of 2024, with all projects required to be completed and interconnected by December 15, 2024.

Department of Administration Solar/Heat Pump Pilot

Focus on Energy launched this pilot in Q1 2023. The goal of the pilot is to work with weatherization agencies to cover half of solar PV and heat pump costs in small multifamily buildings with existing electric resistance heat. A building has to have between four and 12 units and incorporate both solar PV

and heat pump space heating to qualify. Buildings also have to meet income-qualification requirements and must have been previously weatherized or included weatherization in the project scope.

The pilot offers incentives of $1,500/kW (DC) for up to 7kW per solar PV unit and 50% of the cost of heat pump units (up to $3,000 for air source heat pumps and up to $800 for heat pump water heaters). The maximum total incentives are $75,000 per building and $225,000 per property.

Renewable Rewards Customer Experience

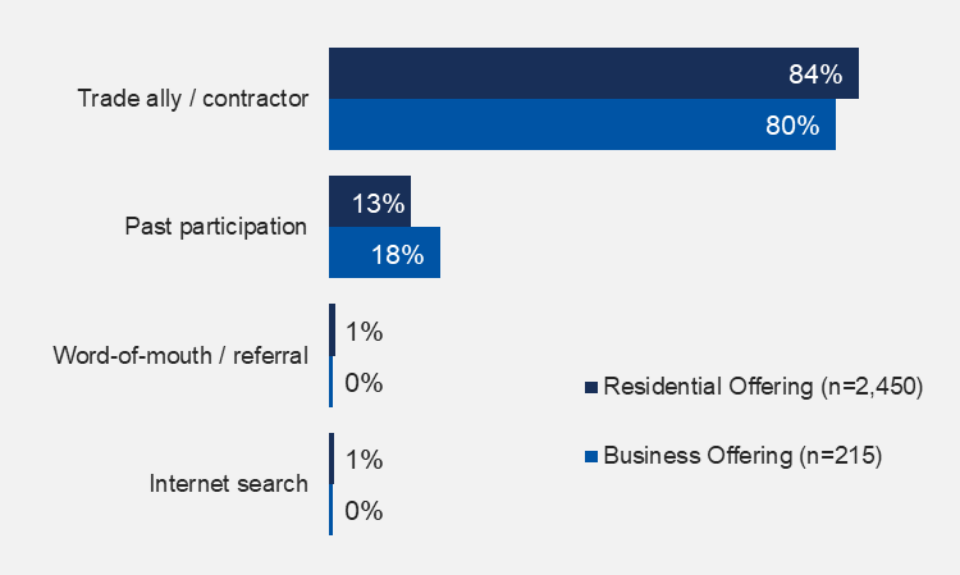
The evaluation team assessed customer experience with the Renewable Rewards offering using results from the CY 2024 participant survey. This section presents the survey's results.

Participant Awareness and Motivation

The program implementer captures feedback about how customers heard about the Focus on Energy rebates and reports those responses in SPECTRUM. Below are the questions asked and the feedback provided by business and residential participants.

Participants were asked how they found out about the Focus on Energy rebates. As shown in Figure 155, 84% of CY 2024 Residential Renewable Rewards participants and 80% of Business Renewable Rewards participants learned about the rebates from a trade ally. Other sources of awareness were much lower, with past participation being the next highest response—13% for residential and 18% for business participants—followed by word of mouth at 1% and less than 1%, respectively. These results are similar to how participants heard about Focus on Energy in CY 2023.

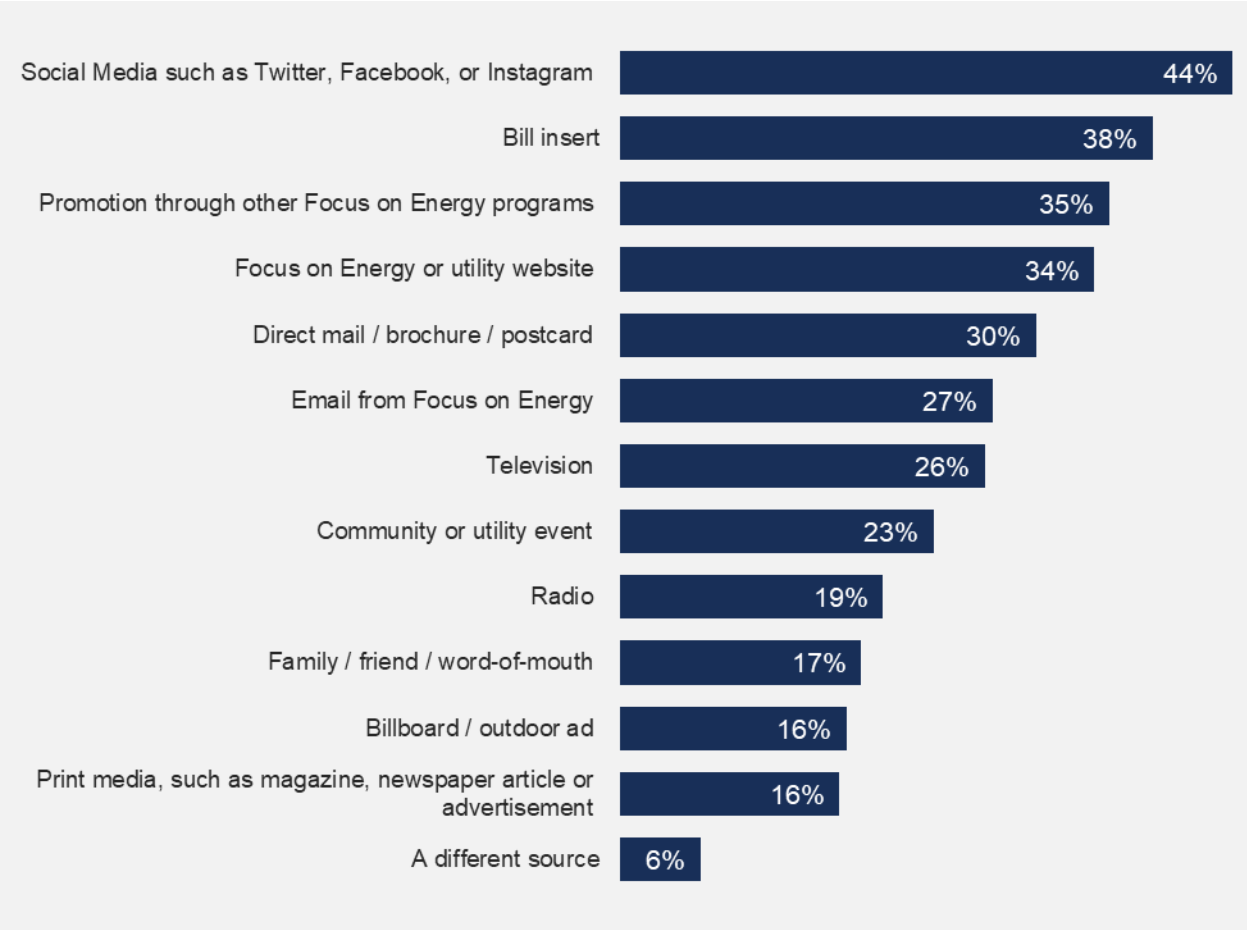
Figure 155. Renewable Rewards Participant Sources of Awareness



Source: CY 2024 Focus on Energy Renewable Rewards Program Tracking Data

The survey asked residential participants about their preferred outreach methods to better understand how to target outreach for future program offerings. Figure 156 shows that, besides through a trade ally or contractor, residential survey respondents favored social media (44%), bill inserts (38%), and utility-driven channels like promotions through other programs (35%) and websites (34%) for receiving information. They also prefer direct mail (30%), television (26%), and email (27%) more than businesses.

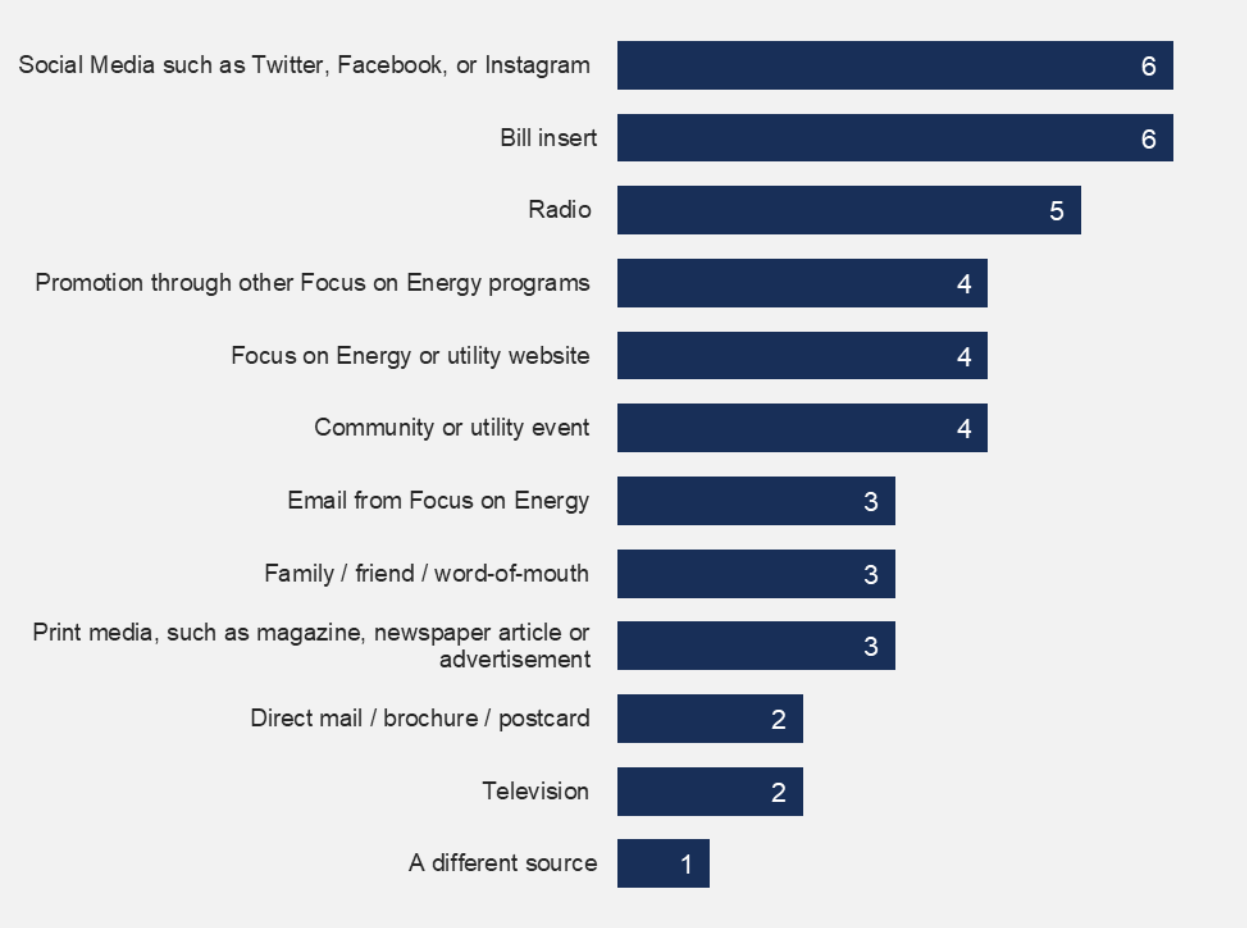
Figure 156. Preferred Outreach Method (Residential)



Source: Renewable Rewards Program 2024 Participant Survey Question: "What do you think is the best way for Focus on Energy to inform people about energy efficiency and renewable resource offerings? Select all that apply." (n=191)

Six out of 12 business participants also favored social media and shared similar preferences with residential participants for promotions through other Focus on Energy programs (four respondents) and the Focus on Energy or utility website (four respondents). However, they were more likely to prefer traditional outreach methods like bill inserts (six respondents), radio (five respondents), and community or utility events (four respondents) compared to residential participants. In 2021, social media was also the most popular choice for residential participants (36%, n=59) and business participants (33%, n=33). Figure 157 shows the full breakdown of preferred sources of awareness for business participants.

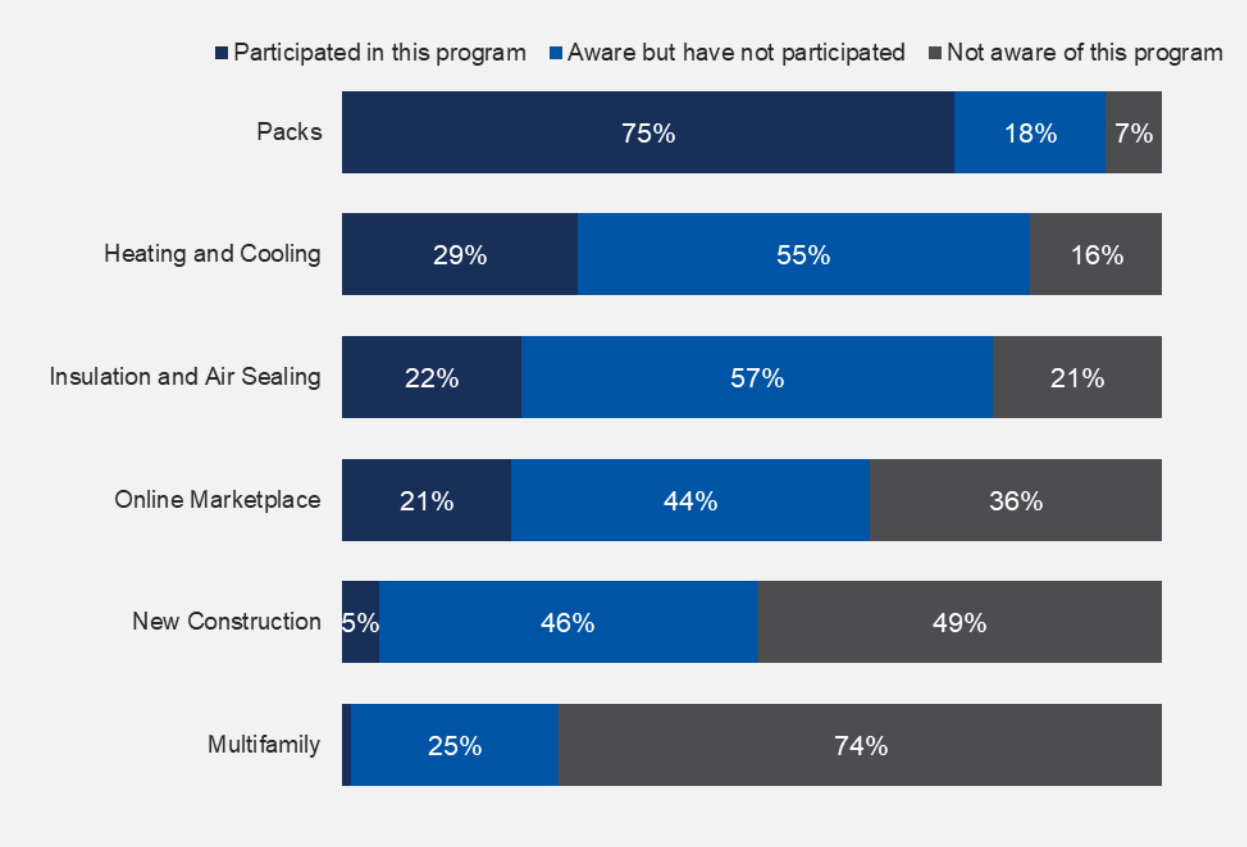
Figure 157. Preferred Outreach Method (Business)



Source: Renewable Rewards Program 2024 Participant Survey Question: "What do you think is the best way for Focus on Energy to inform people about energy efficiency and renewable resource offerings? Select all that apply." (n=13)

Participants were asked which other Focus on Energy rebates and programs they were aware of. Forty-five percent (n=195) of residential participants said they were aware of other residential Focus on Energy programs. Of those, the largest majority (93%) were aware of the Packs offering, and 75% participated in the Packs offering (Figure 158). The Heating and Cooling Program had the next highest awareness (84%) and participation (29%) levels. The New Construction and Multifamily Programs had the lowest overall awareness rates (51% and 26%, respectively).

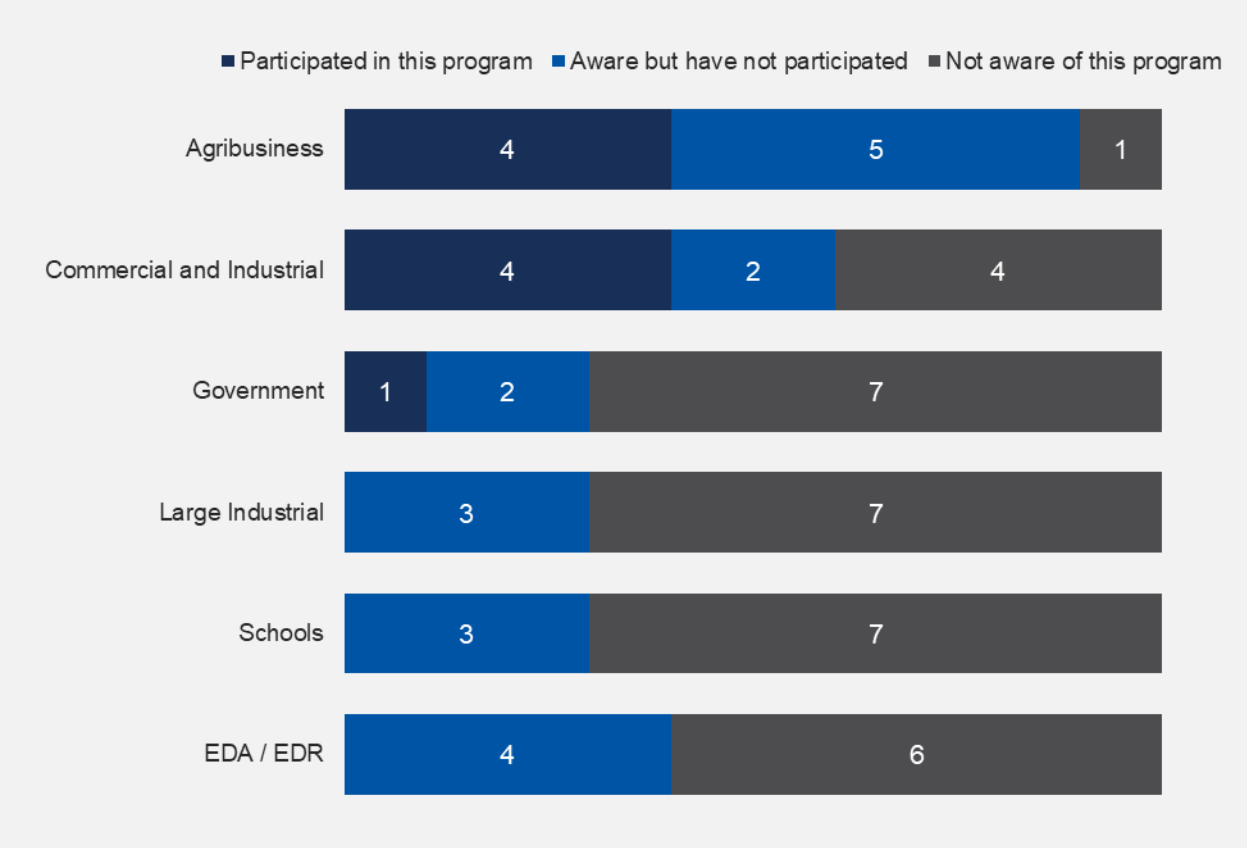
Figure 158. Participant Awareness of Other Programs (Residential)



Source: Renewable Rewards Program 2024 Participant Survey Question: "For the Focus on Energy programs listed below, please indicate which ones you are aware of and which you have participated in." (n=87)

When asked about their awareness of other nonresidential Focus on Energy programs, most business participants reported participating in Agribusiness (four respondents) and C&I (four respondents), as shown in Figure 159. None of the respondents had participated in the Schools or EDA/EDR offerings.

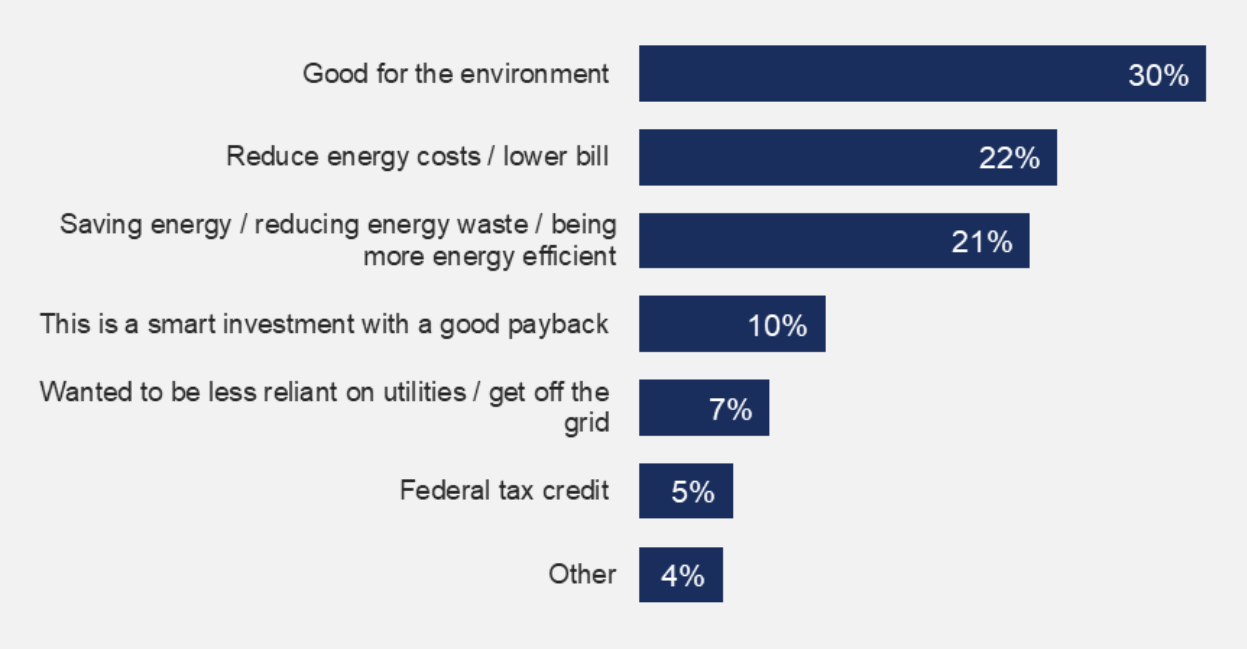
Figure 159. Participant Awareness of Other Programs (Business)



Source: Renewable Rewards Program 2024 Participant Survey Question: "For the Focus on Energy programs listed below, please indicate which ones you are aware of and which you have participated in." (n=10)

When asked about the most important motivating factor for installing a solar PV system, residential and business responses varied significantly. As shown in Figure 160, among residential participants, 30% cited the positive environmental impact as the most important motivator, followed by a reduction in energy costs (22%) and saving energy (21%). Residential customers who selected *Other* (4%) generally mentioned a combination of the listed factors, and one said they anticipate "substantial future increases in the cost of electricity."

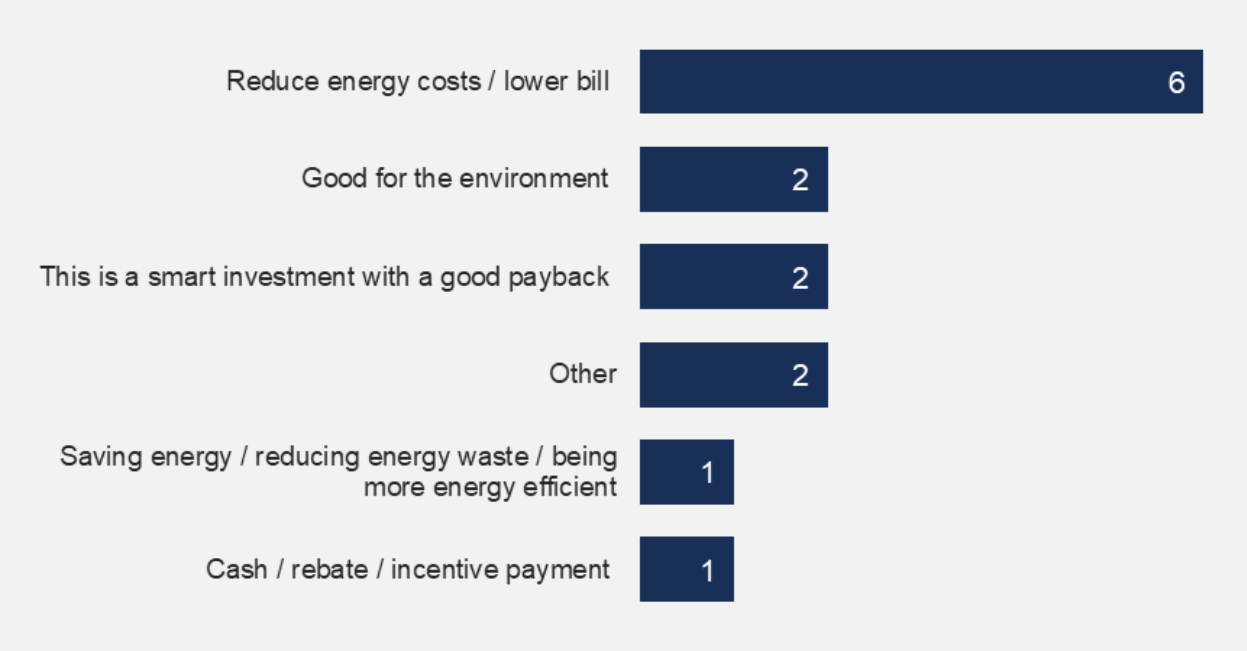
Figure 160. Most Important Motivator (Residential)



Source: Renewable Rewards Program 2024 Participant Survey Question: "What factor was the most important motivation for you to purchase the new solar PV system?" (n=202)

As shown in Figure 161, the most important motivator for business customers was a reduction in energy costs (six respondents), followed by positive environmental impact (two respondents), and the installation being a smart investment (two respondents). Business customers who chose *other* (two respondents) primarily cited the Rural Energy for America Program grant or a combination of reasons. CY 2024 results for the most important motivator for both residential and business participants are consistent with CY 2021 findings.

Figure 161. Most Important Motivator (Business)



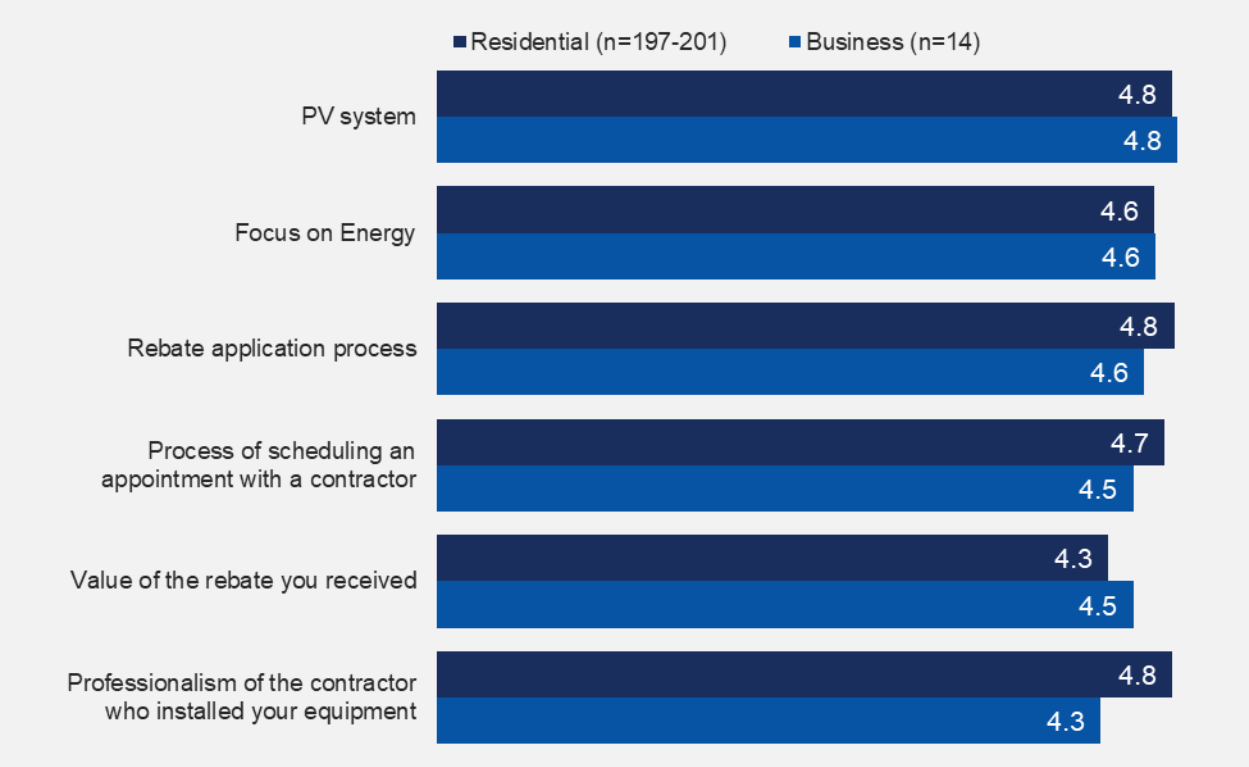
Source: Renewable Rewards Program 2024 Participant Survey Question: "What factor was the most important motivation for you to purchase the new solar PV system?" (n=14)

Program Satisfaction

The participant survey assessed satisfaction with various aspects of the Renewable Rewards Program, their new PV system, and their experience with their trade ally. Participants were asked to rate their satisfaction using descriptive levels ranging from *very unsatisfied* to *very satisfied*. These responses were later coded on a scale from 1 to 5, respectively. Business and residential customers reported high satisfaction across all categories, with all average ratings 4.3 or higher. All participants gave PV systems the highest ratings (4.8 for business and residential), while business participants gave the lowest ratings for contractor professionalism (4.3), and residential participants gave the lowest ratings for the value of the rebate (4.3). However, satisfaction with the value of the rebate among residential participants who participated before and after the incentive changes was noticeably different, with those who participated before the change reporting slightly higher satisfaction levels (4.5, n=92) compared to those after the change (4.2, n=108). Residential customers rated the rebate application process (4.8) and scheduling appointments (4.7) slightly higher than businesses (4.6 and 4.5, respectively). Businesses rated the value of rebates higher (4.5 vs 4.3). Overall, Focus on Energy received the same rating from both participant groups (4.6).

Figure 162 shows a full breakdown of participant satisfaction across offerings.

Figure 162. Participant Satisfaction



Source: Renewable Rewards Program 2024 Participant Survey Question: "How satisfied are you with [PROGRAM ASPECT]?"

Participants who reported they were *somewhat* or *very unsatisfied* with a category were asked why they were unsatisfied. Their responses focused on the following themes:

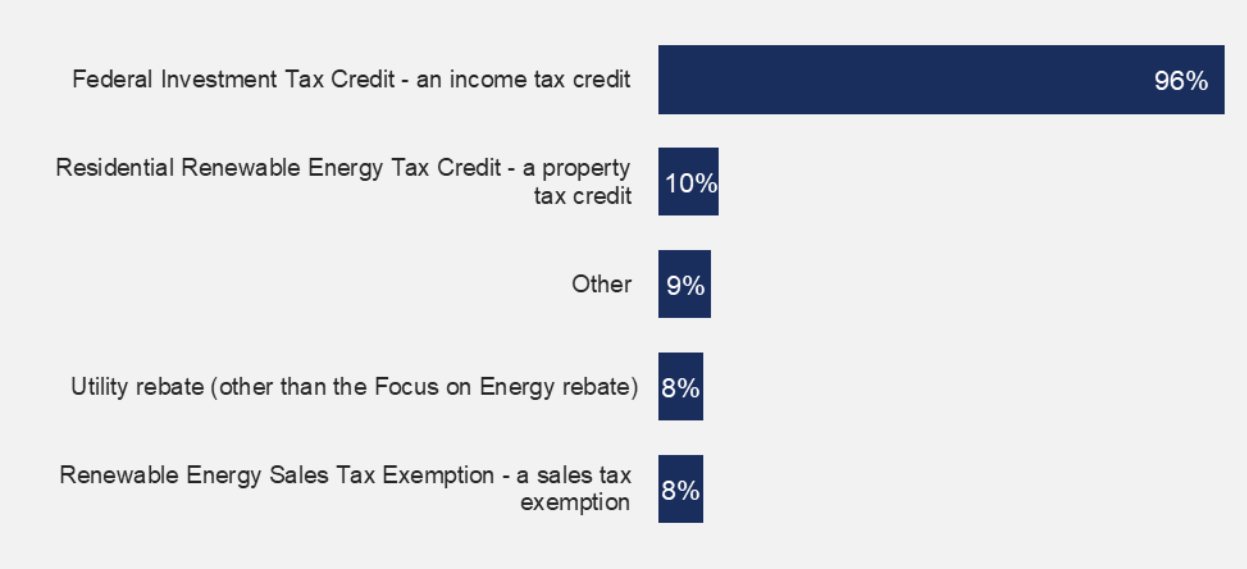
- The rebate they received was incorrect or too small and should be proportional to the work done or more competitive with similar rebates in other states. (17 respondents)
- Communicating with Focus on Energy and the trade ally was difficult. (one respondent)
- The information about the rebate they would receive was unclear. (four respondents)
- Their energy bills were not reduced as much as expected, or their PV system did not include the equipment they expected. (four respondents)
- The installation process took too long, required multiple follow-ups, or was not properly completed. (17 respondents)

Financing

To understand the different sources of financing participants used to pay for their renewable projects, the surveys asked participants if they received rebates from sources other than Focus on Energy. Forty-one percent of residential customers (n=188) and five out of 14 business customers said they received additional funding for their solar PV installation.

As shown in Figure 163, 96% of residential participants who received additional funding received a federal income tax credit, followed by a Residential Renewable Energy Tax Credit (10%). Nine percent of residential participants identified another source of funding not listed, such as an Energy Sage rebate, a Tesla battery rebate, or installer rebates.

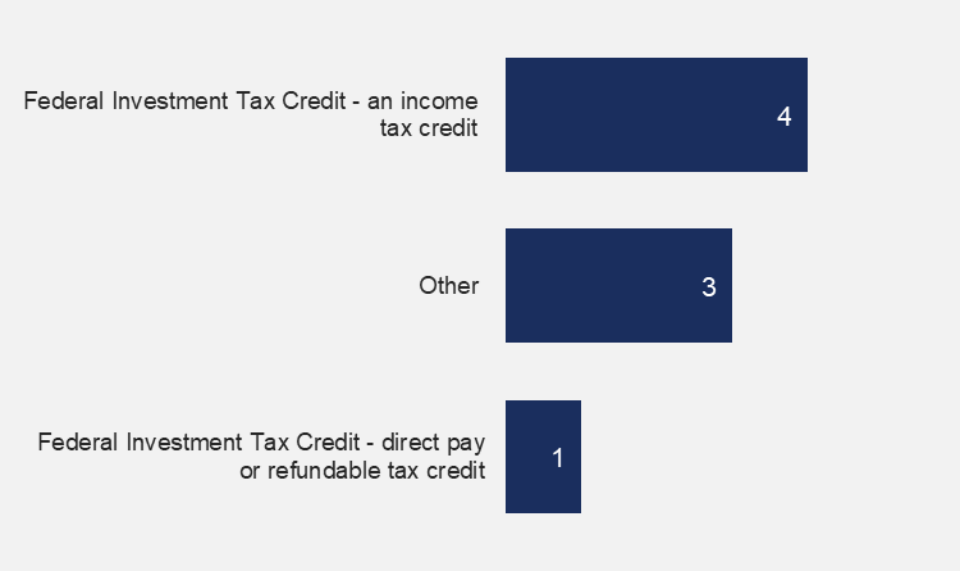
Figure 163. Additional Rebates Received (Residential)



Source: Renewable Rewards Program 2024 Participant Survey Question: "Which of the following other rebates did you also receive? [Select all that apply]." (n=78)

Four of the five business participants who received additional funding received a Federal Investment Tax Credit (Figure 164). The three business participants who selected *other* cited grants, with one specifically mentioning the U.S. Department of Agriculture's Rural Energy for America Program.

Figure 164. Additional Rebates Received (Business)



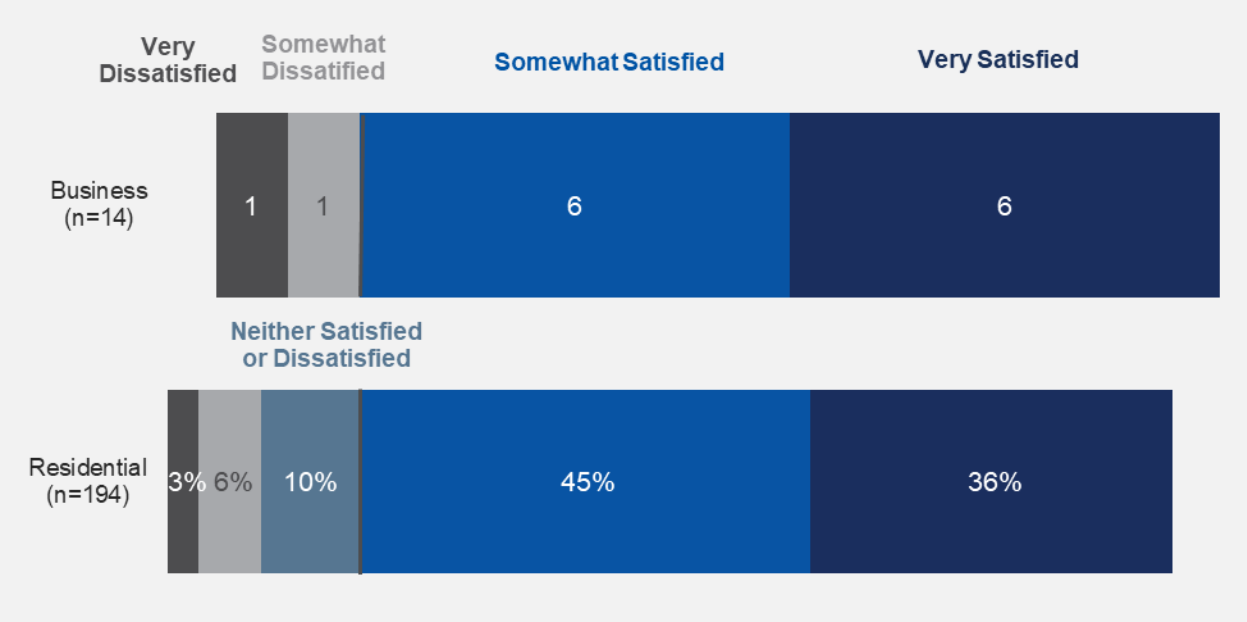
Source: Renewable Rewards Program 2024 Participant Survey Question: Which of the following other rebates did you also receive? [Select all that apply]. (n=5)

When asked how important receiving multiple rebates was in their decision to install their solar PV system, all of the business participants said it was *very important*, and 92% of the residential participants said that it was *very important* or *somewhat important*. During trade ally interviews, responses aligned with participants' views, emphasizing the importance of additional funding in a customer's decision to install solar PV systems.

The survey asked participants whether they would have proceeded with the same solar PV project in the absence of Focus on Energy rebates. The majority of residential participants (71%, n=59) and all business participants (n=4) who received additional funding said they would not have undertaken a PV project without the rebates. Notably, residential participants (29%) were more inclined to pursue a PV project without rebates, in contrast to businesses, where no participants expressed such an intention.

The survey also asked participants to rate their satisfaction with the total dollar amount of the rebates and tax credits received. As illustrated in Figure 165, most participants expressed satisfaction, with only two business participants reporting dissatisfaction, compared to 9% of residential participants.

Figure 165. Satisfaction with the Total Dollar Amount of the Rebates and Tax Credits

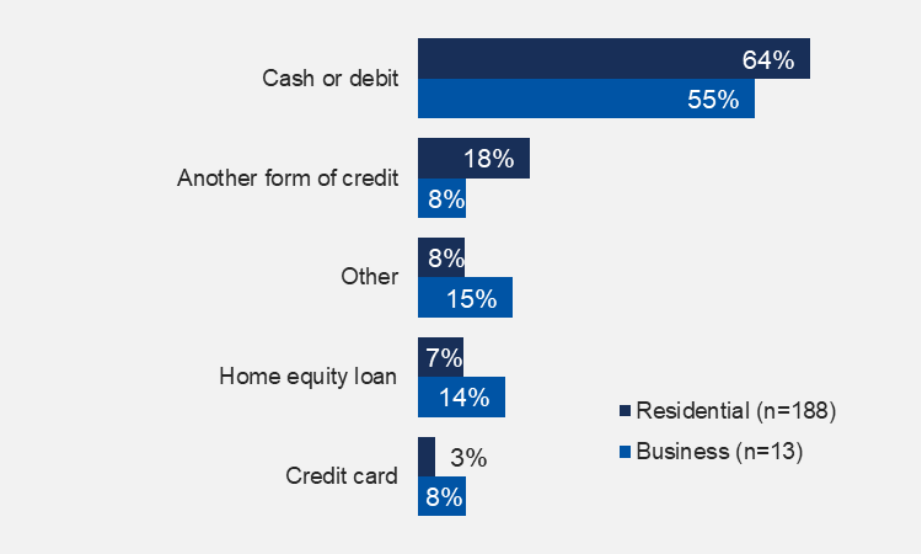


Source: Renewable Rewards Program 2024 Participant Survey Question: "Considering all of the rebates and tax credits you received, how satisfied were you with the total dollar amount of the rebates and tax credits?"

The survey also asked participants how they paid for the remaining costs after rebates and tax credits, and the portion of the remaining costs they paid with that method. The evaluation team weighted the reported method by the portion of the remaining cost to determine the method used to cover the most remaining cost for both residential and business participants.

As illustrated in Figure 166, participants paid most of the remaining costs through cash or debit (64% residential and 55% business). The remaining costs were covered with other forms of payment, such as credit or loans.

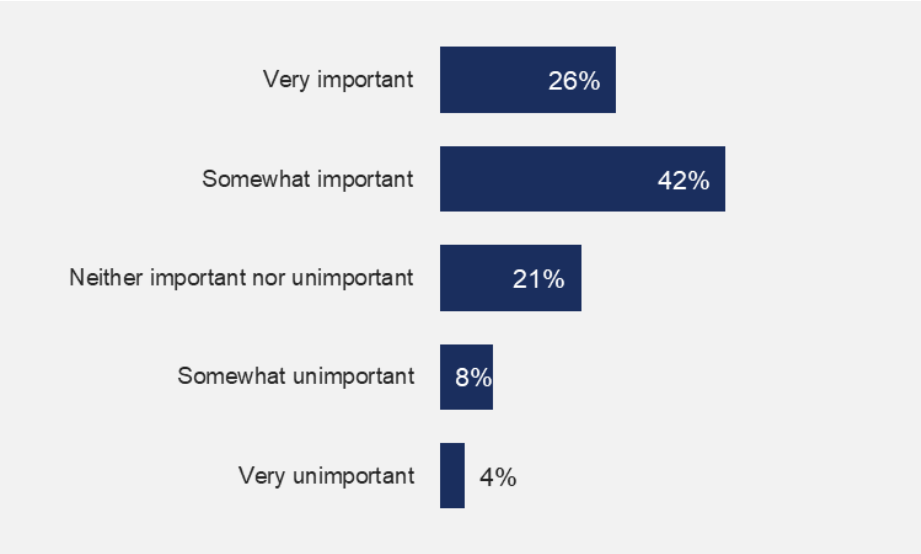
Figure 166. Methods of Paying for Solar PV System Costs After Rebates and Incentives



Source: Renewable Rewards Program 2024 Participant Survey Question: "Please explain how you paid for your portion of the solar PV system costs – that is, how did you pay for remaining costs after rebates and other tax credits or incentives. Please select all that apply."

The survey also asked participants how important the length of the payback period was in their decision to install a solar PV system. As shown in Figure 167, most residential participants considered the payback period important, with 68% saying they thought it was either *very important* (26%) or *somewhat important* (42%). Six out of 13 business participants said it was *very important* or *somewhat important*, while one business participant said they found the length of the payback period *neither important nor unimportant*. Notably, only residential participants reported that the payback period was *not important* or were unsure of its importance.

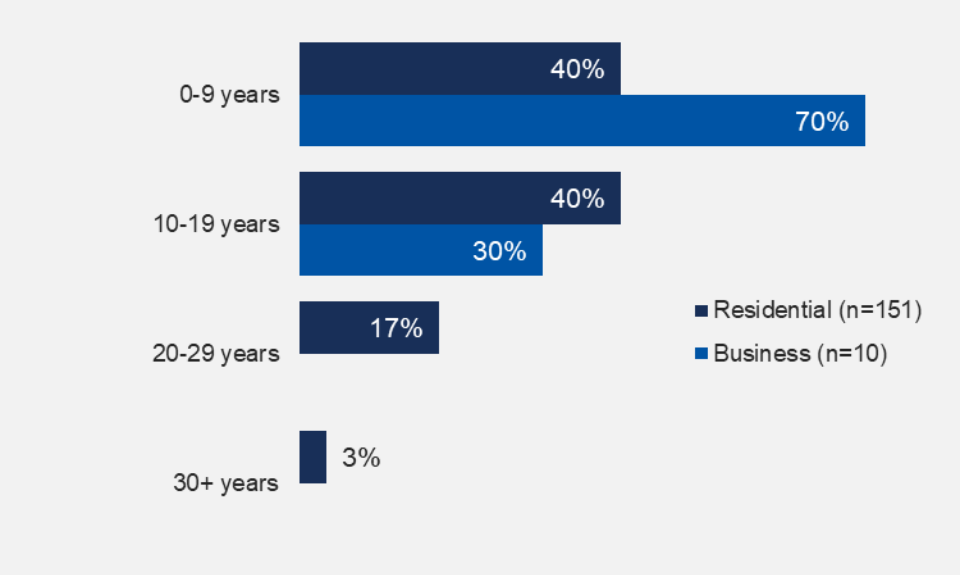
Figure 167. Importance of Payback Period in Decision to Install a Solar PV Project (Residential)



Source: Renewable Rewards Program 2024 Participant Survey Question: "How important was the length of the payback period in your decision to install your solar PV system?" (n=193)

Surveys also asked about the length of projected payback periods (Figure 168). For most residential participants, the payback period was between 101 and 149 months. In contrast, for most business participants, it was between 1 and 100 months. These results are consistent with CY 2021.

Figure 168. Projected Payback Period



Source: Renewable Rewards Program 2024 Participant Survey Question: "How long was the projected payback period for your solar PV system? Please respond in days or months."

Renewable Rewards Trade Ally Experiences

In October and November 2024, the evaluation team interviewed 12 trade allies who participated in the Renewable Rewards program in CY 2024. The following sections summarize findings from those interviews.

Firmographics

Of the 12 trade allies who were interviewed, four strictly worked on residential projects, three worked on business projects, and five worked on both residential and business projects. Four of the trade allies had one to five years of experience at the company they worked for, six had six to 10 years, one had been at their company for 13 years, and another for 30 years.

Half of the trade allies' companies had 15 or fewer employees, two of which reported that their number of employees varied depending on the season. Another two companies had between 20 and 35 employees, three had between 50 and 200, and one of the companies, which was national, had 3000 employees.

The team asked trade allies to estimate what percentage of their work was done in rural versus urban areas. Two of 12 trade allies did 60% or more of their work in urban areas, three did about half of their work in rural areas, and another three worked 90% to 100% in rural areas. One trade ally reported working in the suburbs 70% of the time.

Program Awareness and Participation

Project Volume. Trade allies were asked whether the number of projects their company submitted to Focus on Energy in 2024 was higher, lower, or similar to the number submitted in 2023. Four out of nine trade allies who completed residential projects in both 2023 and 2024 submitted about the same number of projects (less than a ±10% change) in 2024 as in 2023. Four trade allies submitted notably more applications in 2024 than in 2023, while one trade ally submitted fewer.

Five out of nine trade allies who installed solar PV systems for businesses submitted about the same number of projects (±1 project) in 2024 as in 2023. Two trade allies submitted more applications in 2024 than in 2023, with one of them submitting twice as many. One trade ally submitted half as many business projects in 2024 as in 2023

When asked what accounted for the difference, trade allies who completed more work in 2024 cited an increase in awareness of solar technologies and IRA tax credits. The two trade allies who had fewer projects in 2024 said that they did not have the staffing necessary to complete the Focus on Energy applications that came in, and one cited the economy as a reason that the number of projects was down.

Primary Motivation to Participate. The primary motivation for trade allies participating in the program was that it made projects more affordable for clients and served as a selling point for their company. When asked which specific aspects of the program were most valuable, two trade allies said that having Focus on Energy involved, specifically citing their appearance on Focus on Energy's website, lent credibility to their projects. However, two trade allies responded negatively, saying that they no longer saw value in the program because the rebates were too low.

Participant Awareness. The interview asked questions that explored trade allies' role in raising participant awareness of Focus on Energy solar PV rebates. Trade allies most commonly reported that about 50% of participants were aware of the program before getting in contact with the trade ally, although responses varied greatly across the trade allies. Nine of the 12 trade allies said that they mentioned the Focus on Energy rebates during or shortly after the initial call or proposal. One trade ally said that customers are directed to fill out an online form to request a quote, and once completed, the trade ally sends an estimate, including the Focus on Energy rebate and any tax credit information. Three of those trade allies said that they mentioned the rebate at least once more after the initial mention of the Focus on Energy rebate.

Marketing Materials. Five trade allies reported that they provide customers with additional print or digital materials about the program or its incentives after introducing the rebate. Some of those materials include details in their proposals, information on their company's website, links to the Focus on Energy website, and communication about the rebate or program in their emails. One trade ally includes the Focus on Energy logo on their website and provides a yard sign with Focus on Energy information to customers once the project has begun. In addition to the trade allies who provide customers with additional print or digital materials, two trade allies said they only direct customers to the Focus on Energy website. One of them specified that this is intended to help customers inquire

about the rebate, determine what they qualify for, and understand how to complete the application. When asked whether they or their customers completed the applications submitted to Focus on Energy, 11 out of 12 trade allies said they completed the applications on behalf of their customers.

Rebate and Program Impact

When asked about the impact of the rebate on the percentage of solar PV projects they sell in Wisconsin, two trade allies said that it made a significant difference for business customers. One of these trade allies works exclusively with business customers, and the other works with both business and residential customers. Three trade allies suggested that the residential rebate has historically been significant; however, they noted that its impact has recently declined due to smaller rebate amounts. Two of these trade allies work with both residential and business customers, and one works exclusively with residential customers. The other trade allies did not feel that the program had a significant impact on their sales.

When asked how the program impacted their business overall, most trade allies, similar to their views on the rebate's effect on sales, did not find it particularly impactful unless they had business customers. One trade ally who works with both residential and business customers responded that, for residential customers, lower incentives have decreased the number of projects, whereas for business customers, the rebate has improved business and increased sales. The trade ally who works with both business and residential customers and identified a significant impact on business customer sales in the previous section viewed the overall impact on their business much more positively, specifically stating, "Overall, [Focus on Energy had] a huge impact on our business. Customers trust us because we participate in Focus on Energy."

One residential trade ally stated that the "state rebate encourages homeowners to go solar," but noted that the rebate's value, and possibly its overall impact, was decreasing.

Barriers and Program Delivery

Trade allies were also asked what factors beyond cost make customers hesitant to complete solar PV projects. Two trade allies said that structural issues in the home itself prevented some residential customers from pursuing installation. Another trade ally identified maintenance costs and a lack of solar education as additional barriers for residential customers. One trade ally said that there were no other barriers for customers but cited the application process as a hindrance for installers.

Trade allies who worked with businesses said that board approval and politics were barriers for schools and that misinformation discouraged farmers from installing PV systems, specifically stating, "There seems to be a farmers' debate about renting farmland for solar. Farmers have been misinformed about solar and ground-mounted systems on their land, and they fight it." All trade allies agreed that the program does not address these barriers but acknowledged that they were unsure whether Focus on Energy could do anything aside from incentivizing customers to upgrade and increasing that incentive. Trade allies also noted that more education about renewable energy could be beneficial for installers and customers.

Feedback on the Inflation Reduction Act

Most trade allies were familiar with the IRA, with eight out of 12 indicating a moderate to high level of familiarity. Eleven trade allies said that all or most of their customers were aware of the IRA, with most customers demonstrating that awareness by mentioning or inquiring about it during the proposal or design phase. When asked about the impact of the IRA on trade allies' 2024 sales, all eight trade allies who completed projects for businesses said it had a significant, positive effect on their solar PV sales. Seven out of nine trade allies who completed projects for residential customers reported a similarly significant, positive impact on their residential sales, with one trade ally stating that the IRA's impact is "enormous; homeowners would not go forward without the federal tax credits." Regarding adjustments made in response to the IRA, five of 12 said it allowed them to hire more staff. Four respondents (including three of those who had increased hiring) also adjusted their business strategies by investing more in their internal solar programs, materials, and training.

Market Status

To understand the state of the solar PV installation market, trade allies were first asked how long they and their companies had been installing solar PV projects for their respective customer bases. Four trade allies had been installing solar PV projects for less than 10 years, five trade allies had been doing this type of work for 10 to 18 years, and two had been doing so for 20 to 22 years. Reflecting on the past three years, seven out of 12 trade allies said the market for solar PV installations had grown. Two trade allies said it had been relatively stable, and one trade ally said he had found consumer demand lower and that it had become more difficult for residential customers to pursue these installations.

The specific changes trade allies identified as the largest changes in the market varied, including the incentive structures, market competition, a decrease in the cost of equipment, and an overall increase in awareness. The most frequently mentioned changes were the increase in market competition and overall awareness, cited by three and two trade allies, respectively. Trade allies also mentioned more standardized equipment, increased efforts with programs such as "Made in America" or "Buy American," and a decrease in payback time. Ten trade allies said that they had adjusted their company practices to account for these market changes, including stocking more material, increasing staffing and training to accommodate more solar offerings, increasing marketing and attendance at trade shows, and partnering with distributors.

When asked about the most important factors affecting the solar PV market now, trade allies highlighted several key issues:

- Utility net metering and the cost of materials, energy, and labor (five respondents)
- Incentives, such as tax credits and IRA grants (four respondents)
- International solar tariffs and domestic regulations (four respondents)
- The impact of the election (three respondents)
- ROI, payback periods (one respondent)
- Reliability and longevity (one respondent)
- Domestic content and more manufacturers (one respondent)

Trade allies also had varying opinions on how the market will evolve over the next five years, highlighting the following potential changes:

- Stability in tax credits and the market (two respondents)
- Continued market growth (two respondents)
- Slowdown in installations (two respondents)
- Utility net metering and the cost of materials and energy (two respondents)
- Advancements in solar PV and battery technologies (one respondent)
- Tariffs and a focus on domestic products (n=1)
- Uncertainty due to the election and how that affects the IRA (one respondent)

Nine out of 12 trade allies said they still expect their sales to increase relative to 2024, while one trade ally suspects they'll decrease, another expects no change from how they are currently, and one was unsure.

When asked what customers' main questions were about solar PV, trade allies listed questions that covered the following topics:

- Design, how it will look, sizing, and placement (three respondents)
- Installation, how are the panels attached, structural, roof vs ground, batteries (five respondents)
- Cost, quote and incentives (four respondents)
- ROI, utility bill and payback (five respondents)
- Upkeep, panel cleaning, warranties, longevity and durability of the equipment (four respondents)
- Compatibility and interaction with their utility (three respondents)
- How does it work, what is the back-up power source, power outage scenarios, snow cover (three respondents)

The evaluation team asked the 12 trade allies to rate their satisfaction with the Renewable Rewards Program using a scale of 1 to 5, where 1 meant *not satisfied at all* and 5 meant *extremely satisfied*.

- Nine rated the program a 4 or 5
- One rated the program a 3, reflecting a neutral attitude
- Two rated the program a 2; of these, one reported that the application process was repetitive, while the other said the incentives were not worth it

When asked to identify one thing Focus on Energy can do to increase trade ally satisfaction with the program, trade allies had the following suggestions:

- Adding a portal where you can see what stage the application is in (one respondent)

- Streamline the application process and website form; this trade ally stated that the current process is time-consuming and repetitive compared to other required submissions (one respondent)
- Better quality control process, similar to lighting (one respondent)
- Better communication regarding program changes; this trade ally noted that updates in April 2024 (incentive changes effective in May) were not communicated effectively, leading to their customers being "very unhappy," and that Focus on Energy should provide timely information on changes and criticized their representative for not being proactive, requiring them to initiate contact instead (one respondent)

When asked for open-ended comments about the program, trade allies provided a range of feedback.

- Three out of 12 trade allies praised the program, describing the process as easy and the Focus on Energy staff as available and friendly. Another said Focus on Energy does a good job.
- Four trade allies expressed a desire for higher incentives, particularly for residential projects, schools, and customers hiring in-state solar companies. One of those trade allies also proposed better certification for solar materials and increased automation on Focus on Energy's website.
- One trade ally specifically mentioned frustration over the program running out of funds in the spring, which required them to revise customer quotes.
- One trade ally suggested eliminating the tilt angle requirement to expand eligibility.

15.4. Cost-Effectiveness

Evaluators commonly use cost-effectiveness tests to compare the benefits and costs of a DSM offering. The benefit/cost test used in Wisconsin is a modified version of the TRC test. Appendix J. Cost-Effectiveness and Emissions Methodology and Analysis in Volume III includes a description of the TRC test. Table 139 lists the CY 2024 incentive costs for the Renewable Rewards Program.

Table 153. CY 2024 Renewable Rewards Incentive Costs

Offering	Incentive Costs
Residential Renewable Rewards	$1,804,346
Business Renewable Rewards	$2,192,646
Total	**$3,996,993**

The evaluation team found that the CY 2024 Renewable Rewards Program was cost-effective (1.23). Table 140 lists the evaluated costs and benefits.

Table 154. CY 2024 Renewable Rewards Costs and Benefits

Cost and Benefit Category	Total
Costs	
Administration Costs	$196,630
Delivery Costs	$2,448,800
Incremental Measure Costs	$81,486,362
Total Non-Incentive Costs	**$84,131,792**
Benefits	
Electric Benefits (kWh)	$18,029,360
Electric Benefits (kW)	$32,791,426
T&D Benefits (kW)	$9,367,486
Gas Benefits	$0
Emissions Benefits	$43,282,939
Total TRC Benefits	**$103,471,211**
Net TRC Benefits	**$19,339,419**
TRC Benefit/Cost Ratio	**1.23**

15.5. Outcomes and Recommendations

The evaluation team offers the following outcomes and recommendations based on the CY 2024 evaluation.

Outcome 1. For some projects that started in CY 2023 but were considered CY 2024 participants, *ex ante* used deemed savings and an EUL of 25 years from the 2023 TRM, while verified savings used 2024 TRM deemed savings and an EUL of 28 years, resulting in low kW and lifecycle savings realization rates.

Recommendation 1. To improve accuracy in savings estimates and avoid discrepancies in realization rates, ensure timely alignment with the current program year's TRM. Projects that transition between calendar years should be reviewed and updated promptly to reflect the most current deemed savings values.

Outcome 2. Trade allies cited program participation as beneficial but expressed concerns over reduced incentives, a lack of communication and information about mid-year incentive adjustments, and a lack of education about the benefits of solar PV technology on the part of business customers. Some trade allies specifically expressed frustration about the mid-year incentive adjustments and the confusion it caused their customers, as well as echoed the feeling among participants that the value of the residential incentive relative to the cost of their installations is too low.

Recommendation 2. Continue providing information pathways through informational materials and educational seminars that discuss the benefits of installing solar PV systems. This should particularly be a focus among rural and agricultural customers to improve participation rates and overcome negative perceptions of solar PV.

Recommendation 3. Strengthen communication pathways by proactively sharing updates on program changes to prevent confusion and dissatisfaction among trade allies and customers. When program changes that affect expected incentives are necessary, ensure proactive communication about how these changes impact trade allies and their customers. Specifically, follow up with resources to help communicate these changes to customers of trade allies and offer support if trade allies continue to encounter customer dissatisfaction.

16. Pilots

Focus on Energy regularly offers pilot programs to test new program theories or delivery mechanisms. The pilots might test the effectiveness of a new program design by delivering familiar measures to a new audience or through a new channel, or test the feasibility of a new type of measure or program design.

Table 155 lists all Focus on Energy pilot program activities in CY 2024. The PSC, program administrator, and evaluation team previously agreed to conduct evaluation activities for pilot programs at the end of each pilot; however, mid-pilot evaluation may be requested as needed by the program administrator. In CY 2024, the evaluation team conducted evaluation activities for the Community Impact and Life Sciences Midstream Pilots. Summaries of both pilot evaluation activities are presented in this chapter.

Table 155. Focus on Energy CY 2024 Pilot Program Activity

Pilot	Description	CY 2024 Pilot Activity
Community Impact	The Community Impact Pilot encourages impactful energy upgrades to small businesses in targeted communities. Qualified businesses in participating communities are eligible for up to $30,000 in energy efficiency upgrades.	In CY 2024, Focus on Energy launched pilot campaigns in Portage, Madison Southside, Black River Falls, and Fort Atkinson. This brings the total communities for the pilot to nine.
Life Sciences Midstream	This pilot offers midstream incentives for energy-efficient ultra-low-temperature (ULT) freezers, such as those used in bioscience and medical facilities.	In CY 2024, Focus on Energy recruited manufacturers and distributors to participate in the pilot. Ten manufacturer/distributor partners were enrolled, and 73 projects were completed (ULT freezer, lab grade freezer, lab grade refrigerator). To date, incentives have been provided for over 153 units.
Department of Administration Solar/Heat Pump Pilot	The goal of the pilot is to work with weatherization agencies to cover half of solar PV and heat pump costs in small multifamily buildings with existing electric resistance heat. To qualify, a building has to have between four and 12 units and incorporate both solar PV and heat pump space heating. Buildings also have to meet income-qualification requirements and must have been previously weatherized or included weatherization in the project scope.	In CY 2024, Focus on Energy completed two solar PV projects through this pilot.
Manufactured Homes	Focus on Energy launched the Manufactured Homes Pilot in CY 2024 under the Residential New Construction Program. The pilot provided incentives to manufactured home retailers and manufactured home communities for sales of ENERGY STAR or Department of Energy Zero Energy Ready certified manufactured homes.	In CY 2024, Focus on Energy recruited two retailers and three communities to participate in this pilot. The pilot incentivized 66 manufactured homes in CY 2024.

Pilot	Description	CY 2024 Pilot Activity
Integrated Network Lighting Controls	The goal of this pilot is to research deeper energy savings potential from networked lighting controls.	Two projects were fully integrated in CY 2024. Post-integration data monitoring and analysis will be conducted by Slipstream in CY 2025.
Affordable Housing New Construction	This pilot works with trade allies, housing authorities, and developers to accelerate the affordable housing sector's ability to achieve high-performance standards, such as DOE's Zero Energy Ready Homes Certification or Phius+ certification.	The pilot was closed in CY 2024 due to developers' reluctance to participate. A summary report was created and posted to the pilot's page on the Focus on Energy website.
Home Energy Upgrade Pilot	This community-focused pilot provides whole-home retrofits at no cost to single- and multi-family customers. The pilot targets residential customers in selected communities facing a high energy burden and offers comprehensive energy efficiency and safety upgrades. The pilot will build partnerships with advocates, CBOs, and local contractors to serve qualified customers.	The pilot launched Phase I in Q3 of 2024. At the end of CY 2024, 10 assessments were conducted, but no projects were completed.
Empowering Faith Communities for Energy Efficiency	This pilot program aims to expand Focus's customer base by partnering with places of worship. The initiative involves conducting energy assessments at 20 places of worship and recommending energy efficiency upgrades using Focus measures. During this process, the implementation team will host workshops for congregations to educate them about energy efficiency improvements.	The pilot launched in Q4 of 2024, and outreach had not begun by the end of the year. The pilot will complete all projects between 2025 and 2026.
Affordable Housing Solar PV	Through this pilot, Focus on Energy collaborated with affordable housing developers and builders to install solar PV on income-qualified new construction homes.	The pilot concluded at the end of 2024, with all projects required to be completed and interconnected by December 15, 2024.

16.1. Community Impact Pilot

The Focus on Energy Community Impact Pilot works with CBOs to support community-based small businesses in deploying energy-efficient measures to reduce their energy usage, furthering their ability to continue being a valuable member of the community. The pilot seeks to demonstrate the benefits and positive impact partnerships between Focus on Energy and key community stakeholders, including CBOs and utilities, have on supporting small businesses. The pilot targets three to five geographically diverse communities per year. Qualifying businesses are eligible to receive up to $30,000 in financial incentives but cannot exceed 100% of the total project cost.

Eligible communities must meet the following criteria:

- The community receives electricity and natural gas from participating utilities.
- Strong presence of small businesses within the community limits.

- There is an established network or accessibility to trade allies within 25 miles of the community.
- There is a presence of CBOs.

Eligible customers must meet the following criteria:

- Have a strong local presence and close ties to the community.
- Have a business size of five to 100 employees on site and not be a home-based business.
- Have applicable energy efficiency upgrade opportunities and limited historical participation in Focus on Energy.
- Be financially willing and able to support upgrade costs.
- Can legally consent to energy efficiency upgrades.

Impact Evaluation

This section presents the evaluation team's CY 2024 impact evaluation methodology and results for the Community Impact Pilot. The evaluation team separated pilot projects and associated savings from other nonresidential programs. Therefore, pilot savings presented in this chapter are in addition to the savings reported in the nonresidential program chapters. Because CY 2024 was the first year the evaluation team reported savings for the Community Impact Pilot, this chapter presents *ex ante* and verified savings for both CY 2023 and CY 2024.

Table 114 summarizes the performance and savings impacts of the Community Impact Pilot in CY 2023 and CY 2024.

Table 156. CY 2023-2024 Community Impact Pilot Summary

Item	Units	CY 2023-CY 2024
Incentive Spending	$	$1,180,331
Participation	Number of Participants	51
	Total Measures	137
Verified Gross Lifecycle Savings	kWh	11,297,341
	kW	133
	therms	550,525
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	100%
Net Annual Savings	kWh	797,562
	kW	133
	therms	36,551
Net Lifecycle Savings	MMBtu	93,599
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	0.97

Impact Evaluation Methodology

The evaluation team designed its CY 2024 impact evaluation, measurement, and verification approach to integrate multiple perspectives in assessing the pilot. The team used the following approaches to measure the impact of the Community Impact Pilot:

- Tracking database review
- Engineering desk reviews
- Verification interviews
- Engineering savings calculations

Table 87 lists the specific sample sizes the team used for the impact evaluation of the Community Impact Pilot. Additional details about these activities are discussed below.

Table 157. CY 2023-2024 Community Impact Pilot Evaluation Activities and Sample Sizes

Total Measures	Impact Evaluation Sample		
	Desk Reviewed Measures	Virtually Verified Measures	% Sampled (by *Ex Ante* MMBtu savings)
137	12	2	34%

Tracking Database Review

The evaluation team reviewed the census of records in Focus on Energy's database, SPECTRUM. This involved thoroughly reviewing the data to ensure SPECTRUM totals matched the administrator's reported totals and to check that complete and consistent information was applied across data fields (e.g., measure names, first-year savings applications, EUL).

Evaluation Sampling

The evaluation team sampled 12 measures by random sampling. However, due to the small size of individual measures and the prescriptive nature of the program, the team did not select census measures. The 12 measures represent 34% of the total pilot population by lifecycle *ex ante* MMBtu.

Engineering Desk Review and Interview

The evaluation team conducted engineering desk reviews of 12 Community Impact projects. Several of these reviews also involved an interview or email exchange with the site contact to verify key parameters, collect additional site photos, discuss operating schedules, and obtain additional trend data. The team reviewed all available project documentation in SPECTRUM and assessed the savings calculations and methodology applied by the implementer. The team also collected savings calculations directly from the implementer.

Verified Gross Savings Results

Table 115 lists the first year and lifecycle realization rates for the Community Impact Pilot in CY 2024. Overall, the program achieved first-year and lifecycle evaluated realization rates of 100%, weighted by total energy savings (MMBtu). The evaluation team found several small deviations in the sampled measures, with all maintained within ±5% of a 100% realization rate. The following describes the main factors affecting realization rates:

- The evaluation team adjusted the savings calculation inputs on four measures to align with the specification information provided for the installed measure. Adjustments included specified hours of use, equipment efficiency ratings, equipment sizing, and equipment wattages. The lifecycle MMBtu realization rates for these four measures ranged from 98% to 105%.
- The evaluation team adjusted the space type utilized for one measure to best align with the project information provided, resulting in a lifecycle MMBtu realization rate of 99%.

Table 158. CY 2023-2024 Community Impact Pilot First-Year and Lifecycle Realization Rates

First-Year Realization Rate				Lifecycle Realization Rate		
kWh	kW	therms	MMBtu	kWh	therms	MMBtu
100%	100%	100%	100%	100%	100%	100%

Table 159 summarizes verified first-year and lifecycle savings for the Community Impact Pilot.

Table 159. CY 2023-2024 Community Impact Pilot First-Year and Lifecycle Verified Energy Savings Summary

Verified First-Year Savings				Verified Lifecycle Savings		
kWh	kW	therms	MMBtu[a]	kWh	therms	MMBtu[a]
797,562	133	36,551	6,376	11,297,341	550,525	93,599

[a] Verified kWh and therms savings may not sum to verified MMBtu values due to conversion/rounding associated with the measure-level application of realization rates.

Verified Net Savings

Due to the very targeted design of the pilot and high incentives, the evaluation team assumed a 100% NTG ratio for the Community Impact Pilot in CY 2023 and CY 2024.

Process Evaluation

Table 160 lists the data collection activities and sample sizes for the CY 2024 Community Impact Pilot process evaluation. Descriptions of the evaluation activities and related findings follow the table.

Table 160. CY 2024 Data Collection Activities and Sample Sizes – Process Evaluation

Activity	Sample Size
Staff Interviews	1
Participant Survey	13

Staff Interviews: The evaluation team interviewed program administrator staff to understand the pilot status in CY 2024. Interviews provided insight into how the pilot operated, eligible participants, and future plans for the pilot.

Participant Survey: The evaluation team conducted an online survey of participating community-based small businesses that installed energy-efficient measures in CY 2023 or CY 2024. The team contacted 38 participating organizations; 13 respondents completed the survey. The respondents included a variety of organizations, ranging from community-based and family-owned small businesses to nonprofits that support targeted demographics within the community.

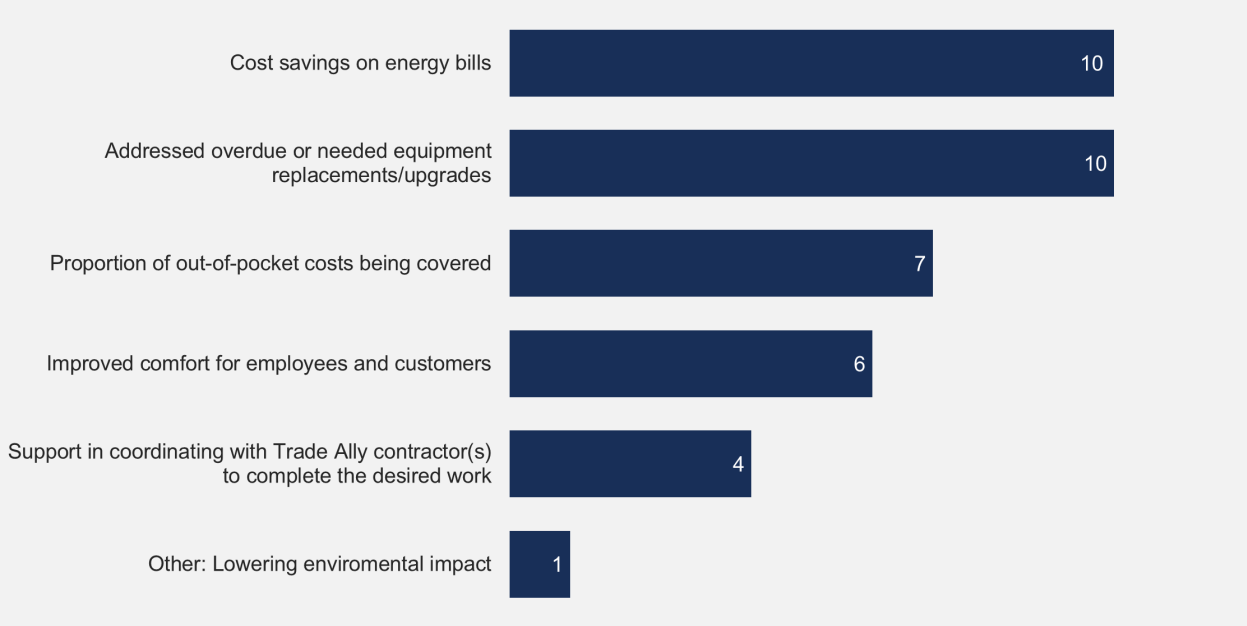
Survey responses provided insight into the primary motivations driving participants, assessed how the pilot's incentives and other influencing factors impact decision-making, and evaluated their overall experience and satisfaction with the pilot. Additionally, the survey aimed to identify key challenges and define the benefits participants have experienced because of the energy efficiency upgrades.

Participant Motivations

To gain a deeper understanding of the factors driving participation among community-based small businesses, the survey explored what influenced respondents' decisions to complete their upgrades. The results revealed that the primary motivators were cost savings on energy bills and the need for overdue equipment replacements or upgrades, with 10 out of 13 respondents citing these factors (Figure 169). Additionally, the proportion of out-of-pocket costs covered by the program and the potential for

improved comfort for employees and customers were also significant motivators, with seven and six respondents, respectively, identifying these as key drivers. One respondent further highlighted the importance of reducing their environmental impact as an additional motivator for participating.

Figure 169. Community Impact Pilot Motivations for Participation



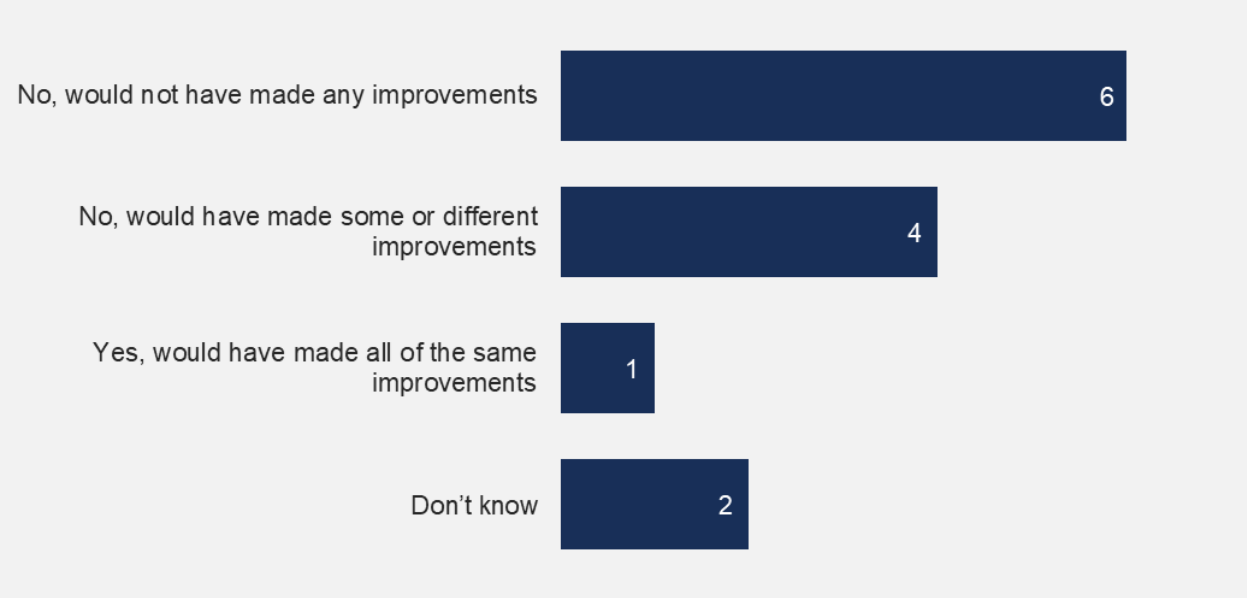
Source: Community Impact Pilot Survey Question: "What motivated you to participate in the pilot?" (n=13, multiple responses allowed)

Pilot Influence

In examining the influence of the Focus on Energy incentive on decision-making, the survey asked respondents whether they would have pursued energy efficiency improvements without it. Six respondents would not have made any improvements without the incentive, four would have made some or different improvements, and one would have pursued all the same improvements regardless of the incentive (Figure 170 on the following page). Those who stated they would have made some or different improvements were asked to specify what energy efficiency upgrades they would have considered instead. Three respondents provided the following feedback:

- "I would have replaced HVAC only as it failed and continued with ongoing repairs."
- "I would have upgraded walk-in coolers and freezers."
- "I would have focused on necessary equipment repairs."

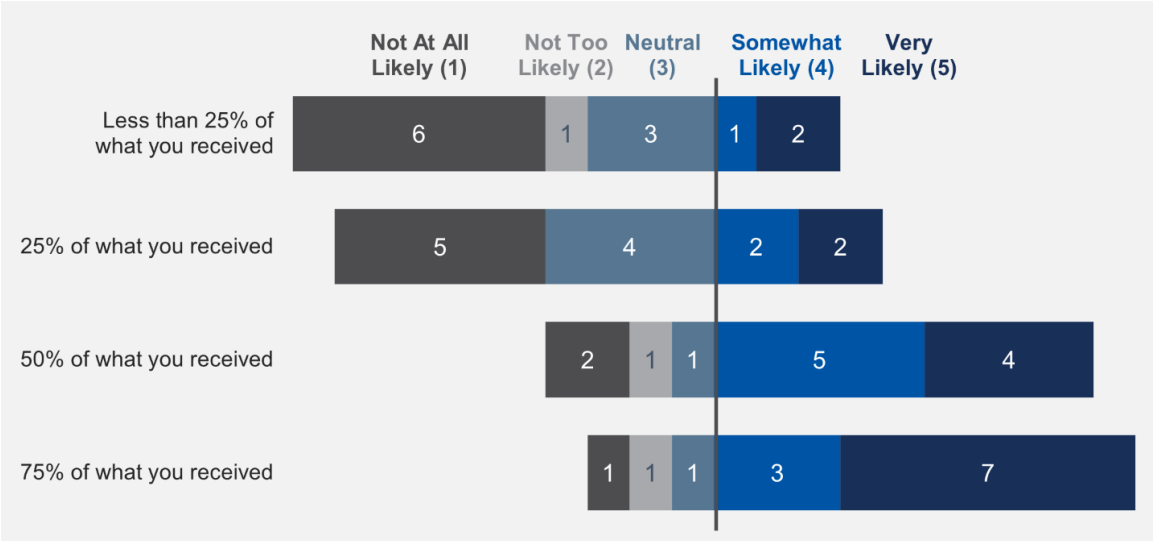
Figure 170. Community Impact Pilot Incentive Influence



Source: Community Impact Pilot Survey Question: "Would your business have made the same energy efficiency upgrades without the Focus on Energy incentive?" (n=13)

When asked how likely they were to participate in a similar program at different incentive levels, seven respondents said they were *very likely* to participate at 75% of what they received, and five said they were *somewhat likely* at 50% of what they received (Figure 171). Only two of the 13 respondents reported that they were *very likely* to install upgrades at less than 25% of the incentive received.

Figure 171. Likelihood of Community Impact Pilot Participation by Incentive Level



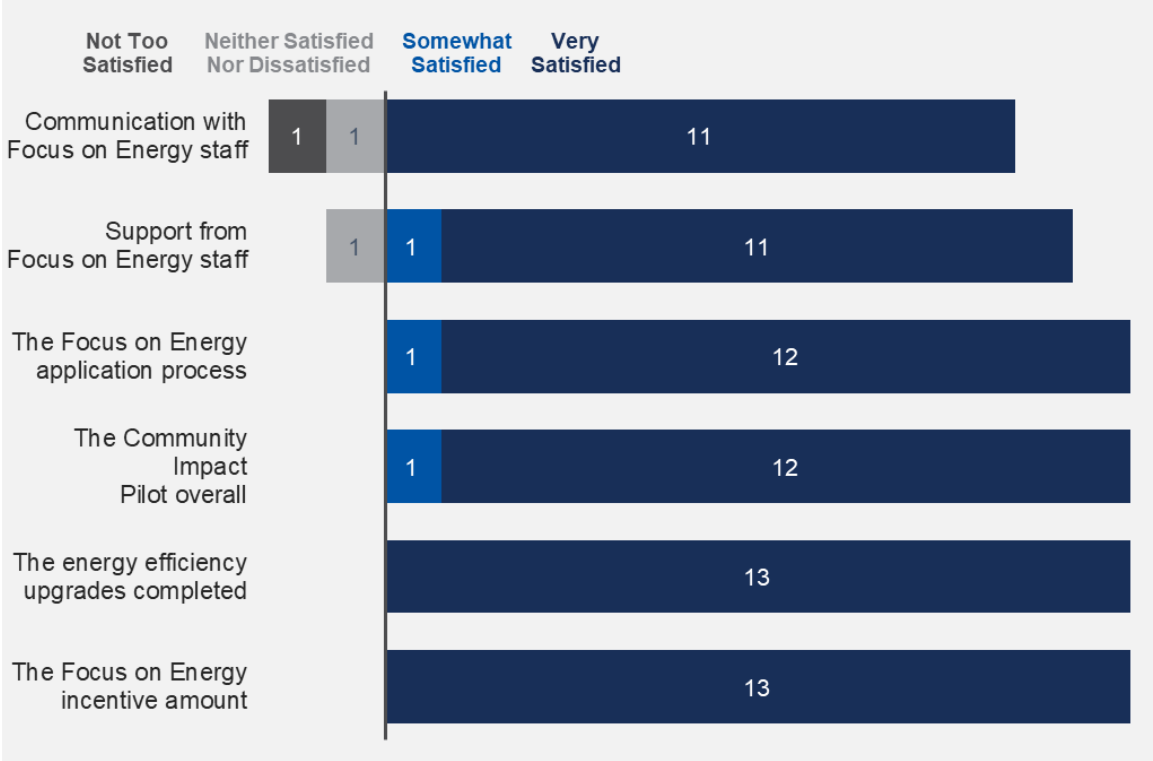
Source: Community Impact Pilot Survey Question: "On a scale from 1 to 5, where 1 indicates *not at all likely* and 5 indicates *very likely*, how likely would you have been to participate in a similar program had your incentive been [INSERT]?" (n=13)

Three respondents reported receiving additional incentives for energy efficiency upgrades from sources other than Focus on Energy, namely from their utility provider. When asked if they had learned about any Focus on Energy offerings that they were not already aware of through their participation in the pilot, five respondents reported learning about HVAC, furnace, and boiler upgrades or improvements, and two said they learned about Focus on Energy programs in general.

Participant Experience

To assess participant satisfaction with the pilot, the survey asked respondents to rate their satisfaction with various high-level elements on a scale of 1 to 5, where 1 indicated *not at all satisfied* and 5 indicated *very satisfied* (Figure 172). The results showed that respondents were largely *very satisfied* with the pilot overall, with 12 out of 13 selecting *very satisfied* and one selecting *somewhat satisfied*. All 13 respondents said they were *very satisfied* with the energy efficiency upgrades completed and the incentive amount, making these the most highly rated aspects of the program. This was followed closely by the application process, with 12 respondents *very satisfied*. Only one respondent reported being *not too satisfied* with communication with Focus on Energy staff.

Figure 172. Community Impact Pilot Respondent Satisfaction



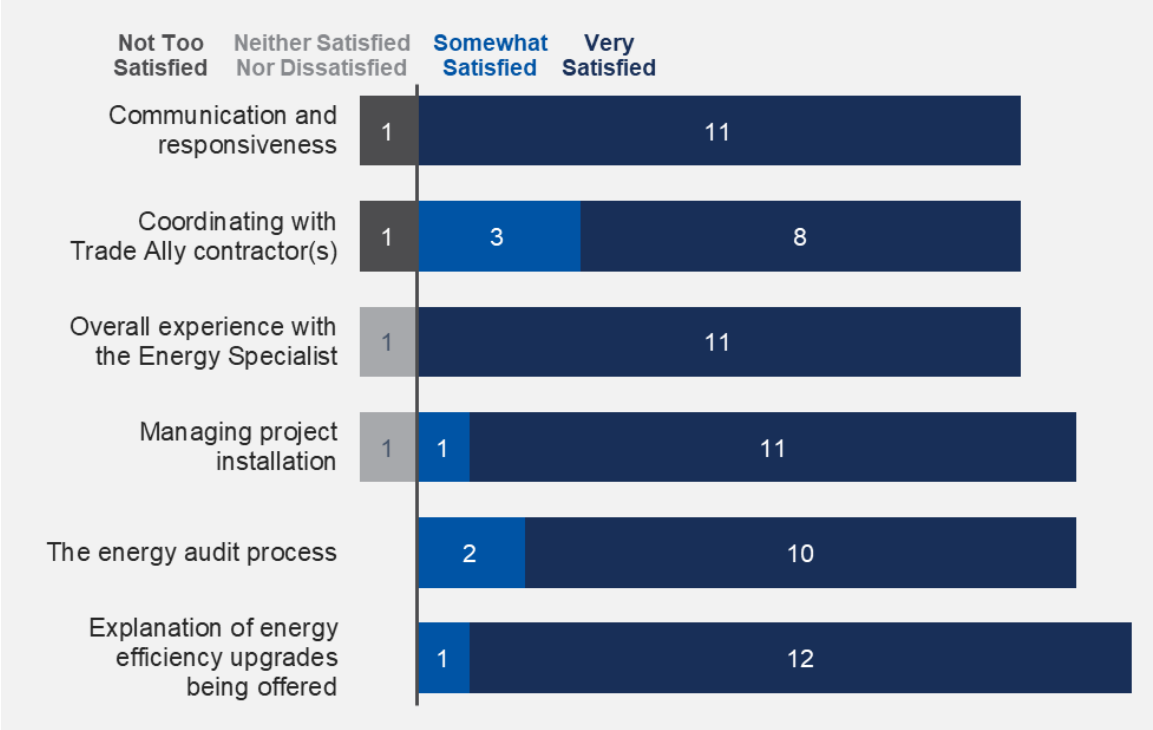
Source: Community Impact Pilot Survey Question: "How would you rate your satisfaction with each of the following elements of the Community Impact Pilot?" (n=13)

The survey asked respondents who were less than *very satisfied* with any pilot element to provide the reason for their rating. The respondent who reported being *not too satisfied* with communication with Focus on Energy staff reported unclear communication and inconsistent staff interactions, including a lack of response to emails. Additionally, according to this respondent, the process of handling incentives

was not well explained, requiring extra effort to clarify and ensure proper documentation. The respondent who reported being *neither satisfied nor dissatisfied* with communication with Focus on Energy staff participated early in the pilot and said they "had to follow up with the team several times after long periods of not hearing anything about the project."

To further evaluate participant experience with the pilot, the survey asked respondents to rate their satisfaction with elements of the pilot performed by the energy specialist, using the same 1 to 5 scale (Figure 173). The results were, again, overwhelmingly positive, with 11 out of 12 respondents reporting high satisfaction with their overall experience with the energy specialist. Additionally, 12 out of 13 respondents were *very satisfied* with the explanation of energy efficiency upgrades offered, 11 out of 12 were *very satisfied* with communication and responsiveness and the management of project installation, and 10 out of 13 were *very satisfied* with the energy audit process. Conversely, one respondent was *not too satisfied* with communication and responsiveness, as well as coordination with the trade ally contractors, which was the lowest-rated element.

Figure 173. Community Impact Pilot Participant Satisfaction with Energy Specialist

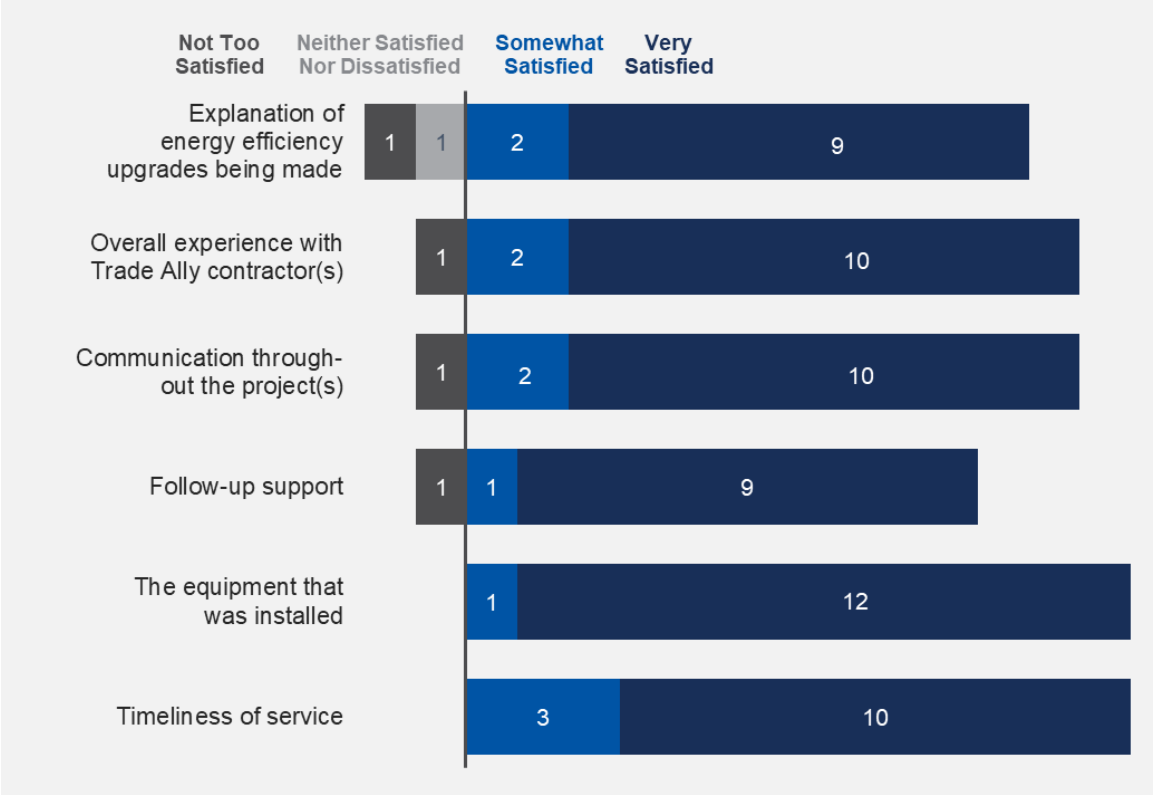


Source: Community Impact Pilot Survey Question: "How would you rate your satisfaction with each of the following elements performed by the Energy Specialist?" (n=12-13)

The survey asked respondents who were less than very satisfied with any energy specialist element to provide the reason for their rating. One respondent provided specific feedback for their rating of *somewhat satisfied* with the energy specialist's coordination with their trade ally contractor, noting that their lack of satisfaction was with their lighting ally contractor specifically, not the energy specialist.

Lastly, the survey asked respondents to rate their satisfaction with elements of the pilot performed by trade ally contractors, using the same 1 to 5 scale (Figure 174). Ten out of 13 respondents expressed high satisfaction with their overall experience with trade ally contractors. Additionally, 12 out of 13 respondents said they were *very satisfied* with the equipment installed, and 10 out of 13 were *very satisfied* with communication throughout the project(s) and timeliness of service. Yet, one respondent was *not at all satisfied* with the explanation of energy efficiency upgrades being made, and *not too satisfied* with their overall experience with the trade ally contractor, communication throughout the project, or follow-up support. The explanation of energy-efficiency upgrades being made by the trade ally contractor was the lowest-rated category.

Figure 174. Community Impact Pilot Participant Satisfaction with Trade Ally Contractor(s)



Source: Community Impact Pilot Survey Question: "How would you rate your satisfaction with each of the following elements performed by the Trade Ally Contractor(s)?" (n=11-13)

The survey asked respondents who were less than *very satisfied* with any pilot element to provide the reason for their rating. The respondent who was *not at all satisfied* with the explanation of energy efficiency upgrades being made, and *not too satisfied* with their overall experience with the trade ally contractor, communication throughout the project, or follow-up support, had a poor experience with

their trade ally contractor. This respondent cited a series of mistakes and poor communication, including failure to meet building code requirements, neglecting to install promised equipment like the economizer and filters, and delays in addressing these issues. This respondent is the only one out of 12 who said they would not work with the same trade ally contractor again.

Challenges and Delays

Some respondents shared that their pilot experience included challenges and delays. Specifically, three out of 13 respondents identified challenges they faced, providing the following details:

- "Challenges with the contractor."
- "Focus on Energy team communication."
- "The whole process took a really long time, like a year."

In addition, four out of 13 respondents reported experiencing delays, providing the following details:

- "Just with the contractor not ordering or doing what they said they would do."
- "The amount of the project was much bigger than we all expected, and I had a little difficulty making big decisions. That said, the delay was well worth it."
- "Poor communications [from Focus on Energy team]."
- "Some difficulties in getting bids on the projects. Then the refrigeration provider really underbid labor on one of the projects, so they took a long time to get it done, but they stood by their bid."

Pilot Benefits

Participant surveys collected feedback on pilot benefits that the evaluation team broke into two types of benefits: energy savings and beyond energy savings. The following sections summarize those reported benefits.

Energy Savings

The evaluation aimed to assess the benefits of the pilot's energy efficiency upgrades in terms of impact on electric and gas bills.

The survey asked respondents if they had noticed changes to their electric energy bills since making energy efficiency upgrades through the Community Impact Pilot (Figure 175). Four respondents did not know, three noticed no changes, three noticed a moderate decrease, and one reported a significant decrease. Of the four respondents who noticed a decrease, two observed the impact immediately, and two observed it within three months. When asked about the percentage change in electric energy bills, two respondents did not know, while two others reported a decrease between 20% and 30%.

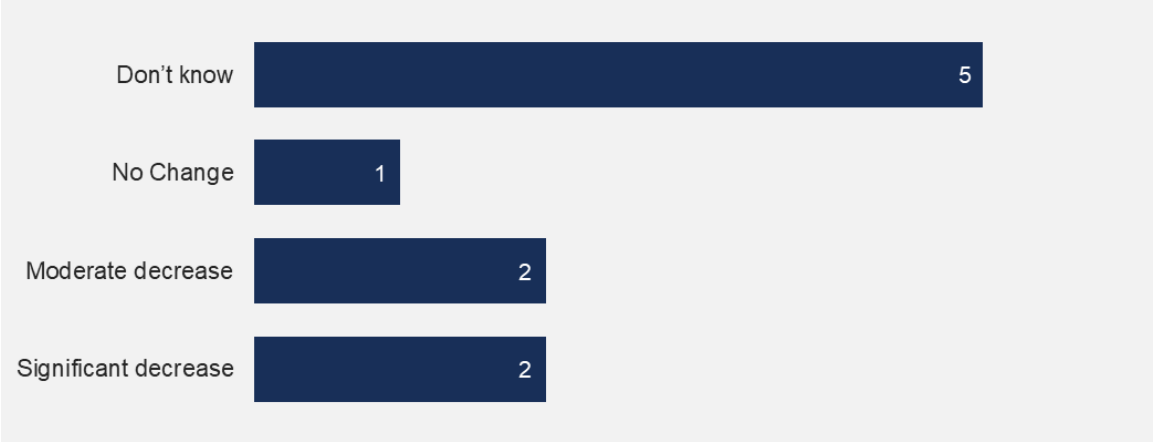
Figure 175. Respondent Observed Changes to Electric Bills



Source: Community Impact Pilot Survey Question: "Have you noticed changes to your electric energy bills since making the energy efficiency upgrades through the Community Impact Pilot?" (n=11)

The survey asked respondents if they had noticed changes to their gas energy bills since making energy efficiency upgrades through the Community Impact Pilot (Figure 176). Five respondents did not know, one said no changes, two said a moderate decrease, and two reported a significant decrease. Of the four respondents who noticed a decrease, two reported observing the impact immediately, three reported within three months, and one said within six months. When asked about the percentage change in gas energy bills, two reported a decrease between 10% and 20%, one reported between 20% and 30% decrease, and the remaining respondent did not know.

Figure 176. Respondent Observed Changes to Gas Bills

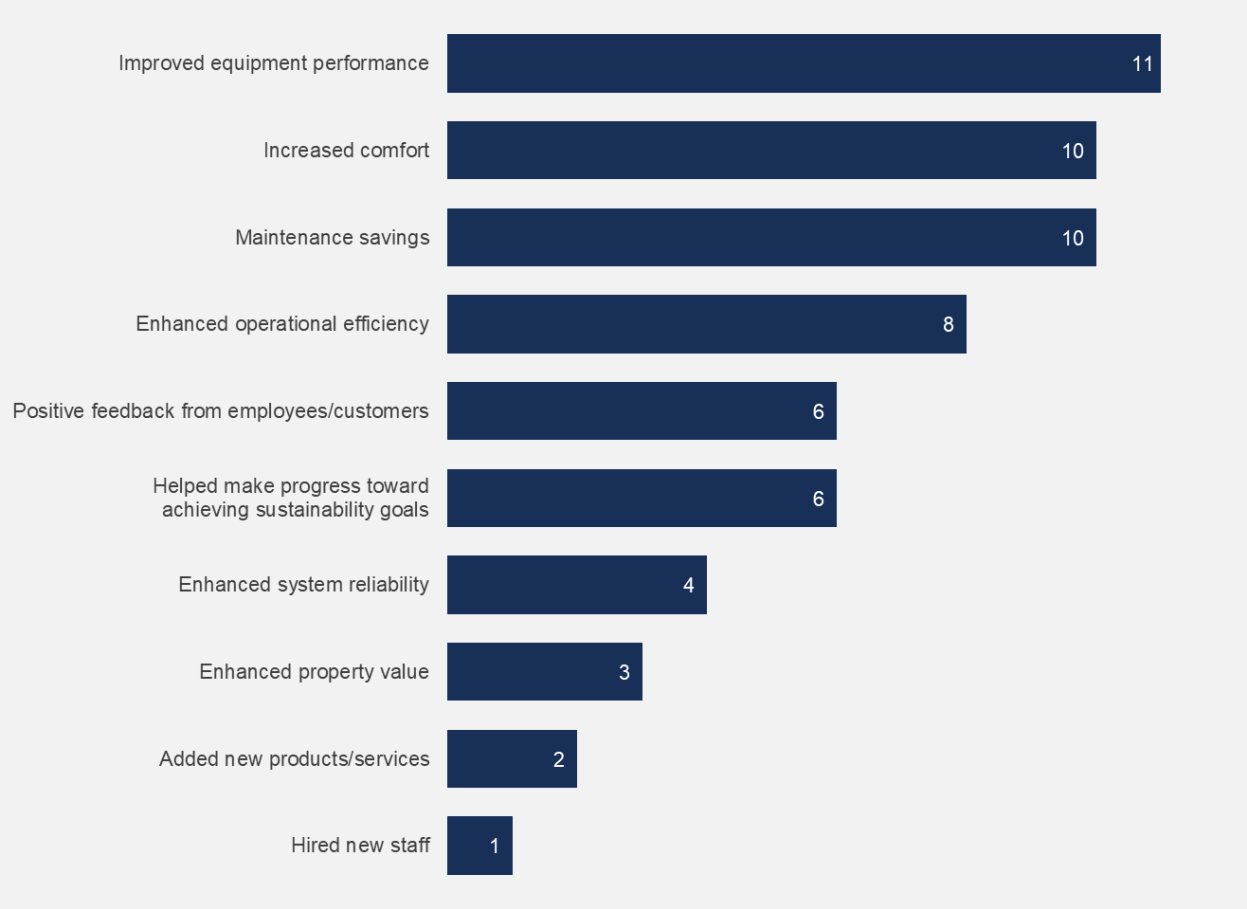


Source: Community Impact Pilot Survey Question: "Have you noticed changes to your gas energy bills since making the energy efficiency upgrades through the Community Impact Pilot?" (n=10)

Beyond Energy Savings

The Community Impact Pilot is designed to reduce energy usage and support small businesses in strengthening their role within their community. To assess the broader impacts of the pilot, the survey asked participants about the effects of the upgrades on their business beyond potential energy savings (Figure 177). Eleven out of 13 respondents reported improved equipment performance, 10 out of 13 reported increased comfort and maintenance savings, and eight reported enhanced operational efficiency.

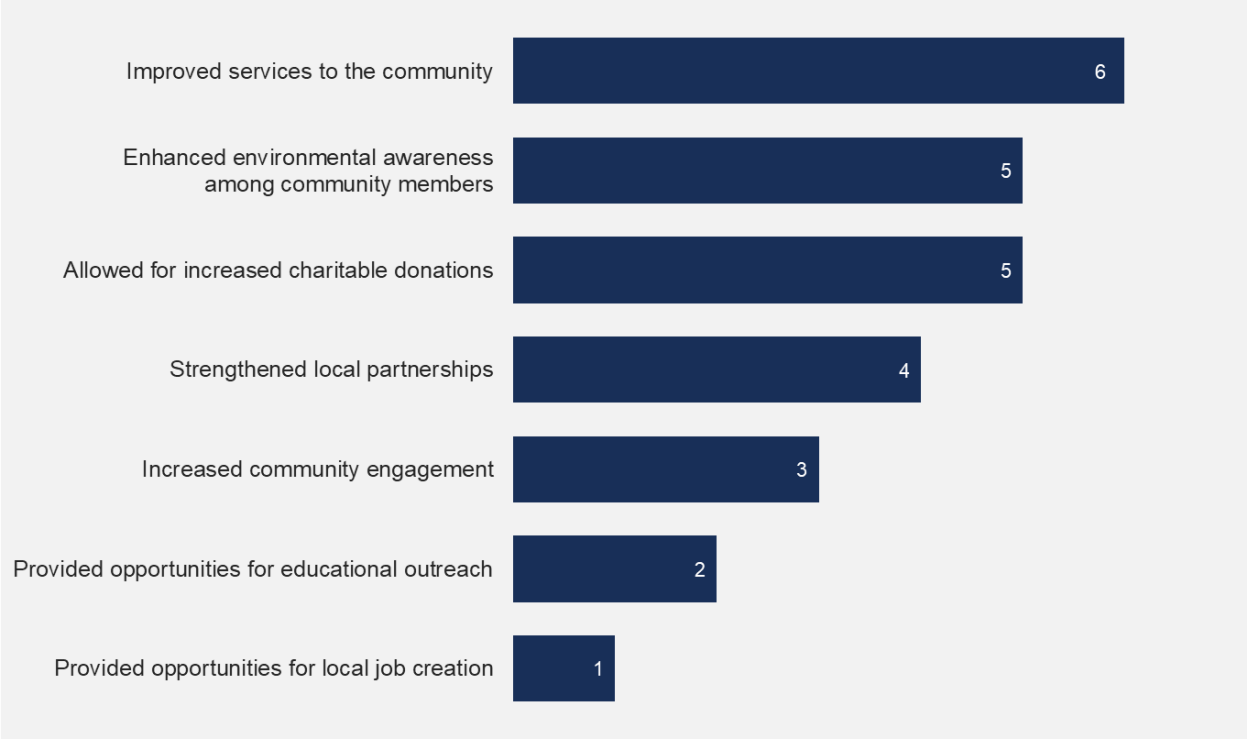
Figure 177. Community Impact Pilot Beyond Energy Savings



Source: Community Impact Pilot Survey Question: "Beyond energy savings, what impact have these upgrades had on your business?" (n=13, multiple responses allowed)

With the pilot's objectives of supporting small businesses and their role in the community in mind, the survey asked respondents how the pilot has enabled them to contribute more effectively (Figure 178). Six out of 13 respondents reported improved services to their community, five selected enhancing environmental awareness among community members and increasing charitable donations, and four reported strengthening local partnerships.

Figure 178. Community Impact Pilot Contributions to Respondent Community



Source: Community Impact Pilot Survey Question: "In what ways, if at all, has the assistance from Focus on Energy allowed you to further support or contribute to your community?" (n=13, multiple responses allowed)

The survey further probed why participants' selected choice was important to them. This allowed for a more in-depth exploration of their motivations and unique perspectives. Four respondents provided the following insights:

Improved Services to the Community

"The members with diverse abilities who we serve are more comfortable in the environment."

"The more we can save on energy, the greater funds we have to devote to direct services to our client families."

Allowed for Increased Charitable Donations

"Community is what keeps us going. I believe in giving back."

"The assistance from Focus on Energy has allowed us to save money and reallocate some of those funds into the community through support of various programs."

In closing, the survey asked participants how the pilot has contributed to their business's ability to pursue its core mission and goals. Eight respondents provided the following comments:

Impact of the Pilot on Business Mission and Goals: Participant Feedback

> *"Helping me save money, making my business stronger, and helping me in a time of need. [My community] will benefit in many ways."*

> *"We were able to take the money we were saving for those projects and use that towards other needed projects. So, we were able to cross things off our to-do list sooner because of this."*

> *"All savings to our program help us to use greater funds to help the public. Better lighting also helps employees in their work."*

> *"The positive effect on our organization is beyond measurable. The amount of stress that has been taken from our organization is notable. The amount of improved comfort of our work and customer environment is AMAZING. Our organization has been able to put financial resources into other areas of the organization and have hired new staff. We may not have been able to do that with the priority need of needing new windows. The ability to preserve a historic home in our community is appreciated well beyond our team. It is absolutely amazing! We are proud to live and work here. The Community Impact Program helped us, and the families we serve, in such an immense way."*

> *"This pilot project has funded an important energy-saving upgrade component of our recent facility renovation. The pilot funding made that attainable."*

> *"Lessening environmental impact in very important to our organization. This pilot helped us meet some of these goals by providing expertise and financial resources that we would not have been able to do on our own. I hope this project becomes more than a pilot so other businesses can get assistance as well."*

> *"We strongly feel that a business has a responsibility to support the community that allows it to exist and operate. The assistance from Focus on Energy has allowed us to save money and reallocate some of those funds into the community through support of various programs."*

Outcomes and Recommendations

The evaluation team offers the following outcomes and recommendations for the Community Impact Pilot based on the CY 2024 evaluation.

Outcome 1. The pilot's financial support was crucial in overcoming the cost barrier and allowing participants to implement energy-saving improvements they otherwise might not have considered. A significant majority of respondents indicated that they would not have made many, if any, improvements without the incentive. Although the evaluation team did not calculate freeridership or spillover in CY 2024, these responses suggest that the pilot would have a high net-to-gross ratio.

Outcome 2. The pilot has helped raise awareness of additional Focus on Energy opportunities. Five survey respondents reported learning about other Focus on Energy incentives through participation in the pilot, including HVAC, furnace, and boiler upgrades.

Outcome 3. Respondents were overwhelmingly satisfied with all aspects of the pilot; however, staff communication remains a critical determinant of program satisfaction. The only area where all respondents did not report being satisfied with the pilot were communication with Focus staff and support from Focus staff. It is worth noting that the two respondents who were dissatisfied with staff communication participated early in the pilot.

Recommendation 3. To improve communication between Focus on Energy and participants, employ regular communication training and clear guidelines for consistent and transparent interactions. In addition, create multiple feedback opportunities for participants to report communication issues earlier and test these feedback channels to support continuous improvements in communication.

Outcome 4. Although the majority of respondents reported being satisfied with their trade ally contractor, two respondents expressed dissatisfaction with their trade ally experience. Reasons for dissatisfaction included poor explanation of energy efficiency upgrades and a lack of communication and follow-up support.

Recommendation 4. Re-evaluate and strengthen the trade ally network by providing additional training and a streamlined process for addressing concerns. Use the multiple feedback channels mentioned in Recommendation 3 to help identify trade ally issues early.

Outcome 5. Energy savings from the pilot enabled broader NEBs for participants. All 13 survey respondents reported that the pilot has allowed them to contribute more effectively to their community in some way. Enhanced contributions included benefits such as freeing up funds to improve services, making or increasing charitable donations to the community, and strengthening local partnerships.

16.2. Life Sciences Midstream Pilot

The Life Sciences Midstream Pilot incentivizes the purchase of energy-efficient ULT freezers and lab-grade refrigerators by providing incentives directly to distributors to influence purchasing decisions at the point of sale. Standard larger capacity ULT freezer models consume nearly as much energy as the average U.S. household, whereas an ENERGY STAR unit can cut this usage by more than half. Wisconsin fosters a dynamic biosciences growth market with 350+ biotech and pharma businesses, 150+ hospitals and medical centers, and more than seven universities/colleges engaged in life sciences research, making it an ideal market for this technology. The pilot is targeting the sale of 500 units.[39]

Impact Evaluation

This section presents the evaluation team's CY 2024 impact evaluation methodology and results for the Life Sciences Midstream Pilot. The evaluation team separated pilot projects and associated savings from other nonresidential programs. Therefore, pilot savings presented in this chapter are in addition to the savings reported in the nonresidential program chapters. Because CY 2024 was the first year the

[39] Focus on Energy. "Life Sciences Midstream Pilot." https://focusonenergy.com/about/future-focus/life-sciences-midstream-pilot

evaluation team reported savings for the Life Sciences Midstream Pilot, this chapter presents *ex ante* and verified savings for both CY 2023 and CY 2024.

Table 161 summarizes the performance and savings impacts of the Life Sciences Midstream Pilot in CY 2023 and CY 2024.

Table 161. CY 2023-2024 Life Sciences Midstream Pilot Summary

Item	Units	CY 2023-CY 2024
Incentive Spending	$	$151,900
Participation	Number of Participants	25
	Total Measures	226
Verified Gross Lifecycle Savings	kWh	12,596,098
	kW	121
	therms	0
Verified Gross Lifecycle Realization Rate	% (MMBtu)	100%
Annual NTG Ratio	% (MMBtu)	100%
Net Annual Savings	kWh	1,049,673
	kW	121
	therms	0
Net Lifecycle Savings	MMBtu	42,978
Cost-Effectiveness	TRC Test: Benefit/Cost Ratio	0.97

Impact Evaluation Methodology

The evaluation team designed its CY 2024 impact evaluation, measurement, and verification approach to integrate multiple perspectives in assessing the pilot. The team used the following approaches to measure the impact of the Life Sciences Midstream Pilot:

- Tracking database review
- Engineering desk reviews
- Verification interviews
- Engineering savings calculations

Table 162 lists the specific sample sizes the team used for the impact evaluation of the Life Sciences Midstream Pilot. Additional details about these activities are discussed below.

Table 162. CY 2023-2024 Life Sciences Midstream Pilot Evaluation Activities and Sample Sizes

Total Measures	Impact Evaluation Sample		
	Desk Reviewed Measures	Virtually Verified Measures	% Sampled (by *Ex Ante* MMBtu savings)
226	10	2	12%

Tracking Database Review

The evaluation team reviewed the census of records in Focus on Energy's database, SPECTRUM. This involved thoroughly reviewing the data to ensure SPECTRUM totals matched the administrator's reported totals and to check that data energy was complete and consistent across data fields (e.g., measure names, first-year savings applications, EUL).

Evaluation Sampling

The evaluation team sampled 10 measures using random sampling. Due to the small size of individual measures and the prescriptive nature of the program, the team did not select measures using a census approach. The 10 measures represent 12% of the total pilot population by *ex ante* lifecycle MMBtu.

Engineering Desk Review and Interview

The evaluation team conducted engineering desk reviews of 10 Life Sciences Midstream Pilot projects. Several of these reviews also involved an interview or email exchange with the site contact to verify key parameters, collect additional site photos, discuss operating schedules, and obtain additional trend data. The team reviewed all available project documentation and assessed the savings calculations and methodology applied by the implementer. The team also collected savings calculations directly from the implementer.

Verified Gross Savings Results

Table 163 lists the first year and lifecycle realization rates for CY 2024. The evaluation team found that all sampled project realization rates were 100%; therefore, the pilot achieved overall first-year and lifecycle realization rates of 100% for all savings types.

Table 163. CY 2024 Life Sciences Midstream First-Year and Lifecycle Realization Rates

First-Year Realization Rate				Lifecycle Realization Rate		
kWh	kW	therms	MMBtu	kWh	therms	MMBtu
100%	100%	N/A	100%	100%	N/A	100%

Table 164 summarizes verified first-year and lifecycle savings for the Life Sciences Midstream Pilot.

Table 164. CY 2023-2024 Life Sciences Midstream First-Year and Lifecycle Verified Energy Savings

Verified First-Year Savings				Verified Lifecycle Savings		
kWh	kW	therms	MMBtu[a]	kWh	therms	MMBtu[a]
1,049,673	121	0	3,581	12,596,098	0	42,978

[a] Verified kWh and therms savings may not sum to verified MMBtu values due to conversion/rounding associated with the measure-level application of realization rates.

Verified Net Savings

Due to the very targeted design of the pilot and high incentives, the evaluation team assumed a 100% NTG ratio for the Life Sciences Midstream Pilot in CY 2024.

Process Evaluation

Table 165 lists the data collection activities and sample sizes for the Life Sciences Midstream Pilot process evaluation. Descriptions of the evaluation activities and related findings follow the table.

Table 165. CY 2024 Data Collection Activities and Sample Sizes – Process Evaluation

Activity	Sample Size
Staff Interviews	1
Participant Interviews	8

Staff Interviews: The evaluation team interviewed program administrator staff to understand the pilot status in CY 2024. Interviews provided insight into how the pilot operated, eligible participants, and future plans for the pilot.

Participant Interviews: The evaluation team conducted interviews with participating manufacturers and distributors that had processed a minimum of one claim for the energy-efficient ULT freezer incentive. The team contacted eight participating organizations, and five completed the interview. The interviewees represented a mix of manufacturers who sell directly or work closely with their distributor representatives and distributors.

Interview responses provided insights on participant experience and satisfaction with the pilot, evaluated the impact of the pilot on sales of energy-efficient ULT freezers, and identified potential annual or longer-term cycles within the market. Additionally, the interviews aimed to explore barriers to participation in rural areas, as well as uncover any additional energy-saving measures offered by participating manufacturers and distributors that could present further opportunities.

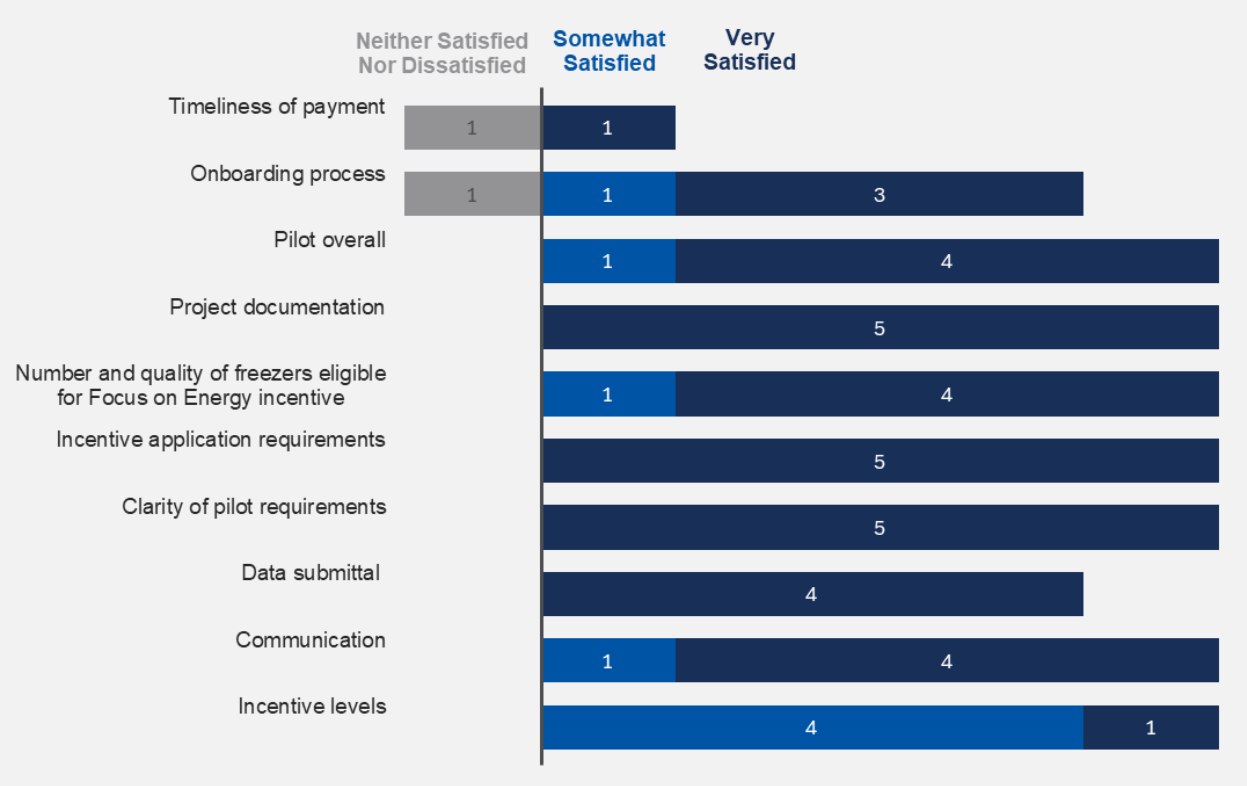
Participant Experience

The evaluation team asked manufacturers and distributors about the level of effort it took to participate in the pilot. Three of the five respondents said it took minimal effort to participate, and two out of five said it took moderate effort to participate. Overall, the consensus was that it was easy to participate but that it required some effort.

The evaluation team asked interviewees to rate their satisfaction with the Life Sciences Midstream Pilot overall on a 1 to 5 scale, with 1 indicating *not at all satisfied* and 5 indicating *very satisfied*. Four of five respondents reported they were *very satisfied*, while one was *somewhat satisfied*, stating that "it doesn't seem like a lot of the end users are aware of the incentive, and all the other competitors are marking down as well, so it levels the whole level playing field, so not much of a perk or selling point."

The evaluation team also asked interviewees to rate their satisfaction with various components of the pilot using the same 5-point scale (Figure 179). Interviewees expressed high satisfaction with project documentation, incentive application requirements, and clarity of pilot requirements. Four out of five interviewees were *very satisfied* with the pilot overall, communication, the data submittal process, and the number and quality of freezers eligible for the incentive. Four out of five reported they were *somewhat satisfied* with incentive levels, and one out of five were *neither satisfied nor dissatisfied* with the timeliness of payment.

Figure 179. Life Sciences Midstream Pilot Interviewee Satisfaction



Source: Life Sciences Midstream Pilot Question: "How would you rate your satisfaction with the following pilot components?" (n=5)

Those who responded that they were less than very satisfied provided more information:

- **Communication:** "Had an initial call with rep and had to follow up to get an updated list, and it was old. Communication is pretty cut and dry. Not stellar."
- **Timeliness of payment:** "It took about a month to get the check. When I sell units, I mark them down, and that hits on my numbers for the month, but the next month is when I get the check. It would be easier if it happened in the same month to reflect better on my numbers."
- **Incentive levels:** For the four interviewees who rated their satisfaction as somewhat satisfied with the incentive, the consensus was that the incentive level could always be better.
- **Onboarding process:** "It was a lot to learn in a short period of time; I had to go through training again to understand it better."
- **Number and quality of freezers eligible for incentive:** "Under-counters don't qualify, which was the lion's share of the order."

When asked about challenges with the program, four of five said they had no challenges. One manufacturer said their distributor representatives were worried at first that they would not make enough money and were hesitant about the additional processing. When asked how they addressed this challenge, they responded that they chose a couple of people as champions of the incentive to bring people in and put on representative trainings to better manage the additional processing.

Influence on Sales

Interviewees said the incentive is communicated to customers through various channels, including word of mouth, in-person conversations, phone calls, emails, and flyers. They also said that when a customer expresses interest in a product, they typically inform the customer directly about the incentive. However, interviewees indicated that marketing efforts, such as a targeted campaign, could further boost awareness among potential customers who have not yet contacted a manufacturer or distributor.

When asked to estimate the percentage of energy-efficient ULT freezers they have sold in the last 12 months that qualified or would have qualified for the incentive, the manufacturer and distributor estimates ranged from 35% to 100%. The majority of interviewees (four of five) estimated that 75% or more of their sales qualify for the pilot program. One interviewee stated that the market for these freezers has grown, contributing to more sales qualifying for the incentive. Another participant confirmed that the Focus on Energy incentive is driving customers to select higher-performing models, even if price sensitivity remains a factor for some buyers.

On a scale of 1 to 5, with 1 being *not influential* and 5 being *transformative*, four out of five interviewees reported the pilot as having a *transformative influence* in encouraging sales of more energy-efficient ULT freezers. The one interviewee who reported *strong influence* provided further context, saying that "after a year [there] should be sales metrics that show this."

Regarding changes in the share of sales of incentive-qualifying equipment, most interviewees observed positive trends, with some seeing an increase in sales as a result of the rebate. In contrast with the respondent who reported increased sales, one interviewee pointed out that the COVID-19 pandemic had a significant impact on the demand for cold storage, particularly for vaccine storage; however, demand has since tapered off. Another mentioned that external factors, such as delays in grant approvals and other post-COVID-19 impacts, have slowed down sales in recent months. Despite these setbacks, the general consensus was that the incentive is helping to drive the adoption of more energy-efficient models, especially as customers become more aware of the long-term savings associated with the rebates.

Interviewees said sales patterns for energy-efficient ULT freezers fluctuate based on factors, such as fiscal year cycles and the specific needs of different life science verticals (or customer sectors), including academia, medical research, and biotech. Some interviewees noted a spike in sales at the end of fiscal quarters or fiscal years, such as June and September, as institutions push to use their remaining budgets.

In terms of longer-term trends, interviewees said that the market for energy-efficient ULT freezers continues to grow, particularly as more industries, such as pharmacies, are investing in these units. Despite a slower return to pre-pandemic sales levels, interviewees had a sense that the shift toward more energy-efficient models would continue. They also saw the introduction of new, energy-efficient ULT freezers and a growing focus on energy-saving incentives as key factors that will influence future sales, with some anticipating a stronger emphasis on these models as the market recovers from pandemic-related disruptions.

Rural Participation

The evaluation team also sought insights from manufacturers and distributors on how to increase rural participation in the Life Sciences Midstream Pilot. Understanding the unique challenges faced by rural customers and identifying effective strategies for engagement were key focuses of this research. Interviewees were asked questions about the current market share of rural customers, logistical and geographic challenges, the effectiveness of existing communication strategies, and the sufficiency of financial incentives. Additionally, specific marketing efforts or changes to the equipment offerings were examined. Respondents shared the following insights for enhancing rural engagement in the pilot:

- **Rural Customer Sales Estimates:** Interviewees provided varying estimates for the percentage of ULT freezer sales to rural customers. The estimates ranged from 0% to 20%, with the majority indicating that rural customers make up a small portion of their total sales. Specifically, one interviewee estimated 0%, while others estimated 2%, 5%, and 20%.
- **Logistical and Geographic Challenges for Rural Customers:** One interviewee observed that rural customers, especially smaller facilities, often lack the funds to invest in high-cost equipment like ULT freezers. Others mentioned that rural areas may have unique needs, with fewer hospitals or facilities requiring ULT freezers. However, one interviewee thought rural customers might be more motivated to participate in the pilot, especially independent small hospitals, as they would see greater benefits from the incentives. Furthermore, one interviewee noted logistical barriers, such as limited outreach and the inability to visit rural areas regularly.
- **Effectiveness of Current Communication Strategies:** The effectiveness of current communication strategies in reaching rural customers varied among interviewees. One interviewee said that marketing efforts likely do not specifically target rural areas and rely instead on distributor partners to work on the ground. Another interviewee acknowledged the general effectiveness of communication strategies but noted that rural customers were not a primary focus. All interviewees said that their typical communication and outreach was effective, especially through distributors who should be in regular contact with customers.
- **Marketing Targeted at Rural Customers:** Across the responses, there was a consensus that marketing directed specifically at rural customers is limited. Interviewees could not recall any targeted marketing efforts for this group, and some pointed out that marketing was generally focused on healthcare industries rather than rural-specific concerns.
- **Sufficiency of Financial Incentives:** All of the interviewees said the financial incentives offered were sufficient to motivate rural participation. One interviewee emphasized that a key factor in motivating participation is ensuring rural customers are informed about the rebates, particularly when they first reach out through the website.
- **Additional Support for Rural Customers:** To enhance rural participation in the pilot, interviewees suggested a few potential improvements. A more targeted marketing campaign aimed specifically at rural customers was the most common recommendation. One interviewee also suggested the possibility of offering different incentive levels, although they mentioned that this could complicate the sales process. Another interviewee suggested increasing the visibility of the program in rural-specific publications, such as laboratory equipment magazines.

- **Equipment Needs for Rural Customers:** Interviewees generally agreed that rural customers are less likely to require ULT freezers compared to larger urban hospitals or specialized research institutions. They noted that smaller rural hospitals or universities might need pharmaceutical-grade refrigerators and freezers, but not necessarily ULT freezers unless the facility is involved in specific activities such as vaccine storage.

Potential Measures

The interviewees identified several types of large equipment similar in size to ULT freezers that they frequently provide to customers, including minus-150 freezers, walk-in refrigerators and freezers, incubators and autoclaves, biosafety cabinets, and minus-30 under counters. They also noted that older biosafety cabinets, minus-150 freezers, incubators, and autoclaves used energy levels similar to ULT freezers or more. Interviewees suggested that energy-efficient models, such as ENERGY STAR-rated walk-in refrigerators and freezers and biosafety cabinets, should be considered for inclusion in future Life Sciences Midstream incentive programs.

Outcomes and Recommendations

The evaluation team identified the following outcomes and recommendations for the Life Sciences Midstream Pilot.

Outcome 1. The pilot received overwhelmingly positive satisfaction ratings for all elements of the pilot. No interviewees reported dissatisfaction with any aspect of the pilot.

Outcome 2. Interviewees offered constructive suggestions to improve participants' experiences. Suggestions included more proactive communication by Focus on Energy staff and improving the timeliness of payments so reimbursement is received within the same month the sale is recorded by the distributor.

Recommendation 2a. In trainings with outreach staff, continue to emphasize the importance of regular, clear communication and follow-up with program participants, especially new participants who might need additional support.

Recommendation 2b. Examine options to expedite incentive payments to reduce disruption to distributors' accounting systems.

Outcome 3. Respondents did not identify a unanimous sales cycle for ULT freezers throughout the calendar year. However, they highlighted that events such as the COVID-19 pandemic have caused unpredictable market fluctuations, which have carried over into 2024. The pandemic increased demand for ULT freezers and influenced funding availability, though both factors have since seen a decline.

Recommendation 3. Continue to monitor post-COVID-19 impacts and assess the market for other potential disruptions to remain flexible. Exploring life science verticals in more depth could also provide valuable insights into future sales cycles, especially in the event of disruptions.

Outcome 4. Further research is needed to understand the program's influence on participants' sales. All five interviewed participants reported that the pilot has had a strong or transformative influence on encouraging sales of ULT freezers. However, distributors also reported that anywhere from 35% to 100% of their pre-participation sales would have qualified for the incentive. Additionally, distributors predicted that the market will continue shifting toward more energy-efficient models as the market for ULT freezers continues to grow.

Recommendation 4. If the pilot continues, continue collecting market information from participants and other sources to understand the driving forces for sales of ULT freezers. Also, consider requesting pre- and post-participation sales data from participants to help identify sales lift during pilot participation. If participants are unwilling to share sales data, use additional screening questions about pre-participation sales that could be replicated regularly during participation to track changes.

Outcome 5. Rural customers face unique challenges in participation, and this offers an opportunity to increase sales of ULT freezers. Interviewed manufacturers and distributors reported that a small share of their total ULT freezer sales (0 to 20%) is to rural customers. Respondents reported several barriers for these customers, including more restricted funding and fewer ULT freezer needs than more urban facilities, as well as a lack of marketing and limited ability to conduct regular outreach to rural customers.

Recommendation 5. If increasing rural participation is a goal of the pilot, consider targeted marketing to improve outreach to rural communities or create marketing materials that participating manufacturers and distributors could use to target those customers. Also, consider offering financial bonuses to rural customers to help further offset the cost of new equipment.