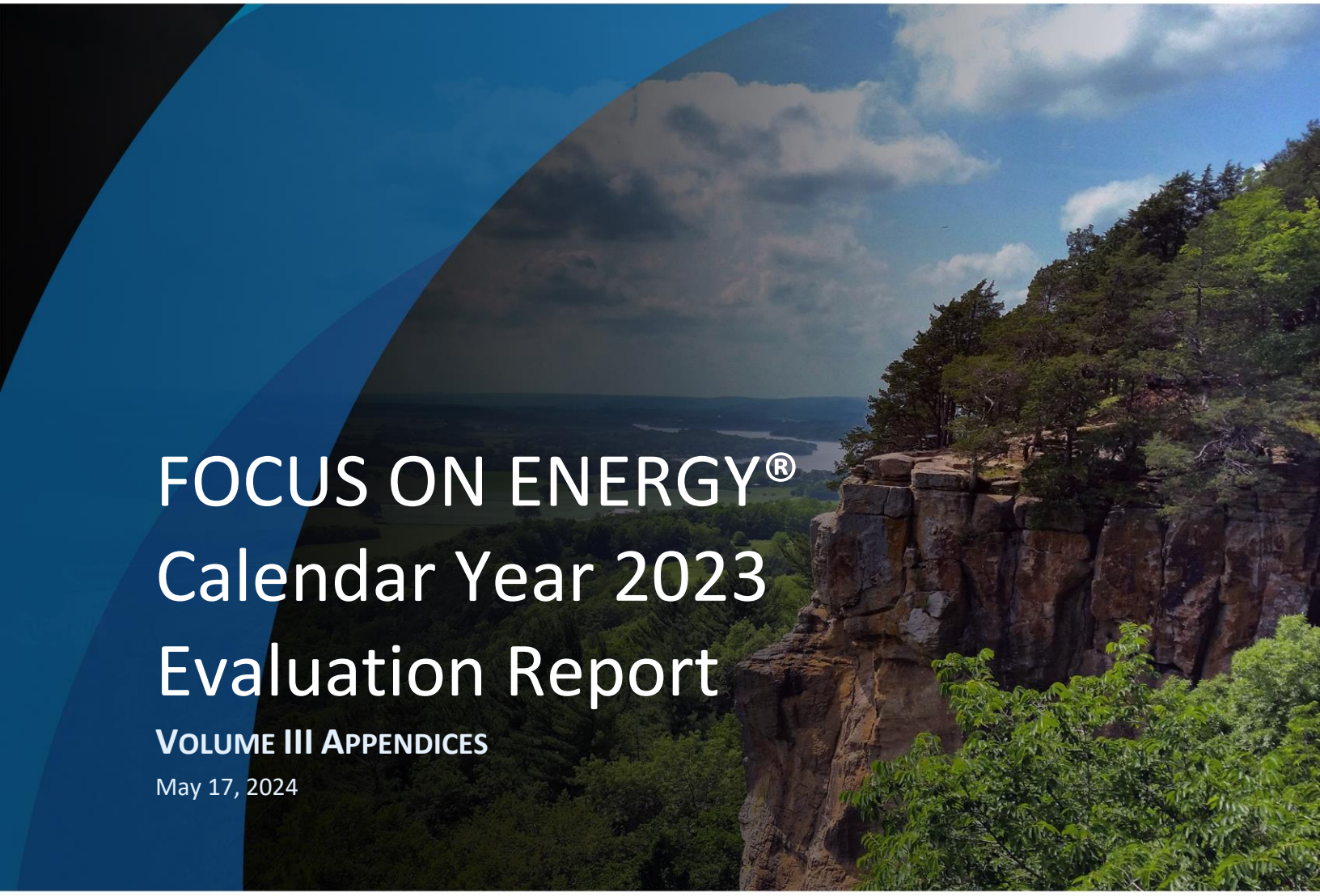
CADMUS



FOCUS ON ENERGY® Calendar Year 2023 Evaluation Report

VOLUME III APPENDICES

May 17, 2024

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Appendix A. CY 2023 Key Achievements and Figures for the State of Wisconsin and Focus on Energy

Offering Participants

- CY 2023 Residential: 157,404
- CY 2023 Nonresidential: 3,923
- CY 2023 Midstream: 189,291
- CY 2023 Total Participants: 350,618

Total Electric and Natural Gas Energy Usage

- CY 2022 Electric Sales to Wisconsin Retail Customers megawatt hours (MWh): 69,875,871[1]
- CY 2022 Wisconsin Aggregated Electric Utilities Noncoincident Peak Demand Megawatts (MW): 16,724[2]
- CY 2023 Natural Gas Consumption (MThms): 4,325,400[3]

Total Verified Gross Annual Savings

- CY 2023 Energy Savings (MWh): 458,494
- CY 2023 Demand Reduction (MW): 78
- CY 2023 Natural Gas Savings (therms): 25,076,746

Total Verified Net Annual Savings

- CY 2023 Energy Savings (MWh): 363,890
- CY 2023 Demand Reduction (MW): 57
- CY 2023 Natural Gas Savings (therms): 21,536,847

Total Verified Gross Lifecycle Savings

- CY 2023 Energy Savings (MWh): 7,446,114
- CY 2023 Demand Reduction (MW): 78
- CY 2023 Natural Gas Savings (therms): 390,708,223

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1 U.S. Energy Information Administration. Release Date: November 2, 2023. Independent Statistics and Analysis. "Wisconsin Electricity Profile 2022." https://www.eia.gov/electricity/state/Wisconsin/

2 Ibid.

3 U.S. Energy Information Administration. Independent Statistics and Analysis. Release Date: March 31, 2023. "Natural Gas Consumption by End Use." https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SWI_a.htm

Total Verified Net Lifecycle Savings

- CY 2023 Energy Savings (MWh): 5,681,402
- CY 2023 Demand Reduction (MW): 57
- CY 2023 Natural Gas Savings (therms): 333,292,828

Population Numbers

- CY 2020 Statewide Census Population: 5,893,718[4]
- CY 2022 Wisconsin Residential Electric Accounts: 2,786,457[5]
- CY 2022 Wisconsin Nonresidential Electric Accounts: 363,517[6]
- CY 2022 Wisconsin Residential Gas Accounts: 1,839,813[7]
- CY 2022 Wisconsin Nonresidential Gas Accounts: 175,063[8]

Table A-1. CY 2023 Costs, Benefits, and Modified Total Resource Cost (TRC) Test Combined Results by Sector

	Residential	Nonresidential	Midstream	Renewables	Total
Incentive Costs[a]	$19,315,453	$26,150,169	$3,744,005	$5,897,976	$55,107,604
Administrative Costs	$928,986	$1,486,583	$180,821	$306,095	$2,902,485
Delivery Costs	$8,977,238	$18,275,685	$1,760,187	$3,341,106	$32,354,216
Incremental Measure Costs	$47,450,233	$104,517,443	$6,383,948	$88,262,585	$246,614,209
Total Non-Incentive Costs	**$57,356,458**	**$124,279,711**	**$8,324,956**	**$91,909,786**	**$281,870,910**
Electric Benefits	$20,151,885	$152,392,706	$6,308,308	$69,024,714	$247,877,613
Gas Benefits	$36,558,418	$98,380,352	$13,468,326	-	$148,407,096
Emissions Benefits	$20,901,895	$114,237,932	$7,894,761	$25,386,655	$168,421,243
T&D Benefits	$4,368,286	$24,294,872	$560,731	$17,221,031	$46,444,919
Total TRC Benefits	**$81,980,483**	**$389,305,861**	**$28,232,126**	**$111,632,400**	**$611,150,870**
TRC Benefits Minus Costs	**$24,624,026**	**$265,026,150**	**$19,907,170**	**$19,722,614**	**$329,279,960**
TRC Ratio	**1.43**	**3.13**	**3.19**	**1.21**	**2.17**

[a] Incentive costs are shown for clarity but are not included as part of modified TRC costs for testing

4 U.S. Census Bureau. Accessed April 2024. "Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States " https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html

5 U.S. Energy Information Administration. Release Date: October 5, 2023. "Sales (Consumption), Revenue, Prices & Customers" (retail sales of electricity to ultimate customers) and "Annual; By sector, by state, by provider" (residential). https://www.eia.gov/electricity/data.php

6 Ibid.

7 U.S. Energy Information Administration. Release Date: March 31, 2023. "Number of Natural Gas Consumers." https://www.eia.gov/dnav/ng/ng_cons_num_dcu_SWI_a.htm

8 Ibid.

Appendix B. Glossary of Terms

Term	Definition
Administrative Costs	Costs not directly associated with a specific program activity but necessary to the development and administration of programs, including record keeping, payroll, accounting, auditing, billing, business management, budgeting and related activities, overhead allocation, and other costs necessary to direct the organization of the program.
Attribution	The establishment of a causal relationship between action(s) taken by a group or program and an outcome. Being attributable to a program means that energy savings and demand reduction can be viewed as a result of the program's influence, and the savings would not have been achieved in the program's absence.
Avoided Costs	Costs the utility avoided by implementing an energy efficiency measure, program, or practice.
Baseline	Conditions (including energy consumption) that would have occurred without implementing the measure or project. These conditions can be either as-found (prior to the energy efficiency retrofit or to conditions that meet the state or federal efficiency codes) or a combination of efficient and nonefficient conditions derived from data.
Benefit/Cost Ratio	The mathematical relationship between the benefits and costs associated with implementing energy efficiency measures, programs, or practices or including emission reduction benefits resulting from such implementation.
Cost-Effectiveness	Comparison of the benefits and costs associated with implementing energy efficiency measures and programs. The actual benefits and costs included can vary based on the design and intent of different cost-effectiveness tests.
Custom Savings	Savings for nonprescriptive measures that do not meet the criteria for deemed savings as calculated by the offering administrator or offering implementer at the time of project completion. The result reflects savings for the specific project based on pre- and post-installation energy use.
Deemed Savings	An estimate of energy, demand, or natural gas savings for a single unit of an installed energy efficiency measure. Deemed savings are typically developed from data sources and analytical methods that are widely considered acceptable for the measure and are applicable to the situation.
Downstream Offering	An efficiency program that provides incentives to the end user by directly offsetting the first cost of the equipment and reducing the payback period.
Effective Useful Life	The median number of years of expected operation of a specific measure, i.e., the time until half the units would be expected to have failed or been removed
Estimated Savings	Savings estimated by an evaluator after conducting an energy impact evaluation.
***Ex Ante* Savings**	Energy savings the offering administrator or offering implementer reports before verification by the evaluation team (also called reported savings or tracked savings).
***Ex Post* Evaluation**	An assessment of an activity's impact(s) after completion.
Freeriders	Participants who took part in an efficiency program but who would have adopted the energy-efficient measure in the program's absence. Freeriders can be total, partial, or deferred.
Gross Savings	The unadjusted program-reported change in energy consumption or demand resulting from efficiency program–related actions taken by participants.
Interactive Effects	The influence of one technology application on the energy required to operate another application.
Lifecycle Savings	Energy savings—expressed as verified gross or verified net—generated from measures installed in the current program cycle over each measure's effective useful life.
Lifetime Savings	Energy savings—expressed as verified gross or verified net—produced as a result of measures installed in the current and previous program cycles, provided that the reporting period falls within each measure's useful life. This incorporates annual savings and each measure's effective useful life.

Term	Definition
Locational Marginal Price	The marginal cost to serve a unit of energy at a specific location at the time of delivery.
Market Effects	Changes in marketplace practices, services, and promotional efforts that induce businesses and consumers to buy energy-saving products and services without direct offering assistance. Evaluators generally consider these effects as resulting from offering impacts on the market.
Market Lift	An increase in efficient product sales above a pre-established baseline in response to program incentives, promotion, or advertising.
Midstream Offering	An efficiency program that targets retailers, distributors, or both. Midstream programs are designed to encourage the targeted audience to stock, promote, and sell more energy-efficient products. Incentives are paid directly to the retailer or distributor.
Net Savings	Savings net of what would have occurred in the program's absence (observed impacts attributable to the program). Net savings are typically calculated by applying the net-to-gross ratio to the verified gross savings.
Net-to-Gross Ratio	The ratio of verified net savings (attributed to the program after evaluation) to the verified gross savings.
Non-Energy Benefits	An array of valued attributes, such as increased property values or reduced water usage, derived from energy-efficient measures in addition to energy savings.
Nonparticipant Spillover	The effect on eligible general consumers who did not participate in an efficiency program yet adopted energy-saving products or practices because of program influence.
Participant Spillover	The effect of participants who, after an initial program experience, adopt more energy-saving products or practices without program assistance.
Precision	The degree to which repeated measurements under unchanged conditions produce the same results.
Realization Rate	The ratio of gross savings to verified gross savings.
Reported Savings	Energy savings the offering administrator or offering implementer reports before verification by the evaluation team (also called tracked savings or *ex ante* savings).
Resource Acquisition Offering	An efficiency program designed to directly achieve energy savings and/or demand reduction, as well as avoided emissions.
Standard Error	The measure of a data sample's variability (that is, the distance of a typical data point from the sample mean).
Tracked Savings	Energy savings the offering administrator or offering implementer reports before verification by the evaluation team (also called reported savings or *ex ante* savings).
Unclaimed Rewards	Incentives set aside for customers who fail to submit paperwork to claim program incentives.
Upstream Offering	An efficiency program designed to encourage retailers and manufacturers to promote and sell more energy-efficient products. These programs provide incentives to retailers or manufacturers, which are passed through to customers.
Verified Gross Savings	Energy savings verified by an independent evaluation team and based on inspections and reviews of the number and types of implemented energy efficiency measures and the engineering calculations used to estimate the energy saved. Verified gross savings reflect total calculated savings based on changes in energy consumption or demand resulting from program-related actions taken by participants in an efficiency program without considering the influence of freeridership or spillover.
Verified Net Savings	Energy savings that evaluators can confidently attribute to program efforts. To calculate verified net savings, the evaluation team makes adjustments for outside influences, such as freeridership and spillover.

Appendix C. Acronyms and Abbreviations

Acronym	Term
ACS	American Community Survey
AFUE	Annual fuel utilization efficiency
AHRI	Air-Conditioning, Heating, & Refrigeration Institute
AVERT	AVoided Emissions and geneRation Tool
BMS	Building energy management system
BPC	Building performance consultant
BPK	Benefits per kilowatt-hour
Btu	British thermal unit
Btu/h	British thermal unit per hour
C&I	Commercial and Industrial
CBO	Community-Based Organization
CFM	Cubic feet per minute
CHP	Combined heat and power
COBRA	Co-Benefits Risk Assessment
CONE	Cost of New Entry
CY	Calendar year
DHW	Domestic hot water
DIY	Do-it-yourself
DSM	Demand-side management
EDA/EDR	Energy Design Assistance/Energy Design Review
EIA	Energy Information Administration
EISA	Energy Independence and Security Act
EPA	U.S. Environmental Protection Agency
EUL	Effective useful life
EWG	Evaluation Work Group
GPM	Gallons per minute
GWh	Gigawatt hour
HBA	Home builder association
HOU	Hours of use
HSPF	Heating seasonal performance factor
HVAC	Heating, ventilation, and air conditioning
IRA	Inflation Reduction Act
ISR	In-service rate
KPI	Key performance indicator
kW	Kilowatt
kWh	Kilowatt hour
LED	Light-emitting diode
LMP	Locational marginal price
LPD	Lighting power density
Mbtu	Thousand British thermal units
MISO	Midcontinent Independent Transmission System Operator
MMBtu	Million British thermal units
MMBtu/h	Million British thermal units per hour
MMID	Master measure identification
MThm	Thousand therms
MW	Megawatt
MWh	Megawatts per hour
NPS	Net promoter score
NPV	Net present value
NTG	Net-to-gross
OEI	Office of Energy Innovation
PAI	Project assessment incentive
PEM	Practical Energy Management
PEP	Product equipment performance
PEP	Product and equipment performance
PRISM	PRInceton Scorekeeping Method
PSC	Public Service Commission of Wisconsin
PSI	Pounds per square inch
PSI	Pounds per square inch
PSIA	Pounds per square inch absolute
PSIG	Pound-force per square inch
PTAC	Packaged terminal air conditioner
PTHP	Packaged terminal heat pump
PV	Photovoltaic
PWC	People Working Cooperatively
RESNET	Residential Energy Services Network
RFP	Request for proposal
ROI	Return on investment
SCADA	Supervisory Control and Data Acquisition
SEER	Seasonal energy efficiency rating
SEM	Strategic Energy Management
SPECTRUM	Statewide Program for Energy Customer Tracking, Resource Utilization, and Data Management
T&D	Transmission and distribution
TMY	Typical meteorological year
TRC	Total resource cost test
TRM	Technical reference manual
UAT	Utility administrator cost test
VFD	Variable frequency drive

Appendix D. CY 2023 Voluntary Program Efficiency Savings and Participation

In CY 2023, the Public Service Commission of Wisconsin (PSC) authorized Northern States Power-Wisconsin, Wisconsin Power and Light, We Energies, and Wisconsin Public Service Corporation to fund and operate voluntary programs in addition to the funding they contribute to Focus on Energy.

In general, these voluntary programs complement Focus on Energy offerings by providing bonus incentives on top of the existing Focus on Energy incentives or by offering additional energy efficiency savings opportunities for customers in the respective utility territories. For a number of these voluntary programs that build on existing offerings, their kilowatt, kilowatt-hour, and therm savings are not considered additive savings, but rather Focus on Energy portfolio savings achieved by the projects. Savings for We Energies' Voluntary Design Assistance Program are not currently claimed by Focus on Energy.

Table D-1 shows the CY 2023 program savings and participation for Northern States Power–Wisconsin.

Table D-1. CY 2023 Utility Voluntary Energy Efficiency Program Reported Gross Annual Savings and Participation

Program	Participation	kW	kWh	therms
Northern States Power-Wisconsin Community Conservation Programs[a]	2,629	4,317	30,217,112	990,904
Wisconsin Power & Light Enhanced Low-Income Weatherization Program[b]	49	N/A	N/A	N/A
We Energies Voluntary Design Assistance Program	2	N/A	343,025	4,900
We Energies Residential Natural Gas Assistance Program[c]	159	N/A	51,695	28,804
Wisconsin Public Service Residential Assistance Program[d]	28	N/A	N/A	5,073

[a] Final CY 2023 savings were not available as of the time of publication and are pending independent evaluation of Northern States Power Wisconsin's voluntary programs. See Northern States Power Wisconsin's 2023 Customer Service Conservation Report in Wisconsin PSC Docket 4220-EE-2023 for additional program details. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=491878

[b] Final CY 2023 savings were not available as of the time of publication and are pending independent evaluation of Wisconsin Power and Light's voluntary program. See Wisconsin Power and Light's 2023 Enhanced Low-Income Weatherization Report in Wisconsin PSC Docket 6680-EE-2024 for additional program details. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=495716

[c] See We Energies' 2023 Customer Service Conservation Report in Wisconsin PSC Docket 5-EE-2023 for additional details. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=495076

[d] See Wisconsin Public Service Corporation's 2023 Customer Service Conservation Report in Wisconsin PSC Docket 6690-EE-2023 for additional details. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=495075

Appendix E. Detailed Findings

This section contains detailed first-year annual gross savings and lifecycle savings for the residential, nonresidential, and midstream channels, as well as savings organized by offering and measure category.

Overview of Savings

Table E-1 lists the CY 2023 first-year gross (*ex ante*), verified gross, and verified net savings.

Table E-1. CY 2023 First-Year Annual Savings Split between Residential, Nonresidential, and Midstream

Savings Type	Unit	Residential	Nonresidential	Midstream	Total
Gross	MMBtu	817,641	2,819,429	376,512	**4,013,582**
	kWh	62,790,084	371,692,786	32,620,351	**467,103,221**
	kW	16,987	61,047	2,430	**80,464**
	therms	6,034,008	15,512,131	2,652,114	**24,198,253**
Verified Gross	MMBtu	831,045	2,864,472	376,540	**4,072,056**
	kWh	63,502,586	362,363,073	32,628,409	**458,494,068**
	kW	16,974	59,004	2,432	**78,410**
	therms	6,143,744	16,280,888	2,652,114	**25,076,746**
Verified Net	MMBtu	625,585	2,404,259	365,435	**3,395,279**
	kWh	42,182,190	290,177,057	31,531,226	**363,890,472**
	kW	9,968	45,168	2,287	**57,423**
	therms	4,816,595	14,141,745	2,578,507	**21,536,847**

Table E-2 lists the lifecycle savings achieved by Focus on Energy in CY 2023. Lifecycle savings represent the savings an offering can realize through its measures, over each measure's effective useful life.

Table E-2. CY 2023 Lifecycle Savings Split between Residential, Nonresidential, and Midstream

Savings Type	Unit	Residential	Nonresidential	Midstream	Total
Gross	MMBtu	14,995,169	45,247,915	3,542,993	**63,786,076**
	kWh	1,247,160,445	6,206,299,662	182,706,175	**7,636,166,283**
	kW	16,987	61,047	2,430	**80,464**
	therms	107,398,572	240,720,204	29,195,995	**377,314,771**
Verified Gross	MMBtu	14,989,920	45,825,188	3,661,855	**64,476,964**
	kWh	1,226,256,941	6,036,620,993	183,236,319	**7,446,114,252**
	kW	16,974	59,004	2,432	**78,410**
	therms	108,059,315	252,282,376	30,366,531	**390,708,223**
Verified Net	MMBtu	11,134,265	38,050,832	3,529,129	**52,714,227**
	kWh	771,759,365	4,737,947,638	171,695,136	**5,681,402,139**
	kW	9,968	45,168	2,287	**57,423**
	therms	85,010,224	218,849,548	29,433,056	**333,292,828**

Summary of Savings by Offering

Table E-3 summarizes the first-year annual savings by offering.

Table E-3. CY 2023 Summary of First-Year Annual Savings by Offering

Program	Offering	Gross			Verified Gross			Verified Net		
		kWh	kW	therms	kWh	kW	therms	kWh	kW	therms
Residential Programs										
Direct to Customer	Online Marketplace	4,008,447	43	264,598	4,227,395	46	290,168	3,625,205	39	248,430
	Packs	9,654,606	900	1,533,438	9,613,011	905	1,334,079	8,726,499	829	1,128,025
	Retail	3,422,402	379	3,149	3,420,775	379	3,149	1,722,532	181	913
Multifamily	Multifamily	2,224,233	180	204,100	2,224,233	180	204,100	1,846,113	149	169,403
	Energy Design Assistance/ Energy Design Review	8,197,034	1,260	471,494	8,115,064	1,247	443,204	7,547,009	1,160	412,180
Renewable Rewards	Residential Renewable Rewards	34,052,735	11,619	0	34,052,735	11,621	0	14,564,001	4,968	0
Residential New Construction	Residential New Construction	5,533,251	1,092	443,000	5,533,251	1,092	443,000	6,664,350	1,298	503,835
Trade Ally Solutions	Heating and Cooling	-6,429,464	510	2,767,710	-5,807,906	500	3,083,098	-4,643,369	339	2,011,375
	Insulation and Air Sealing	2,125,206	1,000	334,257	2,125,206	1,000	334,257	2,125,206	1,000	334,257
	Tribal	1,635	4	12,263	-1,176	4	8,689	4,643	5	8,177
Residential Total		**62,790,084**	**16,987**	**6,034,008**	**63,502,586**	**16,974**	**6,143,744**	**42,182,190**	**9,968**	**4,816,595**
Midstream Program										
Midstream	Midstream Contractor	2,228,279	290	163,266	2,236,337	293	163,266	1,139,154	148	89,659
	Community-Based Organization Distribution	30,392,072	2,140	2,488,848	30,392,072	2,140	2,488,848	30,392,072	2,140	2,488,848
Midstream Total		**32,620,351**	**2,430**	**2,652,114**	**32,628,409**	**2,432**	**2,652,114**	**31,531,226**	**2,287**	**2,578,507**

Program	Offering	Gross			Verified Gross			Verified Net		
		kWh	kW	therms	kWh	kW	therms	kWh	kW	therms
Nonresidential Programs										
Agribusiness	Agribusiness	36,425,541	4,622	282,326	36,441,554	4,623	293,620	28,434,192	3,607	229,023
Business and Industry	Commercial and Industrial	97,910,374	14,111	3,358,453	97,910,374	14,111	3,358,453	77,349,196	11,148	2,653,178
	Energy Design Assistance/ Energy Design Review	14,136,276	2,655	200,130	13,853,550	2,655	212,138	12,883,802	2,469	197,288
Large Industrial	Large Industrial	114,983,619	14,183	9,526,860	105,784,930	12,198	10,289,009	97,322,135	11,222	9,465,889
	Energy Design Assistance/ Energy Design Review	1,332,211	272	72,476	1,332,211	272	72,476	1,238,956	253	67,403
Renewable Rewards	Commercial Renewable Rewards	53,835,368	17,968	0	53,819,217	17,968	0	33,458,052	11,170	0
Schools and Government	Government	28,973,106	3,384	403,519	28,973,106	3,384	403,519	20,570,905	2,403	286,498
	Schools	16,504,282	2,866	1,334,500	16,504,282	2,866	1,334,500	11,718,040	2,035	947,495
	Energy Design Assistance/ Energy Design Review	7,592,008	985	333,867	7,743,848	926	317,174	7,201,779	861	294,971
Nonresidential Total		**371,692,786**	**61,047**	**15,512,131**	**362,363,073**	**59,004**	**16,280,888**	**290,177,057**	**45,168**	**14,141,745**
Total All Offerings		**467,103,221**	**80,464**	**24,198,253**	**458,494,068**	**78,410**	**25,076,746**	**363,890,472**	**57,423**	**21,536,847**

Table E-4 summarizes the lifecycle savings by offering.

Table E-4. CY 2023 Summary of Lifecycle Savings by Offering

Program Name	Offering Name	Gross		Verified Gross		Verified Net	
		kWh	therms	kWh	therms	kWh	therms
Residential Offerings							
Direct to Consumer	Online Marketplace	35,636,995	2,424,920	37,468,792	2,652,445	32,148,143	2,269,863
	Packs	76,501,698	16,890,999	53,983,911	10,625,384	49,263,343	8,981,022
	Retail	11,840,494	40,960	7,427,195	40,934	4,030,707	11,871
Multifamily	Multifamily	37,455,133	4,950,304	37,455,133	4,950,304	31,087,760	4,108,752
	Energy Design Assistance/Energy Design Review	163,944,280	9,420,780	162,304,837	8,855,533	150,943,499	8,235,646
Renewable Rewards	Residential Renewable Rewards	851,318,357	0	851,318,357	0	364,100,033	0
Residential New Construction	Residential New Construction	165,913,082	13,289,988	165,913,082	13,289,988	199,930,500	15,115,048

Program Name	Offering Name	Gross		Verified Gross		Verified Net	
		kWh	therms	kWh	therms	kWh	therms
Trade Ally	Insulation and Air Sealing	53,130,650	8,356,425	53,130,150	8,356,425	53,130,150	8,356,425
	Heating and Cooling	-148,729,739	51,753,743	-142,849,121	59,090,306	-113,086,469	37,742,659
	Tribal	149,496	270,453	104,606	197,996	211,699	188,939
Residential Total		**1,247,160,445**	**107,398,572**	**1,226,256,941**	**108,059,315**	**771,759,365**	**85,010,224**
Midstream Offering							
Midstream	Midstream Contractor	24,136,143	2,127,611	24,225,357	2,134,205	12,684,174	1,200,730
	Community-Based Organization Distribution	158,570,032	27,068,384	159,010,962	28,232,326	159,010,962	28,232,326
Midstream Total		**182,706,175**	**29,195,995**	**183,236,319**	**30,366,531**	**171,695,136**	**29,433,056**
Nonresidential Offerings							
Agribusiness	Agribusiness	584,984,134	4,410,938	585,099,871	4,631,485	456,527,883	3,612,558
Business and Industry	Commercial and Industrial	1,419,855,644	54,222,672	1,419,855,644	54,222,672	1,121,685,959	42,835,911
	Energy Design Assistance/ Energy Design Review	282,725,520	4,002,600	277,071,010	4,242,756	257,676,039	3,945,763
Large Industrial	Large Industrial	1,667,729,344	142,941,703	1,500,956,409	154,377,039	1,380,879,897	1,667,729,344
	Energy Design Assistance/ Energy Design Review	26,644,220	1,449,520	26,644,220	1,449,520	24,779,125	26,644,220
Renewable Rewards	Commercial Renewable Rewards	1,345,884,240	0	1,345,480,475	0	836,451,316	0
Schools and Government	Government	493,590,023	7,953,044	493,590,023	7,953,044	350,448,916	5,646,662
	Schools	233,046,377	19,062,386	233,046,377	19,062,386	165,462,928	13,534,294
	Energy Design Assistance/ Energy Design Review	151,840,160	6,677,340	154,876,963	6,343,473	144,035,576	5,899,430
Nonresidential Total		**6,206,299,662**	**240,720,204**	**6,036,620,993**	**252,282,376**	**4,737,947,638**	**218,849,548**
Total All Offerings		**7,636,166,283**	**377,314,771**	**7,446,114,252**	**390,708,223**	**5,681,402,139**	**333,292,828**

Summary of Savings by Measure

Table E-5 of the following page summarizes CY 2023 residential savings by measure category.

Table E-5. CY 2023 Summary of First-Year Annual Savings by Measure Category, Residential Channel

Measure Category	Verified Gross						Incentive Dollars	Incentive Dollars %
	kWh	kWh %	kW	kW %	therms	therms %		
Boilers and Burners-Boiler	0	0.00%	0	0.00%	217,328	3.54%	$382,801	1.69%
Boilers and Burners-Tune-up/Repair/Cx	0	0.00%	0	0.00%	222	0.00%	$736	0.00%
Building Shell-Air Sealing	137,652	0.22%	23	0.13%	17,578	0.29%	$1,429,940	6.31%
Building Shell-Insulation	2,492,753	3.93%	1,073	6.32%	414,493	6.75%	$1,839,855	8.12%
Domestic Hot Water-Aeration	266,881	0.42%	15	0.09%	41,013	0.67%	$32,634	0.14%
Domestic Hot Water-Insulation	187,969	0.30%	34	0.20%	22,024	0.36%	$20,976	0.09%
Domestic Hot Water-Other[a]	9,333	0.01%	1	0.01%	3,831	0.06%	$27,312	0.12%
Domestic Hot Water-Showerhead	205,467	0.32%	11	0.06%	32,982	0.54%	$30,872	0.14%
Domestic Hot Water-Water Heater	0	0.00%	0	0.00%	22,664	0.37%	$38,700	0.17%
HVAC-Air Conditioner - Residential	1,103	0.00%	2	0.01%	0	0.00%	$1,715	0.01%
HVAC-Controls	9,371,357	14.76%	0	0.00%	573,351	9.33%	$977,700	4.32%
HVAC-Furnace	2,279,639	3.59%	0	0.00%	1,045,737	17.02%	$2,411,050	10.64%
HVAC-Other[b]	-12,702,046	-20.00%	554	3.26%	1,595,796	25.97%	$3,228,952	14.25%
HVAC-Packaged Terminal Unit (PTAC, PTHP)	28,405	0.04%	3	0.02%	0	0.00%	$1,300	0.01%
HVAC-Steam Trap	0	0.00%	0	0.00%	5,650	0.09%	$1,750	0.01%
HVAC-Tune-up/Repair/Commissioning	0	0.00%	0	0.00%	854	0.01%	$7,323	0.03%
Lighting-Light Emitting Diode (LED)	4,830,042	7.61%	488	2.88%	0	0.00%	$213,373	0.94%
Motors and Drives-Motor	2,075	0.00%	0	0.00%	0	0.00%	$125	0.00%
New Construction-Whole Building	13,648,315	21.49%	2,339	13.78%	886,204	14.42%	$3,648,306	16.10%
Other-Bonus	0	0.00%	0	0.00%	0	0.00%	$1,191,988	5.26%
Other-Other[c]	8,286,105	13.05%	757	4.46%	1,264,016	20.57%	$3,733,531	16.48%
Renewable Energy-Photovoltaics	34,052,734	53.62%	11,621	68.47%	0	0.00%	$3,343,412	14.76%
Vending and Plug Loads-Controls	242,077	0.38%	32	0.19%	0	0.00%	$76,781	0.34%
Vending and Plug Loads-Filtration	162,725	0.26%	19	0.11%	0	0.00%	$13,960	0.06%

Note: Table does not include adjustment measure records. As a result, this sum will not match with other CY 2023 totals.

[a] Domestic Hot Water-Other in the residential channel includes temperature turndown.

[b] HVAC-Other in the residential channel includes ductless mini-split heat pumps, ground-source heat pumps, and air-source heat pumps.

[c] Other-Other in the residential channel includes bundled packs in the Packs offering and Multifamily strategic energy management (SEM) operational savings.

Table E-6 lists CY 2023 nonresidential savings by measure category.

Table E-6. CY 2023 Summary of First-Year Annual Savings by Measure Category, Nonresidential Channel

Measure Category	Verified Gross						Incentive Dollars	Incentive Dollars %
	kWh	kWh %	kW	kW %	therms	therms %		
Aeration	445,121	0.12%	23	0.04%	0	0.00%	$22,883	0.08%
Air Sealing	8,903	0.00%	0	0.00%	25,384	0.16%	$20,694	0.07%
Biomass Combustion	1,357,414	0.37%	0	0.00%	631,192	3.88%	$500,000	1.73%
Boiler	0	0.00%	0	0.00%	1,305,499	8.02%	$1,979,378	6.85%
Bonus	0	0.00%	0	0.00%	0	0.00%	$1,925,482	6.66%
Chiller	4,089,844	1.13%	596	1.01%	0	0.00%	$219,553	0.76%
Clothes Washer	32,867	0.01%	-3	-0.01%	34,163	0.21%	$33,759	0.12%
Compressor	10,533,476	2.91%	1,649	2.79%	0	0.00%	$370,300	1.28%
Controls	6,062,505	1.67%	482	0.82%	787,570	4.84%	$691,254	2.39%
Delamping	46,931	0.01%	15	0.03%	0	0.00%	$3,851	0.01%
Direct Fired Heating	0	0.00%	0	0.00%	7,822	0.05%	$10,303	0.04%
Dryer	1,168,183	0.32%	157	0.27%	136,365	0.84%	$303,226	1.05%
Energy Recovery	-74,147	-0.02%	57	0.10%	2,571,958	15.80%	$1,936,270	6.70%
Fan	8,427,638	2.33%	1,493	2.53%	0	0.00%	$390,480	1.35%
Filtration	-739,492	-0.20%	-142	-0.24%	1,044,287	6.41%	$689,465	2.38%
Furnace	9,117	0.00%	0	0.00%	38,908	0.24%	$32,230	0.11%
Grain Dryer	5,532	0.00%	0	0.00%	9,619	0.06%	$9,063	0.03%
Greenhouse	0	0.00%	0	0.00%	38,225	0.23%	$31,574	0.11%
Heat Exchanger	2,002,870	0.55%	0	0.00%	0	0.00%	$125,754	0.43%
Infrared Heater	0	0.00%	0	0.00%	3,996	0.02%	$5,438	0.02%
Insulation	0	0.00%	0	0.00%	504,763	3.10%	$324,777	1.12%
Irrigation	41,616	0.01%	15	0.03%	0	0.00%	$7,800	0.03%
Light Emitting Diode (LED)	117,024,752	32.29%	15,765	26.72%	0	0.00%	$5,805,963	20.08%
Livestock Waterer	615,144	0.17%	0	0.00%	0	0.00%	$20,980	0.07%
Motor	303,968	0.08%	53	0.09%	0	0.00%	$8,895	0.03%

Measure Category	Verified Gross						Incentive Dollars	Incentive Dollars %
	kWh	kWh %	kW	kW %	therms	therms %		
Other[a]	30,874,185	8.52%	3,501	5.93%	6,140,068	37.71%	$4,764,167	16.48%
Packaged Terminal Unit (PTAC, PTHP)	445,323	0.12%	25	0.04%	0	0.00%	$14,250	0.05%
Photovoltaics	53,819,217	14.85%	17,968	30.45%	0	0.00%	$2,553,926	8.83%
Pump	1,460,307	0.40%	189	0.32%	0	0.00%	$85,916	0.30%
Reconfigure Equipment	1,849,116	0.51%	338	0.57%	0	0.00%	$68,746	0.24%
Refrigerated Case Door	9,129,004	2.52%	1,631	2.76%	973,032	5.98%	$762,940	2.64%
Refrigerator/Freezer - Industrial	0	0.00%	0	0.00%	0	0.00%	$79,200	0.27%
Rooftop Unit/Split System AC	394,916	0.11%	270	0.46%	237,335	1.46%	$218,207	0.75%
Scheduling	877,816	0.24%	52	0.09%	84,646	0.52%	$91,980	0.32%
Specialty Pulp and Paper	6,387,495	1.76%	712	1.21%	0	0.00%	$339,053	1.17%
Steam Trap	0	0.00%	0	0.00%	578,381	3.55%	$82,695	0.29%
Study	0	0.00%	0	0.00%	0	0.00%	$10,000	0.03%
Supporting Equipment	32,494	0.01%	3	0.01%	0	0.00%	$900	0.00%
System Isolation	986,046	0.27%	97	0.16%	0	0.00%	$54,138	0.19%
Tune-up/Repair/Commissioning	14,386,874	3.97%	1,643	2.78%	496,704	3.05%	$199,048	0.69%
Unit Heater	0	0.00%	0	0.00%	4,187	0.03%	$2,206	0.01%
Variable Speed Drive	67,286,900	18.57%	8,547	14.48%	0	0.00%	$1,682,913	5.82%
Water Heater	0	0.00%	0	0.00%	24,996	0.15%	$45,216	0.16%
Welder	141,529	0.04%	15	0.03%	0	0.00%	$8,679	0.03%
Whole Building	22,929,610	6.33%	3,853	6.53%	601,787	3.70%	$2,381,342	8.24%

Note: Table does not include adjustment measure records. As a result, this sum will not match with other CY 2023 totals.

[a] Other in the nonresidential channel encompasses a wide variety of measures, such as unspecified process improvements, unspecified HVAC improvements, unspecified refrigeration improvements, and industrial oven/furnace.

Table E-7 lists CY 2023 midstream savings by measure category.

Table E-7. CY 2023 Summary of First-Year Annual Savings by Measure Category, Midstream Channel

Measure Category	Verified Gross						Incentive Dollars	Incentive Dollars %
	kWh	kWh %	kW	kW %	therms	therms %		
Dishwasher, Commercial	1,762,176	5.40%	86	3.53%	4,902	0.18%	$52,900	1.45%
Domestic Hot Water-Water Heater	39,696	0.12%	2	0.08%	77,697	2.93%	$406,150	11.10%
Fryer	0	0.00%	0	0.00%	35,621	1.34%	$43,700	1.19%
Hot Holding Cabinet	13,526	0.04%	4	0.17%	0	0.00%	$1,200	0.03%
HVAC-Other[a]	76,967	0.24%	14	0.58%	17,212	0.65%	$31,000	0.85%
Variable Speed Drive	159,845	0.49%	9	0.39%	0	0.00%	$32,900	0.90%
Ice Machine	9,960	0.03%	1	0.05%	0	0.00%	$600	0.02%
LED	20,998,656	64.36%	1,700	69.89%	0	0.00%	$1,057,432	28.91%
Other-Bonus	0	0.00%	0	0.00%	0	0.00%	$450	0.01%
Other-Other[b]	9,393,416	28.79%	440	18.07%	2,488,848	93.84%	$1,979,378	54.11%
Oven	84,299	0.26%	19	0.80%	21,420	0.81%	$28,100	0.77%
Refrigerator/Freezer - Commercial	3,168	0.01%	0	0.01%	0	0.00%	$800	0.02%
Steamer	86,700	0.27%	156	6.42%	6,414	0.24%	$23,400	0.64%

Note: Table does not include adjustment measure records. As a result, this sum will not match with other CY 2023 totals.

[a] HVAC-Other in the midstream channel includes ductless mini-split heat pumps.

[b] Other-Other in the midstream channel includes water-saving kits and air-sealing kits.

Table E-8 lists CY 2023 residential lifecycle savings by measure category.

Table E-8. CY 2023 Summary of Lifecycle Savings by Measure Category, Residential Channel

Measure Category	Verified Gross			
	kWh	kWh %	therms	therms %
Boilers and Burners-Boiler	0	0.00%	5,613,601	5.19%
Boilers and Burners-Tune-up/Repair/Commissioning	0	0.00%	444	0.00%
Building Shell-Air Sealing	2,061,703	0.17%	258,694	0.24%
Building Shell-Insulation	64,128,917	5.23%	10,799,682	9.99%
Domestic Hot Water-Aeration	2,668,814	0.22%	410,131	0.38%
Domestic Hot Water-Insulation	2,819,538	0.23%	330,361	0.31%
Domestic Hot Water-Other[a]	18,667	0.00%	7,663	0.01%
Domestic Hot Water-Showerhead	2,054,665	0.17%	329,816	0.31%
Domestic Hot Water-Water Heater	0	0.00%	333,659	0.31%
HVAC-Air Conditioner - Residential	2,206	0.00%	0	0.00%
HVAC-Controls	84,342,213	6.88%	5,160,160	4.78%
HVAC-Furnace	52,399,691	4.27%	24,036,357	22.24%
HVAC-Other[b]	-228,002,298	-18.59%	28,758,234	26.61%
HVAC-Packaged Terminal Unit (PTAC, PTHP)	227,240	0.02%	0	0.00%
HVAC-Steam Trap	0	0.00%	33,900	0.03%
HVAC-Tune-up/Repair/Commissioning	0	0.00%	1,708	0.00%
LED	14,446,785	1.18%	0	0.00%
Motors and Drives-Motor	37,350	0.00%	0	0.00%
New Construction-Whole Building	328,217,919	26.77%	22,145,521	20.49%
Other-Bonus	0	0.00%	0	0.00%
Other-Other[c]	46,598,183	3.80%	9,839,381	9.11%
Renewable Energy-Photovoltaics	851,318,357	69.42%	0	0.00%
Vending and Plug Loads-Controls	1,452,465	0.12%	0	0.00%
Vending and Plug Loads-Filtration	1,464,525	0.12%	0	0.00%

Note: Table does not include adjustment measure records. As a result, this sum will not match with other CY 2023 totals.

[a] Domestic Hot Water-Other in the residential channel includes temperature turndown.

[b] HVAC-Other in the residential channel includes ductless mini-split heat pumps, ground-source heat pumps, and air-source heat pumps.

[c] Other-Other in the residential channel includes bundled packs in the Packs offering and Multifamily SEM operational savings.

Table E-9 lists CY 2023 nonresidential lifecycle savings by measure category.

Table E-9. CY 2023 Summary of Lifecycle Savings by Measure Category, Nonresidential Channel

Measure Category	Verified Gross			
	kWh	kWh %	therms	therms %
Aeration	8,826,764	0.15%	0	0.00%
Air Sealing	178,060	0.00%	431,186	0.17%
Biomass Combustion	27,148,280	0.45%	12,623,840	5.00%
Boiler	0	0.00%	32,344,599	12.82%
Bonus	0	0.00%	0	0.00%
Chiller	81,474,684	1.35%	0	0.00%
Clothes Washer	493,005	0.01%	512,445	0.20%
Compressor	135,094,313	2.24%	0	0.00%
Controls	66,478,397	1.10%	11,471,988	4.55%
Delamping	563,172	0.01%	0	0.00%
Direct Fired Heating	0	0.00%	117,328	0.05%
Dryer	17,650,245	0.29%	2,750,278	1.09%
Energy Recovery	-1,283,592	-0.02%	37,888,894	15.02%
Fan	126,440,044	2.09%	0	0.00%
Filtration	-11,349,222	-0.19%	15,664,306	6.21%
Furnace	191,122	0.00%	808,299	0.32%
Grain Dryer	110,640	0.00%	194,229	0.08%
Greenhouse	0	0.00%	377,496	0.15%
Heat Exchanger	30,043,050	0.50%	0	0.00%
Infrared Heater	0	0.00%	60,519	0.02%
Insulation	0	0.00%	7,606,727	3.02%
Irrigation	624,240	0.01%	0	0.00%
LED	1,837,328,924	30.44%	0	0.00%
Livestock Waterer	6,151,440	0.10%	0	0.00%
Motor	5,261,235	0.09%	0	0.00%
Other[a]	578,178,352	9.58%	95,474,429	37.84%
Packaged Terminal Unit (PTAC, PTHP)	3,562,584	0.06%	0	0.00%
Photovoltaics	1,345,480,475	22.29%	0	0.00%
Pump	21,428,415	0.35%	0	0.00%
Reconfigure Equipment	20,421,229	0.34%	0	0.00%
Refrigerated Case Door	133,981,172	2.22%	14,595,480	5.79%
Refrigerator/Freezer – Industrial	0	0.00%	0	0.00%
Rooftop Unit/Split System AC	6,470,569	0.11%	2,499,534	0.99%
Scheduling	4,385,606	0.07%	423,228	0.17%
Specialty Pulp and Paper	93,729,555	1.55%	0	0.00%
Steam Trap	0	0.00%	3,470,287	1.38%
Study	0	0.00%	0	0.00%
Supporting Equipment	317,880	0.01%	0	0.00%
System Isolation	14,469,156	0.24%	0	0.00%

Measure Category	Verified Gross			
	kWh	kWh %	therms	therms %
Tune-up/Repair/Commissioning	27,820,497	0.46%	497,163	0.20%
Unit Heater	0	0.00%	63,363	0.03%
Variable Speed Drive	994,558,629	16.48%	0	0.00%
Water Heater	0	0.00%	371,009	0.15%
Welder	1,799,881	0.03%	0	0.00%
Whole Building	458,592,193	7.60%	12,035,749	4.77%

Note: Table does not include adjustment measure records. As a result, this sum will not match with other CY 2023 totals.
[a] Other in the nonresidential channel encompasses a wide variety of measures, such as unspecified process improvements, unspecified HVAC improvements, unspecified refrigeration improvements, and industrial oven/furnace.

Table E-10 lists CY 2023 midstream lifecycle savings by measure category.

Table E-10. CY 2023 Summary of Lifecycle Savings by Measure Category, Midstream Channel

Measure Category	Verified Gross			
	kWh	kWh %	therms	therms %
Dishwasher, Commercial	17,621,760	9.62%	49,020	0.16%
Domestic Hot Water-Water Heater	478,560	0.26%	1,013,909	3.34%
Fryer	0	0.00%	427,452	1.41%
Hot Holding Cabinet	162,312	0.09%	0	0.00%
HVAC-Other[a]	1,385,406	0.76%	309,816	1.02%
Variable Speed Drive	2,397,675	1.31%	0	0.00%
Ice Machine	89,640	0.05%	0	0.00%
LED	62,995,968	34.38%	0	0.00%
Other-Bonus	0	0.00%	0	0.00%
Other-Other[b]	96,014,994	52.40%	28,232,326	92.97%
Oven	1,011,588	0.55%	257,040	0.85%
Refrigerator/Freezer - Commercial	38,016	0.02%	0	0.00%
Steamer	1,040,400	0.57%	76,968	0.25%

Note: Table does not include adjustment measure records. As a result, this sum will not match with other CY 2023 totals.
[a] HVAC-Other in the midstream channel includes ductless mini-split heat pumps.
[b] Other-Other in the midstream channel includes water-saving kits and air-sealing kits.

Appendix F. Measure Analysis

This appendix describes the analyses of measures delivered by specific Focus on Energy programs in CY 2023. It describes the methodologies the evaluation team followed for sampled residential and nonresidential projects and the results of the evaluation.

Project Details from Sampled Projects

The evaluation team performed desk reviews and virtual verification reviews of a sample of projects in the Multifamily Program and in each nonresidential program. The team calculated measure-level realization rates based on the analysis completed for these sample projects, which informed the offering- and program-level realization rates for CY 2023. A more detailed description of the sampled projects follows.

Multifamily

The evaluation team found multiple discrepancies in realization rates for sampled projects in the CY 2023 Multifamily Program. In the impact sample, 48 of 52 projects achieved a 100% energy realization rate. Four measures received a realization rate that deviated from 100%. All were hybrid product equipment performance (PEP) new construction measures: two randomly sampled and two census sampled. Projects that represent a share of offering of 5% or more were census sampled; projects less than 5% were randomly sampled. Table F-1 provides specific details related to projects with significant or impactful discrepancies.

Table F-1. CY 2023 Multifamily Program Sample Detailed Projects

MMID	Project Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
5188	PEP Multifamily New Construction	14,659	14,050	**96%**	1%	Lighting power densities were not consistent throughout the documentation (common area versus in-unit area types). The values input in the model for the apartment lighting power density (LPD) and the common area LPD appear to have been switched. *Ex post* calculations adjusted the savings based on a ratio of the reported measure savings for each.
5188	PEP Multifamily New Construction	81,110	57,205	**71%**	6%	Project documents indicated a standard unit heater furnace serving the garage space with 82% efficiency rather than a direct-fired furnace with 100% efficiency. The apartment and common area LPD values in the summary workbook did not agree with the model inputs. *Ex post* calculations adjusted the savings based on a ratio of the reported measure savings.

MMID	Project Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
5188	PEP Multifamily New Construction	12,130	11,701	**96%**	1%	The modeled 42% improvement in heating efficiency for the common area heat pumps did not appear to be justified by the submitted cut sheet, so the *ex post* calculation removes the savings associated with that strategy. The LPD values in the project summary workbook did not agree with the model inputs; the workbook indicated lower LPDs than the model. There was no other documentation that summarized the LPD that would support an adjustment, so *ex ante* maintained the modeled savings, which were more conservative.
5188	PEP Multifamily New Construction	158,086	119,606	**76%**	11%	The mechanical schedule and submittal indicated a standard efficiency for the unit heater serving the garage, so the *ex post* savings calculation removed the savings associated with an improved gas furnace efficiency serving the garage. It was not clear how the in-unit LPD was adjusted for the percentage of area without connected fixtures. The modeled common area LPD did not agree with the summary workbook; however, there was no other documentation summarizing the LPD calculations.

Agribusiness Program

The evaluation team found one discrepancy in realization rates for sampled projects in the CY 2023 Agribusiness Program. In the impact sample, 42 of 43 projects achieved a 100% energy realization rate. One measure received a realization rate that deviated from 100%. This measure was a census-sampled hybrid measure. Table F-2 provides specific details related to the project with discrepancies by their master measure identifier (MMID).

Table F-2. CY 2023 Agribusiness Program Sample Detailed Projects

MMID	Project Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
3386	Grain Dryer, Energy Efficient, Hybrid	42,206	62,475	**148%**	2%	*Ex ante* calculations specified 525,000 bushels processed by this grain dryer, which is a primary input for the hybrid calculator to determine savings. The team confirmed the CY 2023 processed bushel count with the customer at 778,000. This value was supported by photos from the customer of the machine output during CY 2023. Given the significance of the difference between values, *ex post* calculations modified the input to 778,000, resulting in significantly higher realization in therms.

Business and Industry Program

The evaluation team found multiple discrepancies in realization rates for sampled projects in the CY 2023 Business and Industry Program. In the impact sample, 66 of 69 projects achieved a 100% energy realization rate. Three measures received a realization rate that deviated from 100%. The team randomly sampled three measures: two custom measures and one hybrid measure. Table F-3 provides specific details about projects with discrepancies, designating projects by their MMID.

Table F-3. CY 2023 Business and Industry Program Sample Detailed Projects

MMID	Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
2196	Air Compressor, Variable Speed Drive	9,679	9,575	**99%**	0.1%	Interview with customer conducted via virtual Teams screenshare. The customer shared CFM trend output reports from each shift for a recent two-week period and indicated this was indicative of normal operation. The team modified reported calculations to reflect data provided by the customer during the virtual site visit. Customer shared CFM trend output reports from each shift. *Ex post* calculations modified shifts 1 and 2 CFM to 325 (modified from 460 in *ex ante*) and shift 3 to 225 (modified from 280). Modifications to CFMs resulted in slightly less kWh savings realized for the measure.
2220	EDA Project Savings	18,901	19,974	**106%**	1.4%	Model verified SIM report does not match with verification report/SPECTRUM results for *ex ante*. The implementor provided the File Builder SIM reports, and they match those uploaded to SPECTRUM. *Ex post* determined the most recent and as-built version of the construction for final *ex post* savings. The team did not modify the model from the implementor's version.
2647	EDA Project Savings	17,616	16,975	**96%**	1.3%	The documentation for this project is inconsistent. The SIM reports uploaded to SPECTRUM do not agree with the SIM reports provided by the implementor. Neither set of SIM reports are an exact match for the verification report. *Ex post* determined the most recent and as-built version of the construction for final *ex post* savings. The team did not modify the model from the implementor's version.

Large Industrial Program

The evaluation team found several discrepancies in realization rates for sampled projects in the CY 2023 Large Industrial Program. In the impact sample, 44 of 62 projects achieved a 100% energy realization rate. Eighteen measures received a realization rate that deviated from 100%. Table F-4 provides specific details related to projects with significant or impactful discrepancies. Projects that represent a share of offering of 5% or more were census sampled; projects less than 5% were randomly sampled.

Table F-4. CY 2023 Large Industrial Program Sample Detailed Projects

MMID	Project Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
3111	LED Troffer, 2x4, Replacing 4' 3-4 Lamp T8 Troffer	191	182	**96%**	<1%	*(The first of two measures with same quantity from same customer.)* Customer interviewed as part of the *ex post* evaluation. Customer confirmed only 3 of the 12 fixtures on the application were installed to date, with no anticipated install date for the rest. *Ex post* calculations reduced first-year savings to reflect 3 fixtures, but have left the remaining 16 years of EUL as the full 12 fixture.
2640	VFD, Boiler Draft Fan	2,324	2,934	**126%**	<1%	Customer Interviewed as part of the *ex post* evaluation. Customer provided trend data that demonstrated annual operating hours of 8,592. *Ex post* calculation modified hours to actual from 8,000 estimate in *ex ante* calculator. Per the interview, the previous control was inlet damper rather than inlet guide vanes. *Ex post* calculation modified type of control in the hybrid calculator to inlet damper. All other inputs to the hybrid calculator from *ex ante* were unchanged.
2455	LED, Not Otherwise Specified	4,004	3,178	**79%**	<1%	LED with LED replacement (custom), net reduction of 4 watts, *ex post* kW figure agrees with *ex ante* figure of 15.92 kW reduction. Customer indicated majority of lighting was on a programmed schedule of 7 a.m. to 6 p.m., M-F, with no weekend operation programmed. However, some lighting was on occupancy sensor and turned on with cleaning crew, etc. *Ex post* calculations conservatively added 4 hours (on all lighting) onto the total hours of use (HOU) to equal 15 hours per day * 5 * 52 = 3,900 operating hours annually. This figure provides a different kWh savings value, which reduced savings for this measure.
3111	LED Troffer, 2x4, Replacing 4' 3-4 Lamp T8 Troffer	191	182	**96%**	<1%	*(Second of two measures with same quantity from the same customer)* Customer interviewed as part of the *ex post* evaluation. Customer confirmed only 3 of the 12 fixtures on the application were installed to date, with no anticipated install date for the rest. *Ex post* calculations reduced first-year savings to reflect 3 fixtures, but have left the remaining 16 years of EUL as the full 12 fixture.
4000	Steam Trap Repair, 10-49 PSIG, Industrial	795	661	**83%**	<1%	Steam trap Tag #0946 and #0956 were 10 PSIG instead of submitted 15 PSIG. The slight modification in total PSIA resulted in 49.4 PSIA and slightly lower savings for the measure.
2383	HVAC Energy Management System	89,669	92,640	**103%**	<1%	Interviewed the customer as part of the evaluation review. During virtual screenshare meeting, customer provided screenshots of the programmed schedule, the make-up air units were programmed (and confirmed operation) from 5:30 a.m. to 3:30 p.m., M-F, which

MMID	Project Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
						represents a slight adjustment from the start time in the proposed schedule in *ex ante* calculations. The result slightly reduced overall run time, which resulted in approximately 3% increase in savings in *ex post*.
2499	Process, Not Otherwise Specified	1,172,708	1,961,534	**167%**	6%	Team collected substantial data during customer interviews on runtime and production. Requested the pre- and post-production data, boiler steam data (kpph), and IR consumption (therms) to determine the energy intensity for the pre- and post-systems. *Ex post* calculation multiplied both intensities by the post-installation production rate. Found production rate post-production to remain largely unchanged from pre-production. Resulting intensity normalized for production demonstrated higher efficiency than claimed in *ex ante.*
3280	VFD, Constant Torque	689	503	**73%**	<1%	Customer confirmed that the equipment runs 7 days per week and 50% of each shift. Not including additional time for downtime and holidays, conservatively this appears to be 50% of the year comprehensively or 4,380 hr/yr. *Ex post* adjusted hours of use from *ex ante* estimated 6,000 hr/yr, which reduced savings by 25%
2645	VFD, Not Otherwise Specified	42,146	28,850	**68%**	<1%	Trend data on fan speed was provided by customer. This indicated that the fan operated at 85% speed, which was significantly higher than the 30% estimated by the implementation team. The customer indicated that the fan speed was typical of operations. The team attempted to conservatively model this using the low-loading profile of the hybrid calculator within the application-provided fan power workup. As a large randomly sampled project, the realization rate on this project will strongly drive the extrapolated realization rate for the program.
2647	VFD, Process Fan	675	845	**125%**	<1%	The team adjusted the VFD calculator to be 'other' instead of 'process' and adjusted operating hours to 8,760 instead of 7,000. The customer confirmed continuous fan operation. Dust collector use appeared to fit the exhaust type better than the direct process type. These modifications increased savings by 25%.
4766	Compressed Air System Leak Survey and Repair	888	579	**65%**	<1%	The team made several input modifications using customer-provided data. The customer confirmed with data demonstrating 5,472 hr/yr operation (adjusted from 8400), 109 PSI (adjusted from 100 PSI), and photo showing 800 hp connected compressor power (adjusted from 300 hp). On balance, kW savings were maintained fully, but kWh savings were reduced to 65% realization, primarily due to the hours of operation adjustment.

MMID	Project Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
2499	Process, Not Otherwise Specified	1,224	1,407	**115%**	<1%	*Ex ante* calculations used 20% assumed savings for VFD upgrade (appeared to be a figure supplied by the supplier but not supported in the analysis data). *Ex post* savings adjusted value to 23% by calculating the actual motor kW from the specification and load, which resulted in higher savings for the measure.
3622	Water-Related Energy Savings	344	359	**104%**	<1%	The operating hours were raised from 8400 to 8748 based on customer provided feedback during verification interview.
2499	Process, Not Otherwise Specified	747,108	1,023,778	**137%**	4%	Updated steam production data with the latest values that include 2023. Data was supplied by the customer and has been normalized to account for average operating conditions of steam flow, in lb/hr, for both 125 # and 240 # steam.
2264	Compressed Air, Cycling thermal Mass Air Dryers	126	127	**102%**	<1%	*Ex ante* savings used a slightly reduced CFM. *Ex post* elected to use the maximum CFM given in the range in the product spec sheets, which resulted in slightly larger kWh and kW savings.
3622	Water-Related Energy Savings	431	421	**98%**	<1%	*Ex post* calculation reduced the total hours of operation from 8,700 to 8,500 to reflect the hours used by the pumping system and hours used on previous projects from this facility
2215	Boiler, Flue Gas Heat Recovery	1,629,761	1,588,559	**97%**	8.2%	*Ex post* analysis made some adjustments based on screen shots from customer SCADA and responses from site contact during post verification: • Adjusted make-up water to boiler to 50.1 GPM • Adjusted make-up water outlet temp to 186 per diagram • Adjusted flow rate of heated water to reclaim tank to 190 GPM • Adjusted temperature of heated water reclaim tank to 121°F • Adjusted the displaced warm water from dryer condenser water to match the reclaim tank at 121°F
5119	EDA - Project Savings and Verification	42,132	42,887	**102%**	3%	The natural gas savings derived from the model SIM files and the NEO model itself did not match the savings in the verification report and SPECTRUM; the as-built natural gas consumption is different in the SIM file vs. the verification report. *Ex post* captured the as-build version of the project.

Schools and Government Program

The evaluation team found two discrepancies in realization rates for sampled projects in the CY 2023 Schools and Government Program. In the impact sample, 103 of 105 projects achieved a 100% energy realization rate. Two measures received a realization rate that deviated from 100%. Both were custom measures in the EDA/EDR Offering, one randomly sampled and the other census sampled. Table F-5 provides specific details related to projects with discrepancies.

Table F-5. CY 2023 Schools and Government Program Sample Detailed Projects

MMID	Project Measure	Lifecycle Savings (MMBtu)		Real. Rate	Share of Offering	Notes
		Ex Ante	*Ex Post*			
5119	EDA - Project Savings and Verification	2,656	2,538	**96**	0.2%	This new construction HVAC utilizes the existing chillers and boilers in the existing wing of the building. *Ex ante* savings did not include heating savings but did include cooling savings, which is not consistent with an existing cooling system or the heating methodology. *Ex Post* analysis removed the cooling end-use savings as it was not part of the scope of the new construction project.
5119	EDA - Project Savings and Verification	334,042	309,948	**93%**	24%	Census selected project due to impact. The Verified Model SIM file from the implementer does not agree with the verification report from the implementer. The implementor indicated the File Builder model was complex and may have proved difficult to accurately model.

Appendix G. Net Savings Analysis

For the CY 2023 evaluation of Focus on Energy's offerings, the evaluation team applied net-to-gross (NTG) adjustments drawn from CY 2023 primary research and historical primary research. This appendix describes which research findings the team applied to each offering.

Net Savings Overview

As described in Volume II, the evaluation of a program and its offerings involves reviewing the reported gross savings to ensure that the measures installed have remained installed and are working as intended. The evaluation team then applies any adjustments found during that review to calculate verified gross savings.

Net savings are savings that would not have occurred in the absence of a given offering. These are the final savings attributed to an offering, as determined by an independent evaluator. To determine these savings, the evaluator deducts reported savings that are associated with freeriders (participants who would have undertaken the same action and achieved the same savings in the absence of an offering) and adds spillover savings (savings that are the result of an offering's influence, but for which no incentive was paid and for which no offering has recorded savings).

Net savings represent the total savings achieved through the investment of ratepayer dollars into the offering. These net savings are the primary benefits factored into the benefit/cost analysis used to help design offerings and ensure that they are operating in a manner that returns a net positive benefit to ratepayers. Focus on Energy also uses net savings to track progress toward the savings targets established for it by the PSC.

For CY 2023, the evaluation team calculated net savings by applying NTG ratios estimated from CY 2023 primary research, historical NTG ratios from primary research or assuming an NTG of 1.0. In some cases, the team combined studies to determine the savings-weighted average NTG ratios for each offering. Table G-1 shows the evaluation methods used to determine net savings for each offering for the CY 2023 evaluation. New NTG research conducted in CY 2023 consisted of participant surveys, which provided self-report NTG results.

Table G-1. CY 2023 Net Savings Methodology by Offering

CY 2023 Offerings	Net Savings Methodologies
Residential	
Online Marketplace	CY 2021 Self-report
Packs	CY 2023 Self-report for weatherization packs CY 2020 Self-report for all other measures
Retail, Retail Lighting	CY 2021 National lighting sales model
Retail, Income Qualified	Assumed 100% NTG
Retail, Retail Products	CY 2015 Self-report
Heating and Cooling (Standard)	CY 2023 Self-report
Heating and Cooling (Income Qualified)	Assumed 100% NTG

CY 2023 Offerings	Net Savings Methodologies
Insulation and Air Sealing (Standard)	CY 2020 Billing analysis
Insulation and Air Sealing (Income Qualified)	Assumed 100% NTG
Multifamily	CY 2023 Self-report
Multifamily, EDA/EDR	CY 2023 Self-report
Renewable Rewards (Residential)	CY 2021 Self-report
Residential New Construction	CY 2019 Billing analysis
Nonresidential	
Agribusiness	CY 2023 Self-report
Rural Farmhouse Kits	CY 2020 Self-report from Packs participant surveys
Commercial and Industrial	CY 2023 Self-report
Large Industrial	CY 2023 Self-report
Government	CY 2023 Self-report
Schools	CY 2023 Self-report
EDA/EDR	CY 2023 Self-report
Renewable Rewards (Business)	CY 2021 Self-report
Midstream	
Midstream Contractor	CY 2023 Self-report from contractors for circulator pumps. CY 2022 Self-report and Delphi Panel results for commercial kitchen and HVAC equipment.
Community-Based Organization Distribution	Assumed 100% NTG

Two components—freeridership and participant spillover—constitute NTG. True freeriders are customers who would have purchased a measure without an offering's influence. Participant spillover is the savings obtained by customers investing in additional energy-efficient measures or activities specified in the technical reference manual (TRM) because of their participation.

This section presents the self-report approaches the evaluation team used to determine NTG for CY2023 residential and nonresidential offerings. In summary, the team conducted participant surveys and used self-reported findings to calculate NTG ratios. It then applied these results to measure categories and offerings for which adequate baseline data were unavailable.

Survey Design

To assess NTG for surveyed offerings, the evaluation team asks a series of freeridership and spillover questions. The evaluation team combines two types of freeridership to align with industry best practices:

- *Intention* freeridership relies on customers' self-reported intention to purchase a measure in the absence of the offering. Survey items that addressed the offering's effect on the efficiency, quantity, and timing of purchases.
- *Influence* freeridership relies on the influence of offering elements on the customer's decision to purchase a measure. Offering influences could include Focus on Energy incentives, staff recommendations, or educational materials about energy efficiency.

The team estimates an *intention* freeridership score and an *influence* freeridership score ranging from 0% to 100% for each surveyed participant for each offering. Offering-level *intention* and *influence* freeridership scores are then calculated by weighting the individual freeridership component scores by respondents' verified lifecycle gross savings.

By savings-weighting the *intention* methodology with an *influence* methodology, the evaluation team produces a freeridership score for the offering. The team calculates the arithmetic mean of *intention* and *influence* freeridership components to estimate final freeridership for the offering, as shown in the following equation:

$$\text{Final Freeridership} = \frac{Intention \text{ FR Score } + Influence \text{ FR Score}}{2}$$

The *intention* freeridership questions are designed to elicit as accurately as possible the impact of a particular offering on the respondent's decision to purchase high-efficiency equipment. Offerings can influence customer decisions in a variety of ways: participants may decide to purchase an energy-efficient measure sooner than planned, to purchase a higher efficiency measure than planned, or to purchase more units than planned without the offering. To understand the influence of the offering, the survey asks questions about what decision-makers might have done in its absence.

Direct questions such as, "Would you have installed measure X without the offering incentive?" tend to result in exaggerated *yes* responses. Participants often provide answers they believe surveyors seek, so such a question becomes the equivalent of asking: "Would you have done the right thing on your own?" Effectively avoiding such bias involves asking a question in several different ways and checking for consistent responses.

Basing *intention* freeridership estimates on a series of questions rather than a single question helps the evaluation team recognize and minimize response biases. Not all questions are weighted equally. For example, respondents who would not have installed the measure(s) to the same level of efficiency without the offering are automatically 0% *intention* freeriders. If nonresidential participants would not have installed the measure(s) within two years without the offering, they are automatically 0% *intention* freeriders. The team assigns other questions included in the *intention* freeridership analysis partial weights for responses that are indicative of a non-freerider.

The survey questions address five core dimensions of *intention* freeridership for residential offerings and six core intention freeridership dimensions for nonresidential offerings, as listed below:

- Would participants have installed measures without the offering?
- Were participants planning on purchasing or installing the measures before learning about the offering?
- Would participants have installed the measures at the same efficiency levels without the offering incentive?
- Would participants have installed the same quantity of efficient measures without the offering?

- In the absence of the offering, would participants have installed the measures at a different time?
- Was the purchase of the measures in the organization's most recent capital budget (nonresidential only)?

Specific intention freeridership questions used for the offerings are presented in their individual analysis sections in this appendix.

Persistent conjecture in the industry indicates that intention self-reports may be subject to biases, yielding an inflated freeridership value. To address this possibility and to provide a triangulation of approaches to the estimate, the evaluation team integrates a second set of survey questions designed to measure the offering's perceived influence on the respondents' purchasing decisions.

To estimate offering influence, the survey asks respondents to rate the influence of five offering elements on their purchasing decisions. Responses are captured using a 1 to 5 scale, with 1 meaning *not at all important* and 5 meaning *very important*. A surveyed participant's overall influence rating equals the maximum influence of any single offering element. This draws upon an underlying principle: if a single element had a substantial influence on a respondent's purchasing decision, the offering has successfully influenced the respondent.

Intention Freeridership Methodology

To assess freeridership, the team uses a probability matrix to assign a single *intention* freeridership score to each participant, using his or her responses to targeted survey questions.[9] The team then applies *intention* freeridership scores to question response patterns in the probability matrix.

This matrix approach provides these key benefits:

- Derivation of a partial *intentio*n freeridership score, based on the likelihood of a respondent taking similar actions in the offering's absence
- Use of a rules-based approach for consistency among multiple respondents
- Ability to change weightings in a "what-if" exercise, testing the response set's stability

The evaluation team's method offers the advantage of partial *intention* freeridership. Experience has shown that participants do not fall neatly into freerider and non-freerider categories. For example, the team assigns partial *intention* freeridership scores to participants who have plans to install a measure; that is, although the offering exerts some influence over their decisions, these respondents are also influenced by other market factors outside of the offering. Further, the team can assign partial credit to "don't know" and "refused" responses, rather than removing respondents entirely from the analysis.

Next, the evaluation team converts each participant survey response into *intention* freeridership matrix terminology, combines each participant's converted responses to assign an *intention* freeridership score

[9] Khawaja, M. S. 2007 edition. *The N/APEE Handbook on DSM Evaluation.* p. 5-1.

from the matrix, and aggregates all participants into an average *intention* freeridership score for the entire offering category, ultimately assessing *intention* freeridership at three different levels.

Response Conversion to Matrix Terminology

The evaluation team independently evaluates each response, assesses it for *intention* freeridership, and converts it into one of these values:

- Yes (indicative of freeridership)
- No (indicative of non-freeridership)
- Partial (indicative of partial freeridership)

Participant Intention Freeridership Scoring

Following conversion of survey responses into matrix terminology, the team created an *intention* freeridership matrix for each offering. The team's process for determining an *intention* freeridership score is as follows:

- Categorize customers as 0% intention freeriders in these instances:
  - They had no plans to install the measure in the absence of the offering's incentives and would not have installed the measure within a year for residential offerings and within two years for nonresidential offerings.
  - They had specific plans to install the measure before learning about the offering but would not have done so without offering incentives.
  - In the absence of offering incentives, the customer would not have purchased or installed equipment to the same level of efficiency.
- Categorize customers as 100% intention freeriders if they would have installed the measure without the offering or if they had installed the measure before learning about the offering.
- Assign customers a partial *intention* freeridership score (ranging from 12% to 75%) if they had plans to install the measure and their decision was influenced by the offering. (This influence may have been installation timing, the number of measures installed, or the efficiency levels of measures installed.) For customers who are highly likely to install a measure and for whom the offering had less influence over their decision, apply a higher *intention* freeridership percentage.

Measure Category *Intention* Freeridership Scoring

After assigning an *intention* freeridership score to every survey respondent, the evaluation team calculates a savings-weighted average *intention* freerider score for the measure category. For each offering, the respondents' *intention* freerider scores are individually weighted by estimated savings of equipment installed using the following calculation:

$$\text{Savings Weighted } \textit{Intention} \text{ Freeridership} = \frac{\sum[\text{Respondent } \textit{Intention} \text{ Freerider Score}] * [\text{Verified Measure Lifecycle Gross Energy Savings}]}{\sum[\text{All Respondents Verified Measure Lifecycle Gross Energy Savings}]}$$

Influence Freeridership Methodology and Scoring

To estimate an *influence* freeridership score, the survey asks respondents to rate the importance of offering elements on their purchasing decisions. The surveys capture responses using a five-point scale, with 1 meaning *not at all important* and 5 meaning *very important*. A surveyed participant's overall influence rating equals the maximum importance of any single offering element. This methodology assumes that if a single element had a substantial influence on a respondent's purchasing decision, the offering successfully influenced the respondent.

For example, Table G-2 shows a set of questions to capture respondents' perspectives on elements driving them to take energy-efficient actions.[10] In this example, the influence rating would be a 5 because the offering's maximum influence was a 5 for "The Focus on Energy incentive or discount."

Table G-2. Example of Influence Freeridership Component Question

I'm going to read a list of possible factors that could have contributed to your decision. For each of the factors listed, please rate how important it was in your decision. Use a scale from 1 to 5, with 1 meaning the factor was *not at all important* and 5 meaning the factor was *very important* in your decision to purchase the energy-efficient [MEASURE][s].							
Rate Influence of Offering Elements							
	1 - Not at all important	***2***	***3***	***4***	***5 - Very important***	***Don't Know***	***Not Applicable***
The Focus on Energy incentive or discount	1	2	3	4	(5)	DK	N/A
Recommendation from Focus on Energy Staff	1	2	3	(4)	5	DK	N/A
Information provided by Focus on Energy on energy-savings opportunities	1	2	3	4	5	(DK)	N/A
Recommendation from contractor or vendor	1	(2)	3	4	5	DK	N/A
Previous participation in a Focus on Energy efficiency offering	1	2	(3)	4	5	DK	N/A

High offering-influence ratings and influence freeridership maintain an inverse relationship: the greater the offering's influence rating, the lower the participant's final influence freeridership score. Table G-3 presents the freeridership level implied by each influence rating.

[10] The question wording and program factors in surveys may vary slightly depending on the specific program component. The *Influence Freeridership Analysis* sections in the specific program chapters list factors included for each specific program component.

Table G-3. *Influence* Freeridership Implied by Response to Influence Items

Influence Rating	*Influence* Freeridership Score
1 - *Not at all important*	100%
2	75%
3	50%
4	25%
5 - *Very important*	0%
Don't know	50%
Not applicable	50%

Measure Category *Influence* Freeridership Scoring

After assigning an *influence* freeridership score to every survey respondent, the evaluation team calculates a savings-weighted average *influence* freerider score for the measure category. For each offering, the respondents' *influence* freerider scores are individually weighted by estimated savings of equipment installed using the following calculation:

$$\text{Savings Weighted Influence Freeridership} = \frac{\sum[\text{Respondent } Influence \text{ Freerider Score}] * [\text{Verified Measure Lifecycle Gross Energy Savings}]}{\sum[\text{All Respondents Verified Measure Lifecycle Gross Energy Savings}]}$$

Spillover Methodology

Spillover refers to additional savings generated by offering participants following their participation but not captured by offering records. Spillover occurs when participants choose to purchase energy-efficient measures or adopt energy-efficient practices because of an offering's influence but they do not receive offering incentives from a utility or another organization.

The evaluation team measures spillover by asking a sample of participants who purchased and received an incentive for a particular measure if they installed another efficient measure or undertook another energy efficiency activity because of the offering. Respondents rate the offering's (and incentive's) relative influence (either *very important*, *somewhat important*, *neutral, not too important*, or *not at all important*) on their decisions to pursue additional savings.

Participant Spillover Analysis

The evaluation team uses a top-down approach to calculate spillover savings. The team starts the analysis with a subset of survey respondents who indicated they had installed additional energy-saving measures after participating in the offering and screens out any respondents who received an incentive for these additional measures. Respondents are only removed if they indicate the offering had little influence on their decisions to purchase additional measures.

The evaluation team applies evaluated and deemed savings to the spillover measures respondents said they had installed as a result of their participation. To calculate a spillover percentage per offering category, the team divides the sum of additional spillover savings reported by respondents by total gross savings achieved by all respondents in the offering category, as in the following equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure Lifecycle Gross Energy Savings for All Survey Respondents}}{\sum \text{Offering Measure Verified Lifecycle Gross Energy Savings}}$$

Net-to-Gross Analysis

The evaluation team combines this spillover information with the offering-level freeridership results to achieve the NTG ratio, using the following calculation:

NTG = 100% – Freeridership + Spillover

CY 2023 Self-Reported Freeridership, Spillover, and NTG Results

Table G-4 lists CY 2023 participants' self-reported freeridership, spillover, and NTG results. The following sections provide additional detail about methodology and results for each offering.

Table G-4. CY 2023 Self-Report Participant Freeridership, Spillover and NTG by Offering

Offering	Measure	n	Freeridership [a]	Spillover	NTG
Residential Offerings					
Packs	Door Sweep	105	26%	2%	76%
	Door Weatherstripping	64	30%	2%	72%
	LED Nightlight	159	17%	2%	85%
	Outlet Gasket	81	5%	2%	97%
	Switch Gasket	72	4%	2%	98%
	Window Film Insulation	28	50%	2%	52%
Heating and Cooling (Standard Income)	Air-Source Heat Pump	215	27%	0%	73%
	Boiler	44	46%	0%	54%
	Ductless Minisplit Heat Pump	130	33%	0%	67%
	Furnace	140	47%	0%	53%
	Ground-Source Heat Pump	17	32%	0%	68%
	Smart thermostat	137	28%	0%	72%
	Water Heater	13	46%	0%	54%
Multifamily	Multifamily	64	20%	3%	83%
Nonresidential Offerings					
Agribusiness		70	22%	0%	78%
Commercial and Industrial		85	23%	2%	79%
Large Industrial		62	8%	0%	92%
Government		67	29%	0%	71%
Schools					
EDA/EDR [b]		30	7%	0%	93%
Midstream Offerings					
Midstream Contractor	Circulator Pumps	8	29%	0%	71%

[a] Weighted by CY 2023 verified lifecycle MMBtu gross energy savings.

[b] The evaluation team conducted one EDA/EDR NTG analysis across all nonresidential and multifamily programs that include an EDA/EDR offering.

Heating and Cooling Offering (Standard Income)

Freeridership

Intention Freeridership Survey Questions

For CY 2023 participant surveys, the *intention* freeridership section included the following questions:

- F1. When did you first hear about the availability of a Focus on Energy Heating and Cooling offering incentive for [MEASURE]?
- F2. [ASK IF F1=3, 4, 5 OR 6] So just to be clear, you purchased your [MEASURE] before you heard anything about the Focus on Energy Heating and Cooling offering incentive. Is that correct?
- F3. Before you heard about the offering, had you already considered installing [MEASURE]?
- F4. [ASK IF MEASURE≠"smart thermostat(s)" OR "ground-source heat pump(s)"] Without the rebate from Focus on Energy, would you most likely have purchased and installed [MEASURE] that was just as efficient, less efficient or more efficient than what you purchased?
- F5. [ASK IF MEASURE="smart thermostat(s)"] Without the rebate from Focus on Energy, what kind of thermostat would you most likely have installed?
- F6. [ASK IF MEASURE="ground-source heat pump(s)"] Without the rebate from Focus on Energy, what would you most likely have installed instead of the ground-source heat pump?
- F8. [ASK IF QUANTITY > 1] Would you most likely have installed the same quantity of [MEASURE] without the rebate from Focus on Energy?
- F9. Thinking about timing, without the Focus on Energy rebate, when would you most likely have installed the [MEASURE]?

Convert Responses to Matrix Terminology

Table G-5 on the following page shows how the team translated participants' incentive-focused survey responses into results of *yes, no*, or *partially* indicative of *intention* freeridership (in parentheses).

Table G-5. Heating and Cooling Offering – Raw Survey Response Translation to *Intention* Freeridership Scoring Matrix Terminology

F1. When did you first hear about the availability of the Focus on Energy Heating and Cooling Offering incentive for [MEASURE]?	F2. [ASK IF F1=3, 4, 5 OR 6] So just to be clear, you purchased your [MEASURE] before you heard anything about the Focus on Energy Heating and Cooling Offering incentive. Is that correct?	F3. Before you heard about the offering, had you already considered installing [MEASURE]?	F4. [ASK IF MEASURE ≠ "smart thermostat(s)" OR "ground-source heat pump(s)"] Without the rebate from Focus on Energy, would you most likely have purchased and installed [MEASURE] that was just as efficient, less efficient or more efficient than what you purchased?	F5. [ASK IF MEASURE="smart thermostat(s)"] Without the rebate from Focus on Energy, what kind of thermostat would you most likely have installed?	F6. [ASK IF MEASURE="ground-source heat pump(s)"] Without the rebate from Focus on Energy, what would you most likely have installed instead of the ground-source heat pump?	F8. [ASK IF QUANTITY > 1] Would you most likely have installed the same quantity of [MEASURE] without the rebate from Focus on Energy?	F9. Thinking about timing, without the Focus on Energy rebate, when would you most likely have installed the [MEASURE]?
Before you contacted your contractor to purchase [MEASURE] (No)	Yes, that's correct (Yes)	Yes (Yes)	Just as efficient (Yes)	A smart or learning thermostat (Yes)	Installed a smaller, less expensive geothermal or ground-source heat pump (Partia2l)	Yes, the same quantity (Yes)	At the same time (Yes)
When the contractor provided the quote for purchase and installation (No)	No, that's not correct (No)	No (No)	Less Efficient (No)	A Wi-Fi thermostat (non-learning) (Partial2)	Installed the same size, same-cost geothermal or ground-source heat pump (Yes)	No, would have installed fewer (Partial2)	Later, but within 12 months (Partial2)
After your contractor installed your [MEASURE] (Yes)	Don't Know (Partial)	Don't Know (Partial)	More Efficient (Yes)	A programmable thermostat (No)	Installed a larger, more expensive geothermal or ground-source heat pump (Yes)	No, would have installed more (Yes)	One to two years out (No)
When you received your incentive check from Focus on Energy (Yes)			Don't Know (Partial)	A manual thermostat (No)	Not installed a ground-source heat pump at all (No)	No, would not have installed anything at all (No)	More than two years out (No)
After you purchased your [MEASURE] (Yes)				Would not have installed a new thermostat (No)	Don't Know (Partial)	Don't Know (Partial)	Never (No)
You had not heard of Focus on Energy before this survey (Yes)				Don't Know (Partial)			Don't Know (Partial)
Don't Know (No)							

Participant Intention Freeridership Scoring

For each incentive-focused path, the *intention* freeridership score started with 100%, which the evaluation team decremented based on participant's responses to the questions (Table G-6).

Table G-6. *Intention* Freeridership Scoring Legend

Q#	Decrement
F1	0% decrement for "No," Partial level not needed
F2	100% FR if "Yes," "Partial" level not needed
F3	50% decrement for "No," 25% decrement for "Partial"
F4	100% decrement for "No," 25% decrement for "Partial," 50% decrement for "Partial2"
F5	100% decrement for "No," 25% decrement for "Partial," 50% decrement for "Partial2"
F6	100% decrement for "No," 25% decrement for "Partial," 50% decrement for "Partial2"
F8	50% decrement for "No," 25% decrement for "Partial"
F9	100% decrement for "No," 25% decrement for "Partial," 50% decrement for "Partial2"

Intention Freeridership Analysis

Table G-7 on the following page shows the unique response combinations from participants answering the Heating and Cooling offering *intention* freeridership questions (actual responses mapped to yes, no, or partial, as indicative of freeridership), the *intention* freeridership score assigned to each combination, and the number of responses for each analysis category. The evaluation team calculated a savings weighted *intention* freeridership score for each analysis category based on the distribution of scores within the matrix.

Table G-7. Heating and Cooling Offering – Frequency of *Intention* Freeridership Scoring Combinations

F1. When did you first hear about the availability of the Focus on Energy Heating and Cooling Offering incentive for [MEASURE]?	F2. [ASK IF F1=3, 4, 5 OR 6] So just to be clear, you purchased your [MEASURE] before you heard anything about the Focus on Energy Heating and Cooling Offering incentive. Is that correct?	F3. Before you heard about the offering, had you already considered installing [MEASURE]?	F4. [ASK IF MEASURE ≠ "smart thermostat(s)" OR "ground-source heat pump(s)"] Without the rebate from Focus on Energy, would you have purchased and installed [MEASURE] that was just as efficient, less efficient or more efficient than what you purchased?	F5. [ASK IF MEASURE= "smart thermostat(s)"] Without the rebate from Focus on Energy, what kind of thermostat would you have installed?	F6. [ASK IF MEASURE= "ground-source heat pump(s)"] Without the rebate from Focus on Energy, what would you have installed instead of the ground-source heat pump?	F8. [ASK IF QUANTITY > 1] Would you have installed the same quantity of [MEASURE] without the rebate from Focus on Energy?	F9. Thinking about timing, without the Focus on Energy rebate, when would you have installed the [MEASURE]?	*Intention* FR Score	Count ASHP	Count Boiler	Count DMSHP	Count Furnace	Count GSHP	Count Smart TStats	Count WH
Yes	Yes	x	x	x	x	x	x	100%	2	6	9	22	1	29	2
Yes	No	Yes	x	Partial	x	x	Partial2	25%	0	0	0	0	0	1	0
Yes	No	Yes	x	Partial2	x	x	Yes	50%	0	0	0	0	0	1	0
Yes	No	Yes	x	No	x	x	x	0%	0	0	0	0	0	2	0
Yes	No	No	x	Partial2	x	x	Partial	0%	0	0	0	0	0	1	0
Yes	No	No	x	No	x	x	x	0%	0	0	0	0	0	1	0
No	x	Yes	x	Yes	x	Yes	Yes	100%	0	0	0	0	0	1	0
No	x	Yes	x	Yes	x	Yes	Partial	75%	0	0	0	0	0	1	0
No	x	Yes	x	Yes	x	x	Yes	100%	0	0	0	0	0	26	0
No	x	Yes	x	Yes	x	x	Partial	75%	0	0	0	0	0	3	0
No	x	Yes	x	Yes	x	x	Partial2	50%	0	0	0	0	0	5	0
No	x	Yes	x	Yes	x	x	No	0%	0	0	0	0	0	2	0
No	x	Yes	x	Partial	x	x	Yes	75%	0	0	0	0	0	2	0
No	x	Yes	x	Partial	x	x	Partial	50%	0	0	0	0	0	3	0
No	x	Yes	x	Partial2	x	x	Yes	50%	0	0	0	0	0	9	0
No	x	Yes	x	Partial2	x	x	Partial	25%	0	0	0	0	0	1	0
No	x	Yes	x	Partial2	x	x	Partial2	12.5%	0	0	0	0	0	3	0
No	x	Yes	x	No	x	x	x	0%	0	0	0	0	0	28	0
No	x	Partial	x	No	x	x	x	0%	0	0	0	0	0	3	0
No	x	No	x	Yes	x	x	Yes	50%	0	0	0	0	0	2	0
No	x	No	x	Yes	x	x	Partial2	12.5%	0	0	0	0	0	1	0
No	x	No	x	Partial2	x	x	Yes	12.5%	0	0	0	0	0	1	0
No	x	No	x	No	x	x	x	0%	0	0	0	0	0	11	0
Yes	No	Yes	Yes	x	x	x	Partial2	50%	0	0	1	0	0	0	0
No	x	Yes	Yes	x	x	Yes	Yes	100%	1	1	5	2	0	0	0
No	x	Yes	Yes	x	x	Yes	Partial2	50%	0	0	2	0	0	0	0
No	x	Yes	Yes	x	x	Yes	No	0%	1	0	0	0	0	0	0
No	x	Yes	Yes	x	x	Partial2	No	0%	0	0	1	0	0	0	0
No	x	Yes	Yes	x	x	x	Yes	100%	74	29	54	91	0	0	8
No	x	Yes	Yes	x	x	x	Partial	75%	0	0	1	0	0	0	0

F1. When did you first hear about the availability of the Focus on Energy Heating and Cooling Offering incentive for [MEASURE]?	F2. [ASK IF F1=3, 4, 5 OR 6] So just to be clear, you purchased your [MEASURE] before you heard anything about the Focus on Energy Heating and Cooling Offering incentive. Is that correct?	F3. Before you heard about the offering, had you already considered installing [MEASURE]?	F4. [ASK IF MEASURE ≠ "smart thermostat(s)" OR "ground-source heat pump(s)"] Without the rebate from Focus on Energy, would you have purchased and installed [MEASURE] that was just as efficient, less efficient or more efficient than what you purchased?	F5. [ASK IF MEASURE= "smart thermostat(s)"] Without the rebate from Focus on Energy, what kind of thermostat would you have installed?	F6. [ASK IF MEASURE= "ground-source heat pump(s)"] Without the rebate from Focus on Energy, what would you have installed instead of the ground-source heat pump?	F8. [ASK IF QUANTITY > 1] Would you have installed the same quantity of [MEASURE] without the rebate from Focus on Energy?	F9. Thinking about timing, without the Focus on Energy rebate, when would you have installed the [MEASURE]?	*Intention* FR Score	Count ASHP	Count Boiler	Count DMSHP	Count Furnace	Count GSHP	Count Smart TStats	Count WH
No	x	Yes	Yes	x	x	x	Partial2	50%	7	1	2	6	0	0	0
No	x	Yes	Yes	x	x	x	No	0%	4	0	6	2	0	0	0
No	x	Yes	Partial	x	x	Yes	Yes	75%	0	0	0	1	0	0	0
No	x	Yes	Partial	x	x	Partial	Yes	50%	0	0	1	0	0	0	0
No	x	Yes	Partial	x	x	No	x	0%	0	0	1	0	0	0	0
No	x	Yes	Partial	x	x	x	Yes	75%	13	2	12	3	0	0	1
No	x	Yes	Partial	x	x	x	Partial	50%	2	1	4	0	0	0	0
No	x	Yes	Partial	x	x	x	Partial2	25%	1	1	1	1	0	0	0
No	x	Yes	Partial	x	x	x	No	0%	4	1	6	0	0	0	0
No	x	Yes	No	x	x	x	x	0%	24	0	11	2	0	0	1
No	x	Partial	Yes	x	x	x	Yes	75%	4	0	0	1	0	0	0
No	x	Partial	Yes	x	x	x	No	0%	1	0	0	0	0	0	0
No	x	Partial	Partial	x	x	x	Yes	50%	3	0	0	0	0	0	0
No	x	Partial	No	x	x	x	x	0%	1	0	0	0	0	0	0
No	x	No	Yes	x	x	Yes	Partial	25%	1	0	0	0	0	0	0
No	x	No	Yes	x	x	x	Yes	50%	19	2	4	5	0	0	1
No	x	No	Yes	x	x	x	Partial	25%	2	0	1	1	0	0	0
No	x	No	Yes	x	x	x	No	0%	1	0	1	1	0	0	0
No	x	No	Partial	x	x	x	Yes	25%	13	0	2	0	0	0	0
No	x	No	Partial	x	x	x	Partial	12.5%	7	0	1	0	0	0	0
No	x	No	Partial	x	x	x	Partial2	0%	1	0	0	0	0	0	0
No	x	No	Partial	x	x	x	No	0%	5	0	2	2	0	0	0
No	x	No	No	x	x	x	x	0%	24	0	2	0	0	0	0
No	x	Yes	x	x	Yes	Yes	Yes	100%	0	0	0	0	1	0	0
No	x	Yes	x	x	Yes	x	Yes	100%	0	0	0	0	9	0	0
No	x	Yes	x	x	Yes	x	Partial2	50%	0	0	0	0	1	0	0
No	x	Yes	x	x	Yes	x	No	0%	0	0	0	0	1	0	0
No	x	Yes	x	x	Partial	x	Yes	75%	0	0	0	0	1	0	0
No	x	Yes	x	x	Partial	x	Partial	50%	0	0	0	0	1	0	0
No	x	Yes	x	x	No	x	x	0%	0	0	0	0	1	0	0
No	x	No	x	x	No	x	x	0%	0	0	0	0	1	0	0

Table G-8 shows the measure-level *intention* freeridership scores by offering.

Table G-8. Heating and Cooling Offering – *Intention* Freeridership Results

Analysis Category	n	*Intention* FR Score [a]
Air-Source Heat Pump	215	49%
Boiler	44	90%
Ductless Minisplit Heat Pump	130	65%
Furnace	140	89%
Ground-Source Heat Pump	17	60%
Smart thermostat	137	52%
Water Heater	13	87%

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Influence Freeridership Analysis

The evaluation team assessed *influence* freeridership by asking participants how important various offering elements were in their purchasing decisions. Table G-9 shows the offering elements participants rated for importance, along with a count and average rating for each factor.

Table G-9. Heating and Cooling Offering – *Influence* Freeridership Responses

Influence Rating	Influence FR Score	The Focus on Energy Heating and Cooling incentive or discount	Recommendation from Focus on Energy Staff	Information provided by Focus on Energy about energy savings opportunities	Recommendation from a contractor or vendor	Previous participation in a Focus on Energy offering or program
1 - Not at all important	100%	244	103	57	3	170
2	75%	51	93	33	2	77
3	50%	105	170	99	11	150
4	25%	55	125	159	47	90
5 - Very important	0%	52	126	321	486	97
Not applicable	50%	189	79	27	2	112
Average Rating		**2.3**	**3.1**	**4.0**	**4.8**	**2.8**

The team determined each respondent's *influence* freeridership score for each analysis category, using the maximum rating provided for any factor included in Table G-9. As shown in Table G-10, the respondents' maximum influence ratings ranged from 1 (*not at all important*) to 5 (*very important*). A maximum score of 1 meant the customer ranked all factors from the table as *not at all important*, while a maximum score of 5 means the customer ranked at least one factor *very important*. Counts refer to the number of "maximum influence" responses for each factor, or *influence* freeridership score, response option.

Table G-10. Heating and Cooling Offering – *Influence* Freeridership Score

Influence Rating	Influence FR Score	Count Air-Source Heat Pump	Count Boiler	Count Ductless Minisplit Heat Pump	Count Furnace	Count Ground-Source Heat Pump	Count Smart thermostat	Count Water Heater
1 - Not at all important	100%	0	0	0	0	1	1	0
2	75%	2	0	1	1	0	2	0
3	50%	2	0	0	2	0	3	0
4	25%	19	4	2	16	0	5	2
5 - Very important	0%	190	40	127	121	16	126	11
Not Applicable	50%	2	0	0	0	0	0	0
Average Rating		**4.9**	**4.9**	**5.0**	**4.8**	**4.8**	**4.8**	**4.8**
Average Influence Score - Weighted by Verified Lifecycle MMBtu Gross Savings		**4%**	**2%**	**1%**	**4%**	**4%**	**4%**	**4%**

Final Freeridership

The evaluation team calculated the mean of the overall *intention* and the overall *influence* of freeridership components to estimate final freeridership for the analysis categories. A higher freeridership score translates to more savings that are deducted from the gross savings estimates. Table G-11 lists the *intention*, *influence*, and final freeridership scores for Heating and Cooling offering measures.

Table G-11. Heating and Cooling Offering – Freeridership Score

Analysis Category	n	*Intention* FR Score [a]	*Influence* FR Score[a]	Final Freeridership Score
Air-Source Heat Pump	215	49%	4%	27%
Boiler	44	90%	2%	46%
Ductless Minisplit Heat Pump	130	65%	1%	33%
Furnace	140	89%	4%	47%
Ground-Source Heat Pump	17	60%	4%	32%
Smart thermostat	137	52%	4%	28%
Water Heater	13	87%	4%	46%

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Participant Spillover Analysis

The evaluation team estimated participant spillover based on answers from respondents who purchased additional high-efficiency equipment or appliances following their participation in the Heating and Cooling offering. The evaluation team applied evaluated and deemed savings to the spillover measures that customers said they had installed as a result of their offering participation, presented in Table G-12.

Table G-12. Heating and Cooling Offering – Participant Spillover Measures and Savings

Spillover Measure	Quantity	Total MMBtu Lifecycle Gross Savings Estimate
ENERGY STAR® air purifier	3	35
ENERGY STAR freezer	1	2
Gas furnace	6	312
Gas storage water heater	1	13
Smart power strip	1	1
Smart thermostat	4	132

Next, the evaluation team divided the sample spillover savings by the gross verified savings from the entire survey sample, as shown in this equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure EnergySavings for All Survey Respondents}}{\sum \text{Program Measure Energy Savings for All Survey Respondents}}$$

This yielded a 0% spillover estimate for the Heating and Cooling offering, when rounded to the nearest whole percentage (Table G-13).

Table G-13. Heating and Cooling Offering – Participant Spillover Percentage Estimate

Variable	Total Verified Lifecycle MMBtu Gross Savings Estimate
Spillover Savings	495
Offering Savings	258,092
Spillover Estimate	**0%**

Final Net-to-Gross Analysis

The evaluation team combined the spillover information with the freeridership results to determine final measure-level NTG ratios (Table G-14), using the following calculation:

NTG = 100% – Freeridership + Spillover

Table G-14. Heating and Cooling Offering – NTG Estimates

Analysis Category	n	Freeridership [a]	Spillover	NTG
Air-Source Heat Pump	215	27%	0%	73%
Boiler	44	46%	0%	54%
Ductless Minisplit Heat Pump	130	33%	0%	67%
Furnace	140	47%	0%	53%
Ground-Source Heat Pump	17	32%	0%	68%
Smart thermostat	137	28%	0%	72%
Water Heater	13	46%	0%	54%

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Packs Offering (Focus on Comfort Packs)

Freeridership

Freeridership Survey Questions

The Focus on Comfort Pack participant survey's freeridership section included two questions that collected measure specific responses:

- K3_1/K3_2/K3_3/K3_4/K3_5/K3_6. If you had not received the Focus on Comfort pack from Focus on Energy, would you have bought any of the following items for your home within 12 months?
- K1_1/ K 1_2/ K 1_3/ K 1_4/ K 1_5/K 1_6. Before receiving the pack, had you already installed any of the following?

Convert Responses to Matrix Terminology

Table G-15 shows how the evaluation team translated survey responses into results of *yes, no*, or *partially* indicative of freeridership (in parentheses).

Table G-15. Packs Offering– Raw Survey Response Translation to *Intention* Freeridership Scoring Matrix Terminology

K3_1/K3_2/ K 3_3/ K 3_4/ K 3_5/ K 3_6. If you had not received the Focus on Comfort pack from Focus on Energy, would you have bought any of the following items for your home within 12 months?	K 1_1/ K 1_2/ K 1_3/K 1_4/K 1_5/ K 1_6. Before receiving the pack, had you already installed any of the following?
Yes, at the same time (Yes)	Yes (Yes)
Yes, later but within 12 months (Partial)	No (No)
No, not within 12 months (No)	Don't Know (Partial)
Don't Know (Partial)	

Participant Freeridership Scoring

Each freeridership score started at 100%, which the evaluation team decremented based on the participant's responses to the two questions shown in Table G-16.

Table G-16. Packs Offering – *Intention* Freeridership Scoring Legend

Q#	Decrement
K3	100% decrement for "No," 50% decrement for "Partial"
K1	50% decrement for "No," 25% decrement for "Partial"

Freeridership Analysis Results

Table G-17 shows the freeridership results for Packs offering measures.

Table G-17. Packs Offering – Freeridership by Measure Category

Measure Category	n	Freeridership[a]
Door Sweep	105	26%
Door Weatherstripping	64	30%
LED Nightlight	159	17%
Outlet Gasket	81	5%
Switch Gasket	72	4%
Window Film Insulation	28	50%

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Participant Spillover Analysis

The evaluation team estimated participant spillover based on answers from respondents who purchased additional high-efficiency equipment or appliances following their participation in the Packs offering. The team applied evaluated and deemed savings to the spillover measures that customers said they had installed as a result of their offering participation, presented in Table G-18.

Table G-18. Packs Offering – Spillover Measures and Savings

Measure Category	Spillover Measure	Quantity	Total MMBtu Lifecycle Gross Savings Estimate
Focus on Comfort Pack	ENERGY STAR freezer	1	2
	ENERGY STAR room air conditioner	1	1
	Smart power strip	2	2
	Smart thermostat	1	39

Next, the team divided the sample spillover savings by the offering gross verified savings from the entire survey sample, as shown in this equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure EnergySavings for All Survey Respondents}}{\sum \text{Offering Measure Energy Savings for All Survey Respondents}}$$

This yielded a 2% spillover estimate for the Focus on Comfort packs, when rounded to the nearest whole percentage (Table G-19).

Table G-19. Packs Offering – Spillover Percentage Estimate

Variable	Total Lifecycle MMBtu Savings Estimate
Spillover Savings	45
Offering Savings	2,761
Spillover Estimate	**2%**

Final Net-to-Gross Analysis

The evaluation team combined the spillover information with the freeridership results to determine final measure-level NTG ratios (Table G-20), using the following calculation:

NTG = 100% – Freeridership + Spillover

Table G-20. Packs Offering – NTG Estimates by Measure Category

Measure Category	n	Freeridership[a]	Spillover	NTG
Door Sweep	105	26%	2%	76%
Door Weatherstripping	64	30%	2%	72%
LED Nightlight	159	17%	2%	85%
Outlet Gasket	81	5%	2%	97%
Switch Gasket	72	4%	2%	98%
Window Film Insulation	28	50%	2%	52%

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Nonresidential and Multifamily Offerings (Existing Buildings)

This section includes methodology and results for the following offerings:

- Agribusiness
- Commercial and Industrial
- Large Industrial
- Schools and Government
- Multifamily

The Freeridership section immediately below describes the freeridership methodology used for all five of these offerings. Offering-specific spillover methodology and results are presented in the offering-specific sections below.

Freeridership

Intention Freeridership Survey Questions

The *intention* freeridership sections of the participant survey included two separate sets of questions, which addressed the six core *intention* freeridership dimensions.

For these offerings, one set of *intention* freeridership questions was asked of participants who said they were the decision makers. A second set was asked of participants whose contractor helped them make decisions. Participants were asked only one of the two sets of questions.

The two sets of *intention* freeridership questions were directly comparable—the difference was that one was oriented toward counterfactual behavior without the incentive and one toward counterfactual behavior if the contractors were not involved.

The *intention* freeridership questions oriented toward the offering incentive and information or education participants received (asked in the survey format) were these:

- F1. First, did your organization have specific plans to install the [MEASURE][s] over a less efficient option before learning about the Focus on Energy incentive?
- F2. Prior to learning about the incentive, was the purchase of the [MEASURE[s]] included in your organization's capital budget?
- F3. Had your organization ALREADY ordered or purchased the [MEASURE[s]] BEFORE your organization heard about the Focus on Energy incentive?
- F4. Would you have purchased and installed the same [MEASURE[s]] over a less efficient option without the incentive and information and education from Focus on Energy?
- F5. Would you have installed something without the incentive and information or education from Focus on Energy?
- F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE[s]] you installed?
- F7. [Ask if QTY>1] And without the incentive and information or education from Focus on Energy, would you have installed the same number of [MEASURE1[s]]?
- F8. Without the incentive and information or education from Focus on Energy, when would you have installed the energy efficient [MEASURE[s]]?
- F9. When you say you would not have installed the same [MEASURE1 OR C_MEASURE1][s] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?
- F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE[s]] you installed?
- F11. [Ask if QTY>1] Without the incentive and information or education from Focus on Energy, would you have installed the same number of [MEASURE[s]]?
- F12. And, when would you have installed the same energy efficient [MEASURE1[s]?

The *intention* freeridership questions oriented toward the involvement of the contractor (as asked in the survey format) were these:

- G1. At the time that you first started working with your contractor on this project, had you already purchased or installed the energy-efficient [MEASURE][s]?
- G2. Did your organization have specific plans to install the energy-efficient [MEASURE][s] before you began working with your contractor?
- G3. Before you began working with your contractor, was the purchase of the energy-efficient [MEASURE][s] included in your organization's capital budget?
- G4. Did your contractor help your organization make the decision to include the purchase of the energy efficient [MEASURE][s] in your property's capital budget?

- G5. Would you have purchased and installed the same energy-efficient [MEASURE][s] without the assistance from your contractor and Focus on Energy?
- G6. Would you have installed something without the involvement of your contractor and Focus on Energy?
- G7. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE1 OR C_MEASURE1][s] you installed?
- G8. [Ask if QTY>1] And without the assistance from your contractor and Focus on Energy, would you have installed the same number of [MEASURE]?
- G9. Without the assistance from your contractor and Focus on Energy, would you have installed the energy-efficient [MEASURE][s]?
- G10. When you say you would not have installed the same energy-efficient [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all?
- G11. Without the assistance from your contractor and Focus on Energy, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?
- G12. [Ask if QTY>1] Without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient [MEASURE][s]?
- G13. And, when would you have installed the same energy-efficient [MEASURE][s]?

Convert Responses to Matrix Terminology

Table G-21 shows how survey responses for participants who received incentive-focused surveys were translated into the results *yes, no*, or *partially* indicative of *intention* freeridership (in parentheses). Table G-22 shows how contractor-focused survey responses were translated into the results yes, no, or partially indicative of *intention* freeridership (in parentheses).

Table G-21. Incentive—Raw Survey Response Translation to Intention Freeridership Scoring Matrix Terminology

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, when would you have installed the same energy-efficient [MEASURE]?
Yes (Yes)	Yes (Yes)	Yes (Yes)	Yes (Yes)	Yes, would have installed something (Yes)	Yes (Yes)	Yes (Yes)	Within the same year? (Yes)	Yes, would have installed something (Yes)	Yes (Yes)	Yes, the same number (Yes)	Within the same year? (Yes)
No (No)	No (No)	No (No)	No (No)	No, would not have installed anything (No)	No (No)	No (No)	Within one to two years? (Partial)	No, would not have installed anything at all (No)	No (No)	No, would have installed less (No)	Within one to two years? (Partial)
Don't Know (Partial)	Don't Know (Partial)	Don't Know (No)	Don't Know (Partial)	Don't Know (Partial)	Don't Know (Partial)	Don't Know (Partial)	Within three to five years? (No)	Don't Know (Partial)	Don't Know (Partial)	No, would have installed more (Yes)	Within three to five years? (No)
Refused (Partial)	Refused (Partial)	Refused (No)	Refused (Partial)	Refused (Partial)	Refused (Partial)	Refused (Partial)	In more than five years? (No)	Refused (Partial)	Refused (Partial)	Don't Know (Partial)	In more than five years? (No)
							Don't Know (Partial)			Refused (Partial)	Don't Know (Partial)
							Refused (Partial)				Refused (Partial)

Table G-22. Contractor—Raw Survey Response Translation to Intention Freeridership Scoring Matrix Terminology

G1. At the time that you first started working with your contractor on this project, had you already purchased or installed the energy-efficient [MEASURE][s]?	G2. Did your organization have specific plans to install the energy-efficient [MEASURE][s] before you began working with your contractor?	G3. Before you began working with your contractor, was the purchase of the energy-efficient [MEASURE][s] included in your organization's capital budget?	G4. Did your contractor help your organization make the decision to include the purchase of the energy efficient [MEASURE][s] in your property's capital budget?	G5. Would you have purchased and installed the same energy-efficient [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy?	G6. Would you have installed something without the involvement of your contractor and Focus on Energy?	G7. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G8. [Ask if QTY>1] And without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	G9. Without the assistance from your contractor and Focus on Energy, would you have installed the energy-efficient [MEASURE][s]?	G10. When you say you would not have installed the same [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all?	G11. Without the assistance from your contractor and Focus on Energy, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G12. [Ask if QTY>1] Without the assistance from your contractor and Focus on Energy would you have installed the same number of energy-efficient [MEASURE][s]?	G13. And, when would you have installed the same energy-efficient [MEASURE][s]?
Yes (Yes)	Yes (Yes)	Yes (Yes)	Yes (Yes)	Yes (Yes)	Yes, would have installed something (Yes)	Yes (Yes)	Yes, the same number (Yes)	Within the same year? (Yes)	Yes, would have installed something (Yes)	Yes (Yes)	Yes, the same number (Yes)	Within the same year? (Yes)
No (No)	No (No)	No (No)	No (No)	No (No)	No, would not have installed anything (No)	No (No)	No, would have installed less (No)	Within one to two years? (Partial)	No, would not have installed anything at all (No)	No (No)	No, would have installed less (No)	Within one to two years? (Partial)
Don't Know (Partial)	Don't Know (Partial)	Don't Know (No)	Don't Know (No)	Don't Know (Partial)	Don't Know (Partial)	Don't Know (Partial)	No, would have installed more (Yes)	Within three to five years? (No)	Don't Know (Partial)	Don't Know (Partial)	No, would have installed more (Yes)	Within three to five years? (No)
Refused (Partial)	Refused (Partial)	Refused (No)	Refused (No)	Refused (Partial)	Refused (Partial)	Refused (Partial)	Don't Know (Partial)	In more than five years? (No)	Refused (Partial)	Refused (Partial)	Don't Know (Partial)	In more than five years? (No)
							Refused (Partial)	Don't Know (Partial)			Refused (Partial)	Don't Know (Partial)
								Refused (Partial)				Refused (Partial)

Participant Intention Freeridership Scoring

For the incentive-focused path, each participant's *intention* freeridership score started with 100%, which the evaluation team decremented based on responses to 12 incentive questions (Table G-23).

Table G-23. Incentive—*Intention* Freeridership Scoring Legend

Q#	Decrement
F1	50% decrement for "No," 25% decrement for "Partial"
F2	50% decrement for "No, 25% decrement for Partial
F3	100% FR if "Yes," 0% decrement for "No" level, "Partial" level not needed
F4	25% decrement for "No," 0% decrement for "Partial"
F5	25% decrement for "No," 100% decrement for "Partial"
F6	100% decrement for "No," 25% decrement for "Partial"
F7	50% decrement for "No," 25% decrement for "Partial"
F8	100% decrement for "No," 25% decrement for "Partial"
F9	100% decrement for "No," 25% decrement for "Partial"
F10	100% decrement for "No," 25% decrement for "Partial"
F11	50% decrement for "No," 25% decrement for "Partial"
F12	100% decrement for "No," 25% decrement for "Partial"

For the contractor-focused path, each participant's *intention* freeridership score started with 100%, which the evaluation team decremented based on responses to 13 contractor questions (Table G-24).

Table G-24. Contractor—*Intention* Freeridership Scoring Legend

Q#	Decrement
G1	100% FR if "Yes," 0% decrement for "No" level, "Partial" level not needed
G2	50% decrement for "No," 25% decrement for "Partial"
G3	50% decrement for "No," 25% decrement for "Partial"
G4	50% decrement for "No," 25% decrement for "Partial"
G5	25% decrement for "No," 0% decrement for "Partial"
G6	25% decrement for "No," 100% decrement for "Partial"
G7	100% decrement for "No," 25% decrement for "Partial"
G8	50% decrement for "No," 25% decrement for "Partial"
G9	100% decrement for "No," 25% decrement for "Partial"
G10	100% decrement for "No," 25% decrement for "Partial"
G11	100% decrement for "No," 25% decrement for "Partial"
G12	50% decrement for "No," 25% decrement for "Partial"
G13	100% decrement for "No," 25% decrement for "Partial"

Agribusiness Offering

Intention Freeridership Analysis

Table G-25 and Table G-26 show the unique response combinations from participants answering the Agribusiness offering *intention* freeridership incentive and contractor freeridership questions (actual responses mapped to yes, no, or partial, as indicative of freeridership), the *intention* freeridership score assigned to each combination, and the number of responses. The evaluation team calculated an *intention* freeridership score for the offering based on the savings weighted average of the distribution of scores within the matrix.

Table G-25. Incentive – Agribusiness Offering Frequency of *Intention* Freeridership Scoring Combinations

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F8. Without the incentive and information or education from Focus on Energy, when would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, when would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	100%	4
Yes	Yes	No	Yes	-	-	Yes	Yes	-	-	-	-	100%	1
Yes	Yes	No	Yes	-	-	Yes	Partial	-	-	-	-	75%	1
Yes	Yes	No	Yes	-	-	Partial	Yes	-	-	-	-	75%	1
Yes	Yes	No	Yes	-	-	No	No	-	-	-	-	0%	1
Yes	Yes	No	Partial	Partial	-	-	-	-	-	-	-	75%	1
Yes	Yes	No	No	-	-	-	-	Yes	Yes	-	Yes	75%	1
Yes	Yes	No	No	-	-	-	-	Partial	No	-	-	0%	1
Yes	Partial	-	Yes	-	-	Yes	Yes	-	-	-	-	75%	1
Yes	No	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	1
Yes	No	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	2
Yes	No	-	Yes	-	-	-	Yes	-	-	-	-	50%	1
Yes	No	-	Partial	Yes	No	-	-	-	-	-	-	0%	1
Yes	No	-	No	-	-	-	-	Partial	Partial	No	No	0%	1
Yes	No	-	No	-	-	-	-	No	-	-	-	0%	1

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F8. Without the incentive and information or education from Focus on Energy, when would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, when would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Partial	-	-	Partial	Yes	Partial	Yes	Partial	-	-	-	-	25%	1
No	-	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	6
No	-	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	1
No	-	-	Yes	-	-	No	Partial	-	-	-	-	0%	1
No	-	-	Partial	Partial	-	-	-	-	-	-	-	25%	1
No	-	-	No	-	-	-	-	Yes	No	-	-	0%	4
No	-	-	No	-	-	-	-	Partial	Partial	-	Partial	0%	1
No	-	-	No	-	-	-	-	No	-	-	-	0%	1

Table G-26. Contractor – Agribusiness Offering Frequency of *Intention* Freeridership Scoring Combinations

G1. At the time that you first started working with your contractor on this project, had you already purchased or installed the energy-efficient [MEASURE][s]?	G2. Did your organization have specific plans to install the energy-efficient [MEASURE][s] before you began working with your contractor?	G3. Before you began working with your contractor, was the purchase of the energy-efficient [MEASURE][s] included in your organization's capital budget?	G4. Did your contractor help your organization make the decision to include the purchase of the energy efficient [MEASURE][s] in your property's capital budget?	G5. Would you have purchased and installed the same energy-efficient [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy?	G6. Would you have installed something without the involvement of your contractor and Focus on Energy?	G7. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G8. [Ask if QTY>1] And without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	G9. Without the assistance from your contractor and Focus on Energy, when would you have installed the energy-efficient [MEASURE][s]?	G10. When you say you would not have installed the same [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all?	G11. Without the assistance from your contractor and Focus on Energy, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G12. [Ask if QTY>1] Without the assistance from your contractor and Focus on Energy would you have installed the same number of energy-efficient [MEASURE][s]?	G13. And, when would you have installed the same energy-efficient [MEASURE][s]?	*Intention* FR Score	Count
Yes	-	-	-	-	-	-	-	-	-	-	-	-	100%	7
No	Yes	Yes	Yes	Yes	-	-	Yes	Yes	-	-	-	-	100%	4
No	Yes	Yes	Yes	Yes	-	Yes	-	Yes	-	-	-	-	100%	1
No	Yes	Yes	Yes	No	-	-	-	-	Yes	Yes	-	Yes	75%	1
No	Yes	Partial	-	Partial	Partial	-	-	-	-	-	-	-	50%	1
No	Yes	No	-	Yes	-	-	-	Partial	-	-	-	-	25%	1
No	Yes	No	-	No	-	-	-	-	Yes	No	-	-	0%	1
No	Yes	No	-	No	-	-	-	-	No	-	-	-	0%	1
No	No	-	Yes	No	-	-	-	-	Yes	Partial	-	Partial	0%	1
No	Yes	Yes	No	Yes	-	-	-	Yes	-	-	-	-	50%	3
No	Yes	Yes	No	Partial	Yes	Partial	Yes	Yes	-	-	-	-	25%	1
No	Yes	Yes	No	No	-	-	-	-	Yes	Yes	No	Yes	0%	1
No	Yes	Yes	No	No	-	-	-	-	Yes	Partial	-	Partial	0%	1
No	No	-	No	Yes	-	-	-	Yes	-	-	-	-	12.5%	1
No	No	-	No	Yes	-	-	Yes	Yes	-	-	-	-	12.5%	1
No	No	-	No	Yes	-	-	Yes	Partial	-	-	-	-	0%	1
No	No	-	No	Partial	Yes	Partial	-	Partial	-	-	-	-	0%	1
No	No	-	No	Partial	Yes	Partial	Partial	No	-	-	-	-	0%	1
No	No	-	No	Partial	No	-	-	-	-	-	-	-	0%	2
No	No	-	No	No	-	-	-	-	Yes	Yes	-	Yes	0%	1
No	No	-	No	No	-	-	-	-	Yes	No	-	-	0%	1
No	No	-	No	No	-	-	-	-	Partial	No	-	-	0%	1
No	No	-	No	No	-	-	-	-	No	-	-	-	0%	1

The evaluation team estimated *intention* freeridership scores for all participants based on the responses of 70 participants to the *intention*-focused freeridership questions. As shown in Table G-27, the Agribusiness offering had an *intention* freeridership score of 40%.

Table G-27. Agribusiness Offering – *Intention* Freeridership Results

Analysis Category	n	*Intention* FR Score	Percentage of Total Analysis Sample Gross Savings
Incentive	35	41%[a]	87%
Contractor	35	32%[a]	13%
Overall	**70**	**40%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Influence Freeridership Analysis

The evaluation team assessed *influence* freeridership by asking participants how important various offering elements were in their purchasing decisions. Table G-28 shows the offering elements participants rated for importance, along with a count and average rating for each factor.

Table G-28. Agribusiness Offering – *Influence* Freeridership Responses

Influence Rating	Influence FR Score	The Focus on Energy incentive or discount		Recommendation from contractor or vendor		Information provided by Focus on Energy about energy savings opportunities		Recommendation from a contractor or vendor		Previous participation in a Focus on Energy energy-efficiency offering	
		Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor
1 - Not at all important	100%	2	2	4	6	4	4	3	2	3	6
2	75%	1	2	2	8	2	2	3	0	1	3
3	50%	2	8	5	6	8	8	5	6	5	9
4	25%	10	6	11	2	11	6	10	6	11	4
5 - Very important	0%	20	16	10	8	9	12	11	21	12	12
Don't know	50%	0	1	3	5	1	3	3	0	3	1
Average Rating		**4.3**	**3.9**	**3.7**	**2.9**	**3.6**	**3.6**	**3.7**	**4.3**	**3.9**	**3.4**

The team determined each respondent's *influence* freeridership score for each analysis category, using the maximum rating provided for any factor included in Table G-28. As shown in Table G-29, the respondents' maximum influence ratings ranged from 1 (*not at all important*) to 5 (*very important*). A maximum score of 1 means the customer ranked all factors from the table as *not at all important*, while a maximum score of 5 means the customer ranked at least one factor *very important*. Counts refer to the number of "maximum influence" responses for each factor, or *influence* freeridership score, response option.

Table G-29. Agribusiness Offering – *Influence* Freeridership Score

Maximum Influence Rating	*Influence* FR Score	Incentive - Count	Contractor - Count
1 - Not at all important	100%	0	1
2	75%	0	0
3	50%	0	6
4	25%	5	2
5 - Very important	0%	30	26
Average Maximum Influence Rating - Simple Average		**4.9**	**4.5**
Average Influence Score - Weighted by Verified Lifecycle MMBtu Gross Savings		**2%**	**10%**
Percentage of Total Analysis Sample Gross Savings		**83%**	**17%**
Average Offering Influence FR Score - Weighted by Percentage of Total Analysis Sample Gross Savings		**3%**	

The average overall *influence* freeridership score of 3% for the Agribusiness offering is weighted by the percentage of gross savings that the incentive-focused and contractor-focused analysis category respondents represented out of the overall analysis sample.

Final Freeridership

The evaluation team calculated the mean of the overall *intention* and the overall *influence* of freeridership components to estimate final freeridership for the analysis categories. A higher freeridership score translates to more savings deducted from the gross savings estimates. Table G-30 lists the *intention*, *influence*, and final freeridership scores for the Agribusiness offering.

Table G-30. Agribusiness Offering – Freeridership Score

Analysis Category	n	*Intention* FR Score	*Influence* FR Score	Final Freeridership Score	Percentage of Total Analysis Sample Gross Savings
Incentive	35	41%[a]	2%	22%	83%
Contractor	35	32%[a]	10%	21%	17%
Overall	**70**	**40%[b]**	**3%**	**22%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Participant Spillover Analysis

The evaluation team estimated participant spillover based on answers from respondents who purchased additional high-efficiency equipment or appliances following their participation in the Agribusiness offering. The evaluation team applied evaluated and deemed savings to the spillover measures that customers said they had installed as a result of their offering participation, presented in Table G-31.

Table G-31. Agribusiness Offering – Participant Spillover Measures and Savings

Spillover Measure	Quantity	Total MMBtu Lifecycle Gross Savings Estimate
HVAC System Controls	1	37

Next, the evaluation team divided the sample spillover savings by the offering gross savings from the entire survey sample, as shown in this equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure EnergySavings for All Survey Respondents}}{\sum \text{Offering Measure Energy Savings for All Survey Respondents}}$$

This yielded a 0% spillover estimate, when rounded to the nearest whole percentage, for the Agribusiness offering respondents (Table G-32).

Table G-32. Agribusiness Offering – Participant Spillover Percentage Estimate

Variable	Total Verified Lifecycle MMBtu Gross Savings Estimate
Spillover Savings	37
Offering Savings	137,826
Spillover Estimate	**0%**

Final Net-to-Gross Analysis

The evaluation team combined spillover and freeridership results to determine final NTG ratios (Table G-33), using the following calculation:

NTG = 100% – Freeridership + Spillover

Table G-33. Agribusiness Offering – NTG Estimates

Analysis Category	n	Freeridership	Spillover	NTG	Percentage of Total Survey Sample Savings
Incentive	35	22%[a]	0%	78%	83%
Contractor	35	21%[a]	0%	79%	17%
Overall	**70**	**22%[a]**	**0%**	**78%[a]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Commercial and Industrial Offering

Intention Freeridership Analysis

Table G-34 and Table G-35 show the unique response combinations from participants answering the Commercial and Industrial offering *intention* freeridership incentive and contractor freeridership questions (actual responses mapped to yes, no, or partial, as indicative of freeridership), the *intention* freeridership score assigned to each combination, and the number of responses. The evaluation team calculated an *intention* freeridership score for the offering based on the savings weighted average of the distribution of scores within the matrix.

Table G-34. Incentive – Commercial and Industrial Offering Frequency of *Intention* Freeridership Scoring Combinations

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. When would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	100%	14
Yes	Yes	No	Yes	-	-	Yes	Yes	-	-	-	-	100%	2
Yes	Yes	No	Yes	-	-	Partial	Partial	-	-	-	-	50%	1
Yes	Yes	No	Partial	Yes	No	-	-	-	-	-	-	0%	1
Yes	Yes	No	No	-	-	-	-	Yes	Yes	No	Yes	25%	1
Yes	Yes	No	No	-	-	-	-	Yes	Partial	No	Partial	0%	1
Yes	Yes	No	No	-	-	-	-	Yes	No	-	-	0%	1
Yes	No	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	2
Yes	No	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	1
Yes	No	-	Yes	-	-	Yes	No	-	-	-	-	0%	1
Yes	No	-	Yes	-	-	No	Partial	-	-	-	-	0%	1
Yes	No	-	Partial	Yes	Partial	No	Partial	-	-	-	-	0%	1
Yes	No	-	No	-	-	-	-	Yes	No	-	-	0%	1
Yes	No	-	No	-	-	-	-	Partial	Yes	Yes	Partial	0%	1
Yes	No	-	No	-	-	-	-	Partial	Partial	-	No	0%	1
Yes	No	-	No	-	-	-	-	No	-	-	-	0%	1
Partial	-	-	Partial	Yes	Yes	Yes	Yes	-	-	-	-	75%	1
Partial	-	-	Partial	Yes	Yes	Yes	Partial	-	-	-	-	50%	1
Partial	-	-	Partial	Yes	Partial	Yes	Yes	-	-	-	-	50%	1
Partial	-	-	Partial	Partial	-	-	-	-	-	-	-	50%	3

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. When would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Partial	-	-	No	-	-	-	-	Partial	Partial	Partial	Partial	0%	1
Partial	-	-	No	-	-	-	-	Partial	Partial	-	Partial	0%	1
Partial	-	-	No	-	-	-	-	No	-	-	-	0%	1
No	-	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	5
No	-	-	Yes	-	-	No	Partial	-	-	-	-	0%	2
No	-	-	Yes	-	-	-	Yes	-	-	-	-	50%	1
No	-	-	Partial	Yes	Yes	Yes	No	-	-	-	-	0%	1
No	-	-	Partial	Yes	Yes	Yes	Partial	-	-	-	-	25%	1
No	-	-	Partial	Partial	-	-	-	-	-	-	-	25%	2
No	-	-	Partial	No	-	-	-	-	-	-	-	0%	1
No	-	-	No	-	-	-	-	Yes	No	-	-	0%	3
No	-	-	No	-	-	-	-	No	-	-	-	0%	3

Table G-35. Contractor - Commercial and Industrial Offering Frequency of *Intention* Freeridership Scoring Combinations

G1. At the time that you first started working with your contractor on this project, had you already purchased or installed the energy-efficient [MEASURE][s]?	G2. Did your organization have specific plans to install the energy-efficient [MEASURE][s] before you began working with your contractor?	G3. Before you began working with your contractor, was the purchase of the energy-efficient [MEASURE][s] included in your organization's capital budget?	G4. Did your contractor help your organization make the decision to include the purchase of the energy efficient [MEASURE][s] in your property's capital budget?	G5. Would you have purchased and installed the same energy-efficient [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy?	G6. Would you have installed something without the involvement of your contractor and Focus on Energy?	G7. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G8. [Ask if QTY>1] And without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	G9. Without the assistance from your contractor and Focus on Energy, would you have installed the energy-efficient [MEASURE][s]?	G10. When you say you would not have installed the same [MEAS-URE][s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all?	G11. Without the assistance from your contractor and Focus on Energy, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G12. [Ask if QTY>1] Without the assistance from your contractor and Focus on Energy would you have installed the same number of energy-efficient [MEASURE][s]?	G13. And, when would you have installed the same energy-efficient [MEASURE][s]?	*Intention* FR Score	Count
Yes	-	-	-	-	-	-	-	-	-	-	-	-	100%	7
No	Yes	Yes	Yes	Yes	-	-	-	Yes	-	-	-	-	100%	1
No	Yes	Yes	Yes	Yes	-	Yes	-	Yes	-	-	-	-	100%	1
No	Yes	Yes	Yes	Yes	-	-	Yes	Yes	-	-	-	-	100%	1
No	Yes	Yes	Yes	Partial	No	-	-	-	-	-	-	-	0%	1
No	Yes	Yes	Yes	No	-	-	-	-	Yes	Yes	-	Partial	50%	1
No	Yes	Partial	-	Partial	No	-	-	-	-	-	-	-	0%	2
No	Yes	No	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	1
No	Yes	No	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	1
No	Yes	No	-	No	-	-	-	-	Yes	Partial	-	Partial	0%	1
No	Yes	No	-	No	-	-	-	-	Yes	Partial	No	Partial	0%	1
No	Yes	No	-	No	-	-	-	-	Yes	No	-	-	0%	1
No	Yes	No	-	No	-	-	-	-	No	-	-	-	0%	1
No	Yes	Yes	No	Yes	-	-	Yes	Yes	-	-	-	-	50%	2
No	No	-	No	Yes	-	-	-	No	-	-	-	-	0%	1
No	No	-	No	Yes	-	-	Yes	Partial	-	-	-	-	0%	1
No	No	-	No	Yes	-	-	Partial	Yes	-	-	-	-	0%	1
No	No	-	No	Partial	No	-	-	-	-	-	-	-	0%	1

The evaluation team estimated *intention* freeridership scores for all participants based on the responses of 85 participants to the *intention*-focused freeridership questions. As shown in Table G-36, the Commercial and Industrial offering had an *intention* freeridership score of 43%.

Table G-36. Commercial and Industrial Offering – *Intention* Freeridership Results

Analysis Category	n	*Intention* FR Score	Percentage of Total Analysis Sample Gross Savings
Incentive	59	41%[a]	67%
Contractor	26	49%[a]	33%
Overall	**85**	**43%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Influence Freeridership Analysis

The evaluation team assessed *influence* freeridership by asking participants how important various offering elements were in their purchasing decisions. Table G-37 shows the offering elements participants rated for importance, along with a count and average rating for each factor.

Table G-37. Commercial and Industrial Offering – *Influence* Freeridership Responses

Influence Rating	Influence FR Score	The Focus on Energy incentive or discount		Recommendation from contractor or vendor		Information provided by Focus on Energy on energy savings opportunities		Recommendation from a contractor or vendor		Previous participation in a Focus on Energy energy-efficiency offering	
		Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor
1 - Not at all important	100%	4	2	17	5	5	3	7	1	10	0
2	75%	3	1	6	4	7	2	2	1	4	3
3	50%	6	2	9	4	8	5	10	4	7	2
4	25%	13	9	10	5	22	9	11	6	16	12
5 - Very important	0%	29	11	13	4	12	5	22	14	13	6
Don't know	50%	4	1	4	4	5	2	7	0	9	3
Average Rating		**4.1**	**4.0**	**2.9**	**3.0**	**3.5**	**3.5**	**3.8**	**4.2**	**3.4**	**3.9**

The team determined each respondent's *influence* freeridership score for each analysis category, using the maximum rating provided for any factor included in Table G-38. As the table shows, the respondents' maximum influence ratings ranged from 1 (*not at all important*) to 5 (*very important*). A maximum score of 1 meant the customer ranked all factors from the table as *not at all important*, while a maximum score of 5 means the customer ranked at least one factor *very important*. Counts refer to the number of "maximum influence" responses for each factor, or *influence* freeridership score, response option.

Table G-38. Commercial and Industrial Offering – *Influence* Freeridership Score

Maximum Influence Rating	*Influence* FR Score	Incentive - Count	Contractor - Count
1 - Not at all important	100%	0	2
2	75%	0	0
3	50%	0	0
4	25%	4	7
5 - Very important	0%	54	17
Don't know/Not Applicable	50%	1	0
Average Maximum Influence Rating - Simple Average		**4.9**	**4.4**
Average Influence Score - Weighted by Verified Lifecycle MMBtu Gross Savings		**1%**	**8%**
Percentage of Total Analysis Sample Gross Savings		**67%**	**33%**
Average Offering Influence FR Score - Weighted by Percentage of Total Analysis Sample Gross Savings		**3%**	

The average overall *influence* freeridership score of 3% for the Commercial and Industrial offering is weighted by the percentage of gross savings that the incentive focused and contractor focused analysis category respondents represented out of the overall analysis sample.

Final Freeridership

The evaluation team calculated the mean of the overall *intention* and the overall *influence* of freeridership components to estimate final freeridership for the analysis categories. A higher freeridership score translates to more savings deducted from the gross savings estimates. Table G-39 lists the *intention*, *influence*, and final freeridership scores for the Commercial and Industrial offering.

Table G-39. Commercial and Industrial – Offering Freeridership Score

Analysis Category	n	*Intention* Freeridership Score	*Influence* Freeridership Score	Final Freeridership Score	Percentage of Total Analysis Sample Gross Savings
Incentive	59	41%[a]	1%[a]	21%	67%
Contractor	26	49%[a]	8%[a]	29%	33%
Overall	**85**	**43%[b]**	**3%[b]**	**23%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Participant Spillover Analysis

The evaluation team estimated participant spillover based on answers from respondents who purchased additional high-efficiency equipment or appliances following their participation in the Commercial and Industrial offering.

The evaluation team applied evaluated and deemed savings to the spillover measures that customers said they had installed as a result of their offering participation, presented in Table G-40.

Table G-40. Commercial and Industrial Offering – Participant Spillover Measures and Savings

Spillover Measure	Quantity	Total MMBtu Lifecycle Gross Savings Estimate
LED Lighting	131	3,446
Water Heating Equipment	1	43

Next, the evaluation team divided the sample spillover savings by the offering's gross savings from the entire survey sample, as shown in this equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure EnergySavings for All Survey Respondents}}{\sum \text{Offering Measure Energy Savings for All Survey Respondents}}$$

This yielded a 2% spillover estimate, when rounded to the nearest whole percentage, for the Commercial and Industrial offering respondents (Table G-41).

Table G-41. Commercial and Industrial Offering – Participant Spillover Percentage Estimate

Variable	Total Verified Lifecycle MMBtu Gross Savings Estimate
Spillover Savings	3,489
Offering Savings	208,852
Spillover Estimate	**2%**

Final Net-to-Gross Analysis

The evaluation team combined the spillover information with the freeridership results to achieve the final NTG ratios (Table G-42), using the following calculation:

NTG = 100% – Freeridership + Spillover

Table G-42. Commercial and Industrial – Offering NTG Estimates

Analysis Category	n	Freeridership	Spillover	NTG	Percentage of Total Survey Sample Savings
Incentive	59	21%[a]	2%	81%	67%
Contractor	26	29%[a]	2%	73%	33%
Overall	**85**	**23%[a]**	**2%**	**79%[a]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Large Industrial Offering

Intention Freeridership Analysis

Table G-43 and Table G-44 show the unique response combinations from participants answering the Large Industrial offering *intention* freeridership incentive and contractor freeridership questions (actual responses mapped to yes, no, or partial, as indicative of freeridership), the *intention* freeridership score assigned to each combination, and the number of responses. The evaluation team calculated an *intention* freeridership score for the offering based on the savings weighted average of the distribution of scores within the matrix.

Table G-43. Incentive – Large Industrial Offering Frequency of *Intention* Freeridership Scoring Combinations

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	E8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, when would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	100%	1
Yes	Yes	Partial	Partial	Partial	-	-	-	-	-	-	-	75%	1
Yes	Yes	No	Yes	-	-	Yes	Yes	-	-	-	-	100%	2
Yes	Yes	No	Yes	-	-	Yes	Partial	-	-	-	-	75%	1
Yes	Yes	No	Yes	-	-	-	Yes	-	-	-	-	100%	1
Yes	Yes	No	Partial	Yes	Partial	Yes	Yes	-	-	-	-	75%	1
Yes	Yes	No	No	-	-	-	-	Yes	Partial	-	No	0%	1
Yes	Yes	No	Yes	-	-	-	Partial	-	-	-	-	75%	1
Yes	Yes	No	Yes	-	-	-	No	-	-	-	-	0%	1
Yes	Partial	-	Partial	Partial	-	-	-	-	-	-	-	50%	1
Yes	No	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	1
Yes	No	-	Yes	-	-	-	Yes	-	-	-	-	50%	2
Yes	No	-	Partial	Yes	Yes	No	No	-	-	-	-	0%	1
Yes	No	-	Partial	Yes	Partial	Yes	Partial	-	-	-	-	12.5%	1
Yes	No	-	Partial	Yes	No	-	-	-	-	-	-	0%	1
Yes	No	-	No	-	-	-	-	Yes	No	-	-	0%	1
Yes	No	-	No	-	-	-	-	No	-	-	-	0%	1
Yes	No	-	No	-	-	-	-	No	-	-	No	0%	1
Yes	No	-	No	-	-	-	-	Partial	No	-	-	0%	1
Partial	-	-	Yes	-	-	Yes	Yes	-	-	-	-	75%	2
Partial	-	-	Partial	Yes	Yes	-	Partial	-	-	-	-	50%	2
Partial	-	-	Partial	Partial	-	-	-	-	-	-	-	50%	1
No	-	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	2

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	E8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, when would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
No	-	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	1
No	-	-	Yes	-	-	Yes	No	-	-	-	-	0%	1
No	-	-	Yes	-	-	No	Yes	-	-	-	-	12.5%	1
No	-	-	Yes	-	-	-	Yes	-	-	-	-	50%	1
No	-	-	Partial	Partial	-	-	-	-	-	-	-	25%	2
No	-	-	Partial	No	-	-	-	-	-	-	-	0%	1
No	-	-	No	-	-	-	-	Yes	Yes	Yes	No	0%	1
No	-	-	No	-	-	-	-	Yes	No	-	-	0%	4
No	-	-	No	-	-	-	-	Partial	No	-	-	0%	1
No	-	-	No	-	-	-	-	No	-	-	Partial	0%	1
No	-	-	No	-	-	-	-	No	-	-	-	0%	8

Table G-44. Contractor - Large Industrial Offering Frequency of *Intention* Freeridership Scoring Combinations

G1. At the time that you first started working with your contractor on this project, had you already purchased or installed the energy-efficient [MEASURE][s]?	G2. Did your organization have specific plans to install the energy-efficient [MEASURE][s] before you began working with your contractor?	G3. Before you began working with your contractor, was the purchase of the energy-efficient [MEASURE][s] included in your organization's capital budget?	G4. Did your contractor help your organization make the decision to include the purchase of the energy efficient [MEASURE][s] in your property's capital budget?	G5. Would you have purchased and installed the same energy-efficient [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy?	G6. Would you have installed something without the involvement of your contractor and Focus on Energy?	G7. When you say you would have installed some-thing, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G8. [Ask if QTY>1] And without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	G9. Without the assistance from your contractor and Focus on Energy, would you have installed the energy-efficient [MEASURE][s]?	G10. When you say you would not have installed the same [MEASURE][s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all?	G11. Without the assistance from your contractor and Focus on Energy, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G12. [Ask if QTY>1] Without the assistance from your contractor and Focus on Energy would you have installed the same number of energy-efficient [MEASURE][s]?	G13.And, when would you have installed the same energy-efficient [MEASURE][s]?	*Intention* FR Score	Count
Yes	-	-	-	-	-	-	-	-	-	-	-	-	100%	3
No	Yes	Yes	Yes	Yes	-	-	No	Yes	-	-	-	-	50%	1
No	Yes	No	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	1
No	Yes	No	-	Yes	-	-	No	Partial	-	-	-	-	0%	1
No	Yes	No	-	Partial	Yes	Partial	Yes	Yes	-	-	-	-	25%	1
No	No	-	Yes	Partial	No	-	-	-	-	-	-	-	0%	1
No	Yes	Yes	No	Yes	-	-	Yes	Yes	-	-	-	-	100%	1
No	Yes	Yes	No	No	-	-	-	-	Yes	No	-	-	0%	1
No	No	-	No	Partial	Partial	-	-	-	-	-	-	-	25%	1
No	No	-	No	No	-	-	-	-	Yes	Partial	No	No	0%	1

The evaluation team estimated *intention* freeridership scores for all participants based on the responses of 62 participants to the *intention*-focused freeridership questions. As shown in Table G-45, the Large Industrial offering had an *intention* freeridership score of 9%.

Table G-45. Large Industrial Offering – *Intention* Freeridership Results

Analysis Category	n	*Intention* FR Score	Percentage of Total Analysis Sample Gross Savings
Incentive	50	8%[a]	94%
Contractor	12	29%[a]	6%
Overall	**62**	**9%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Influence Freeridership Analysis

The evaluation team assessed *influence* freeridership by asking participants how important various offering elements were in their purchasing decisions. Table G-46 shows the offering elements participants rated for importance, along with a count and average rating for each factor.

Table G-46. Large Industrial Offering – Influence Freeridership Responses

Influence Rating	Influence FR Score	The Focus on Energy incentive or discount		Recommendation from contractor or vendor		Information provided by Focus on Energy about energy savings opportunities		Recommendation from a contractor or vendor		Previous participation in a Focus on Energy energy-efficiency offering	
		Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor
1 - Not at all important	100%	3	1	7	2	5	0	12	1	4	0
2	75%	3	1	9	2	6	2	9	0	5	3
3	50%	6	3	10	3	15	3	19	2	10	0
4	25%	16	4	12	4	15	6	6	4	19	5
5 - Very important	0%	20	3	11	1	8	1	3	5	10	4
Don't know	50%	1	0	1	0	1	0	1	0	2	0
Average Rating		**4.0**	**3.6**	**3.2**	**3.0**	**3.3**	**3.5**	**2.6**	**4.0**	**3.5**	**3.8**

The team determined each respondent's *influence* freeridership score for each analysis category, using the maximum rating provided for any factor included in Table G-47. As the table shows, the respondents' maximum influence ratings ranged from 1 (*not at all important*) to 5 (*very important*). A maximum score of 1 meant the customer ranked all factors from the table as *not at all important*, while a maximum score of 5 means the customer ranked at least one factor *very important*. Counts refer to the number of "maximum influence" responses for each factor, or *influence* freeridership score, response option.

Table G-47. Large Industrial Offering – *Influence* Freeridership Score

Maximum Influence Rating	*Influence* FR Score	Incentive - Count	Contractor - Count
1 - Not at all important	100%	7	0
2	75%	2	0
3	50%	6	0
4	25%	14	4
5 - Very important	0%	21	8
Don't know	50%	2	0
Average Maximum Influence Rating - Simple Average		**3.8**	**4.7**
Average Influence Score - Weighted by Verified Lifecycle MMBtu Gross Savings		**6%**	**6%**
Percentage of Total Analysis Sample Gross Savings		**94%**	**6%**
Average Offering Influence FR Score - Weighted by Percentage of Total Analysis Sample Gross Savings		**6%**	

The average overall *influence* freeridership score of 6% for the Large Industrial offering is weighted by the percentage of gross savings that the incentive focused and contractor focused analysis category respondents represented out of the overall analysis sample.

Final Freeridership

The evaluation team calculated the mean of the overall *intention* and the overall *influence* of freeridership components to estimate final freeridership for the analysis categories. A higher freeridership score translates to more savings that are deducted from the gross savings estimates. Table G-48 lists the *intention*, *influence*, and final freeridership scores for Large Industrial offering.

Table G-48. Large Industrial Offering – Freeridership Score

Analysis Category	n	*Intention* FR Score	*Influence* FR Score	Final Freeridership Score	Percentage of Total Analysis Sample Gross Savings
Incentive	50	8%[a]	6%	7%	94%
Contractor	12	29%[a]	6%	18%	6%
Overall	**62**	**9%[b]**	**6%**	**8%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Participant Spillover Analysis

The evaluation team estimated participant spillover based on answers from respondents who purchased additional high-efficiency equipment or appliances following their participation in the Large Industrial offering. The evaluation team applied evaluated and deemed savings to the spillover measures that customers said they had installed as a result of their offering participation, presented in Table G-49.

Table G-49. Large Industrial Offering – Participant Spillover Measures and Savings

Spillover Measure	Quantity	Total MMBtu Lifecycle Gross Savings Estimate
LED Lighting	100	3,207
Efficient Lighting Controls	10	93
Zero Loss Condensate Drains	2	234

Next, the evaluation team divided the sample spillover savings by offering gross savings from the entire survey sample, as shown in this equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure Energy Savings for All Survey Respondents}}{\sum \text{Offering Measure Energy Savings for All Survey Respondents}}$$

This yielded a 0% spillover estimate, when rounded to the nearest whole percentage, for the Large Industrial offering respondents (Table G-50).

Table G-50. Large Industrial Offering – Participant Spillover Percentage Estimate

Variable	Total Verified Lifecycle MMBtu Gross Savings Estimate
Spillover Savings	3,534
Offering Savings	5,155,205
Spillover Estimate	**0%**

Final Net-to-Gross Analysis

The evaluation team combined the spillover information with the freeridership results to achieve the final NTG ratios (Table G-51), using the following calculation:

NTG = 100% – Freeridership + Spillover

Table G-51. Large Industrial Offering – NTG Estimates

Analysis Category	n	Freeridership	Spillover	NTG	Percentage of Total Survey Sample Savings
Incentive	50	7%	0%	93%	94%
Contractor	5	18%	0%	82%	6%
Overall	**62**	**8%[a]**	**0%**	**92%[a]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Schools and Government Offering

Intention Freeridership Analysis

Table G-52 shows the unique response combinations from participants answering the Schools and Government offerings *intention* freeridership incentive focused freeridership questions (actual responses mapped to yes, no, or partial, as indicative of freeridership), the *intention* freeridership score assigned to each combination, and the number of responses. Schools and Government respondents did not answer contractor focused freeridership questions. The evaluation team calculated an *intention* freeridership score for the offering based on the savings weighted average of the distribution of scores within the matrix.

Table G-52. Incentive – Schools and Government Offering Frequency of *Intention* Freeridership Scoring Combinations

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, when would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	100%	8
Yes	Yes	No	Yes	-	-	Yes	Yes	-	-	-	-	100%	6
Yes	Yes	No	Yes	-	-	No	Yes	-	-	-	-	50%	1
Yes	Yes	No	Yes	-	-	No	Partial	-	-	-	-	25%	1
Yes	Yes	No	Yes	-	-	-	Yes	-	-	-	-	100%	3
Yes	Yes	No	Partial	Yes	Yes	-	Partial	-	-	-	-	75%	1
Yes	Yes	No	Partial	Yes	Partial	Yes	Yes	-	-	-	-	75%	1
Yes	Yes	No	Partial	Yes	Partial	Partial	Yes	-	-	-	-	50%	1
Yes	Yes	No	Partial	Partial	-	-	-	-	-	-	-	75%	1
Yes	Yes	No	No	-	-	-	-	Yes	Yes	No	Partial	13%	1
Yes	Yes	No	No	-	-	-	-	Yes	No	-	-	0%	1
Yes	No	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	1
Yes	No	-	Yes	-	-	No	No	-	-	-	-	0%	1
Yes	No	-	Yes	-	-	-	Yes	-	-	-	-	50%	1
Yes	No	-	Partial	Yes	Yes	Partial	No	-	-	-	-	0%	1
Yes	No	-	Partial	Partial	-	-	-	-	-	-	-	25%	4
Yes	No	-	No	-	-	-	-	Yes	No	-	-	0%	2

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEAS-URE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, when would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Yes	No	-	No	-	-	-	-	No	-	-	-	0%	1
Partial	-	-	Yes	-	-	Yes	Yes	-	-	-	-	75%	2
Partial	-	-	Yes	-	-	No	Partial	-	-	-	-	12.5%	1
Partial	-	-	Partial	Yes	Partial	Partial	Partial	-	-	-	-	13%	1
Partial	-	-	Partial	Partial	-	-	-	-	-	-	-	50%	2
No	-	-	Yes	-	-	-	Yes	-	-	-	-	50%	2
No	-	-	Yes	-	-	Yes	Yes	-	-	-	-	50%	7
No	-	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	1
No	-	-	Yes	-	-	Yes	No	-	-	-	-	0%	1
No	-	-	Yes	-	-	No	Partial	-	-	-	-	0%	1
No	-	-	Yes	-	-	No	No	-	-	-	-	0%	1
No	-	-	Partial	Yes	Yes	No	No	-	-	-	-	0%	1
No	-	-	Partial	Partial	-	-	-	-	-	-	-	25%	2
No	-	-	Partial	No	-	-	-	-	-	-	-	0%	1
No	-	-	No	-	-	-	-	Yes	Yes	-	Partial	12.5%	1
No	-	-	No	-	-	-	-	Yes	Yes	Yes	Yes	25%	2
No	-	-	No	-	-	-	-	Yes	Yes	No	No	0%	1
No	-	-	No	-	-	-	-	No	-	-	-	0%	4

The evaluation team estimated *intention* freeridership scores for all participants based on the responses of 67 participants to the *intention*-focused freeridership questions. As shown in Table G-53, the Schools and Government offerings had an *intention* freeridership score of 51%.

Table G-53. Schools and Government Offerings – Intention Freeridership Results

Offering	N	*Intention* FR Score	Percentage of Total Analysis Sample Gross Savings
Schools	38	48%[a]	72%
Government	29	59%[a]	28%
Overall	**67**	**51%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Influence Freeridership Analysis

The evaluation team assessed *influence* freeridership by asking participants how important various offering elements were in their purchasing decisions. Table G-54 shows the offering elements participants rated for importance, along with a count and average rating for each factor.

Table G-54. Schools and Government Offerings – *Influence* Freeridership Responses

Influence Rating	Influence FR Score	The Focus on Energy incentive or discount		Recommendation from contractor or vendor		Information provided by Focus on Energy about energy savings opportunities		Recommendation from a contractor or vendor		Previous participation in a Focus on Energy energy-efficiency offering	
		Schools	Government	Schools	Government	Schools	Government	Schools	Government	Schools	Government
1 - Not at all important	100%	3	3	5	6	5	4	3	2	6	6
2	75%	1	2	1	2	2	2	2	2	6	3
3	50%	4	6	10	3	7	5	4	6	2	4
4	25%	10	6	6	5	8	7	9	8	3	4
5 - Very important	0%	17	11	9	9	13	8	17	10	11	9
Don't know	50%	3	1	7	4	3	3	3	1	4	3
Average Rating		**4.1**	**3.7**	**3.4**	**3.4**	**3.6**	**3.5**	**4.0**	**3.8**	**3.3**	**3.3**

The team determined each respondent's *influence* freeridership score for each offering, using the maximum rating provided for any factor included in Table G-55. As the table shows, the respondents' maximum influence ratings ranged from 1 (*not at all important*) to 5 (*very important*). A maximum score of 1 meant the customer ranked all factors from the table as *not at all important*, while a maximum score of 5 means the customer ranked at least one factor *very important*. Counts refer to the number of "maximum influence" responses for each factor, or *influence* freeridership score, response option.

Table G-55. Schools and Government Offerings – Influence Freeridership Score

Maximum Influence Rating	*Influence* FR Score	Schools - Count	Government - Count
1 - Not at all important	100%	0	1
2	75%	0	0
3	50%	0	2
4	25%	3	10
5 - Very important	0%	33	16
Don't know	50%	2	0
Average Maximum Influence Rating - Simple Average		**4.9**	**4.4**
Average Influence Score - Weighted by Verified Lifecycle MMBtu Gross Savings		**2%**	**22%**
Percentage of Total Analysis Sample Gross Savings		**72%**	**28%**
Average Offering Influence FR Score - Weighted by Percentage of Total Analysis Sample Gross Savings		**7%**	

The average overall *influence* freeridership score of 7% for the Schools and Government offerings is weighted by the percentage of total analysis sample gross savings that the offering respondents represented.

Final Freeridership

The evaluation team calculated the mean of the overall *intention* and the overall *influence* of freeridership components to estimate final freeridership for the offerings. A higher freeridership score translates to more savings that are deducted from the gross savings estimates. Table G-56 lists the *intention*, *influence*, and final freeridership scores for Schools and Government offerings.

Table G-56. Schools and Government Offerings – Freeridership Score

Analysis Category	n	*Intention* FR Score	*Influence* FR Score	Final Freeridership Score	Percentage of Total Analysis Sample Gross Savings
Schools	38	48%[a]	2%	25%	72%
Government	29	59%[a]	22%	41%	28%
Overall	**67**	**51%[b]**	**7%**	**29%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Participant Spillover Analysis

The evaluation team estimated participant spillover based on answers from respondents who purchased additional high-efficiency equipment or appliances following their participation in the Schools and Government offerings. The team applied evaluated and deemed savings to the spillover measures that customers said they had installed as a result of their participation, as presented in Table G-57.

Table G-57. Schools and Government Offerings – Participant Spillover Measures and Savings

Spillover Measure	Quantity	Total MMBtu Lifecycle Gross Savings Estimate
HVAC System Controls	1	37
Refrigeration Equipment	1	13

Next, the evaluation team divided the sample spillover savings by the offering gross savings from the entire survey sample, as shown in this equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure Energy Savings for All Survey Respondents}}{\sum \text{Offering Measure Energy Savings for All Survey Respondents}}$$

This yielded a 0% spillover estimate, when rounded to the nearest whole percentage, for the Schools and Government offerings respondents (Table G-58).

Table G-58. Schools and Government Offerings – Participant Spillover Percentage Estimate

Variable	Total Verified Lifecycle MMBtu Gross Savings Estimate
Spillover Savings	50
Offering Savings	371,813
Spillover Estimate	**0%**

Final Net-to-Gross Analysis

The evaluation team combined the spillover information with the freeridership results to achieve the final NTG ratios (Table G-59), using the following calculation:

NTG = 100% – Freeridership + Spillover

Table G-59. Schools and Government Offerings – NTG Estimates

Analysis Category	n	Freeridership	Spillover	NTG	Percentage of Total Survey Sample Savings
Schools	38	25%	0%	75%	72%
Government	29	41%	0%	59%	28%
Overall	**67**	**29%[a]**	**0%**	**71%[a]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Multifamily Offering

Intention Freeridership Analysis

Table G-60 and Table G-61 show the unique response combinations from participants answering the Large Industrial offering *intention* freeridership incentive and contractor freeridership questions (actual responses mapped to yes, no, or partial, as indicative of freeridership), the *intention* freeridership score assigned to each combination, and the number of responses. The evaluation team calculated an *intention* freeridership score for the offering based on the savings weighted average of the distribution of scores within the matrix.

Table G-60. Incentive – Multifamily Offering Frequency of *Intention* Freeridership Scoring Combinations

F1. First, did your organization have specific plans to install the energy efficient [MEASURE] over a less efficient option before learning about the incentive?	F2. Prior to learning about the incentive, was the purchase of the energy-efficient [MEASURE] included in your organization's capital budget?	F3. Had your property ALREADY ordered or purchased the energy-efficient [MEASURE] BEFORE your organization heard about the Focus on Energy incentive?	F4. Would you have purchased and installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy?	F5. Would you have installed something without the incentive and information or education from Focus on Energy?	F6. When you say you would have installed something, would you have installed something that was just as energy efficient as the [MEASURE] you installed?	F7. And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	E8. Without the incentive and information or education from Focus on Energy, would you have installed the energy-efficient [MEASURE]?	F9. When you say you would not have installed the same energy-efficient [MEASURE] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all?	F10. Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy-efficient as the [MEASURE][s] you installed?	F11. Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	F12. And, would you have installed the same energy-efficient [MEASURE]?	*Intention* FR Score	Count
Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	100%	1
Yes	Yes	Partial	Yes	-	-	-	-	Partial	-	-	-	75%	1
Yes	Yes	No	No	-	-	Yes	Yes	-	-	-	-	75%	2
Yes	Partial	-	Yes	-	-	-	-	Partial	-	-	-	50%	1
Yes	No	-	Yes	-	-	-	-	Yes	Yes	-	Yes	50%	2
Yes	No	-	Yes	-	-	-	-	Partial	Partial	-	Partial	0%	1
Yes	No	-	Yes	-	-	-	-	Partial	-	-	-	25%	1
Yes	No	-	Partial	Partial	-	-	-	-	-	-	-	25%	1
Yes	No	-	No	-	-	Yes	Yes	-	-	-	-	25%	3
No	-	-	Yes	-	-	-	-	Yes	No	-	-	0%	1
No	-	-	Yes	-	-	-	-	Yes	Yes	-	Yes	50%	3
No	-	-	Yes	-	-	-	-	Yes	Yes	-	Partial	25%	1
No	-	-	Yes	-	-	-	-	Partial	Partial	-	Partial	0%	1
No	-	-	Yes	-	-	-	-	Partial	-	-	-	25%	1
No	-	-	Partial	Yes	Yes	No	No	-	-	-	-	0%	1
No	-	-	Partial	Partial	-	-	-	-	-	-	-	25%	1
No	-	-	No	-	-	Yes	Partial	-	-	-	-	12.5%	3
No	-	-	No	-	-	Yes	Yes	-	-	-	-	25%	9

Table G-61. Contractor - Multifamily Offering Frequency of *Intention* Freeridership Scoring Combinations

G1. At the time that you first started working with your contractor on this project, had you already purchased or installed the energy-efficient [MEASURE][s]?	G2. Did your organization have specific plans to install the energy-efficient [MEASURE][s] before you began working with your contractor?	G3. Before you began working with your contractor, was the purchase of the energy-efficient [MEASURE][s] included in your organization's capital budget?	G4. Did your contractor help your organization make the decision to include the purchase of the energy efficient [MEASURE][s] in your property's capital budget?	G5. Would you have purchased and installed the same energy-efficient [MEAS-URE][s] over a less efficient option without the assistance from your contractor and Focus on Energy?	G6. Would you have installed something without the involvement of your contractor and Focus on Energy?	G7. When you say you would have installed some-thing, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G8. [Ask if QTY>1] And without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient [MEASURE]?	G9. Without the assistance from your contractor and Focus on Energy, would you have installed the energy-efficient [MEASURE][s]?	G10. When you say you would not have installed the same [MEAS-URE][s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all?	G11. Without the assistance from your contractor and Focus on Energy, would you have installed something that was just as energy efficient as the [MEASURE][s] you installed?	G12. [Ask if QTY>1] Without the assistance from your contractor and Focus on Energy would you have installed the same number of energy-efficient [MEASURE][s]?	G13. And, when would you have installed the same energy-efficient [MEASURE][s]?	*Intention* FR Score	Count
No	Yes	Yes	-	-	-	-	-	-	-	-	-	-	100%	7
No	Yes	Partial	-	No	-	-	-	-	Yes	Yes	Yes	Yes	50%	1
No	Yes	No	-	Yes	-	-	-	Yes	-	-	-	-	50%	1
No	Yes	No	-	Yes	-	-	-	Partial	-	-	-	-	25%	1
No	Yes	No	-	Yes	-	-	Yes	Partial	-	-	-	-	25%	1
No	Yes	No	-	Partial	Partial	-	-	-	-	-	-	-	25%	1
No	Yes	No	-	No	-	-	-	-	Yes	Yes	-	Partial	12.5%	2
No	Yes	No	-	No	-	-	-	-	Yes	No	-	-	0%	1
No	Yes	No	-	No	-	-	-	-	No	-	-	-	0%	2
No	No	-	Yes	Yes	-	-	-	Yes	-	-	-	-	50%	2
No	Partial	-	Partial	Partial	Yes	Yes	-	Yes	-	-	-	-	50%	1
No	Partial	-	Partial	Partial	Partial	-	-	-	-	-	-	-	25%	1
No	No	-	Partial	Yes	-	-	-	Yes	-	-	-	-	25%	1
No	No	-	Partial	Partial	Yes	Partial	-	Yes	-	-	-	-	12.5%	1
No	No	-	Partial	No	-	-	-	-	Partial	Yes	-	Yes	0%	1
No	No	-	No	Yes	-	-	-	Yes	-	-	-	-	12.5%	2
No	No	-	No	Partial	No	-	-	-	-	-	-	-	0%	1
No	No	-	No	No	-	-	-	-	Yes	Yes	-	No	0%	1
No	No	-	No	No	-	-	-	-	No	-	-	-	0%	2

The evaluation team estimated *intention* freeridership scores for all participants based on the responses of 64 participants to the *intention*-focused freeridership questions. As shown in Table G-62, the Large Industrial offering had an *intention* freeridership score of 36%.

Table G-62. Multifamily Offering – *Intention* Freeridership Results

Analysis Category	n	*Intention* FR Score	Percentage of Total Analysis Sample Gross Savings
Incentive	34	37%[a]	63%
Contractor	30	35%[a]	37%
Overall	**64**	**36%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Influence *Freeridership Analysis*

The evaluation team assessed *influence* freeridership by asking participants how important various offering elements were in their purchasing decisions. Table G-63 shows the offering elements participants rated for importance, along with a count and average rating for each factor.

Table G-63. Multifamily Offering – *Influence* Freeridership Responses

Influence Rating	Influence FR Score	The Focus on Energy incentive or discount		Recommendation from contractor or vendor		Information provided by Focus on Energy about energy savings opportunities		Recommendation from a contractor or vendor		Previous participation in a Focus on Energy energy-efficiency offering	
		Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor	Incentive	Contractor
1 - Not at all important	100%	5	6	12	11	8	9	7	1	13	10
2	75%	4	2	1	1	5	3	4	0	1	1
3	50%	4	5	5	4	6	3	4	2	4	6
4	25%	9	7	1	2	6	4	5	6	8	2
5 - Very important	0%	12	9	8	3	9	7	11	21	5	3
Don't know	50%	0	1	7	9	0	4	3	0	3	8
Average Rating		**3.6**	**3.4**	**2.7**	**2.3**	**3.1**	**2.9**	**3.3**	**4.5**	**2.7**	**2.4**

The team determined each respondent's *influence* freeridership score for each analysis category, using the maximum rating provided for any factor included in Table G-64. As the table shows, the respondents' maximum influence ratings ranged from 1 (*not at all important*) to 5 (*very important*). A maximum score of 1 meant the customer ranked all factors from the table as *not at all important*, while a maximum score of 5 means the customer ranked at least one factor *very important*. Counts refer to the number of "maximum influence" responses for each factor, or *influence* freeridership score, response option.

Table G-64. Multifamily Offering – *Influence* Freeridership Score

Maximum Influence Rating	*Influence* FR Score	Incentive - Count	Contractor - Count
1 - Not at all important	100%	2	1
2	75%	0	1
3	50%	3	1
4	25%	9	6
5 - Very important	0%	20	22
Average Maximum Influence Rating - Simple Average		**4.3**	**4.5**
Average Influence Score - Weighted by Verified Lifecycle MMBtu Gross Savings		**1%**	**10%**
Percentage of Total Analysis Sample Gross Savings		**63%**	**37%**
Average Offering Influence FR Score - Weighted by Percentage of Total Analysis Sample Gross Savings		**4%**	

The average overall *influence* freeridership score of 4% for the Large Industrial offering is weighted by the percentage of gross savings that the incentive focused and contractor focused analysis category respondents represented out of the overall analysis sample.

Final Freeridership

The evaluation team calculated the mean of the overall *intention* and the overall *influence* of freeridership components to estimate final freeridership for the analysis categories. A higher freeridership score translates to more savings that are deducted from the gross savings estimates. Table G-65 lists the *intention*, *influence*, and final freeridership scores for the Large Industrial offering.

Table G-65. Multifamily Offering – Freeridership Score

Analysis Category	n	*Intention* FR Score	*Influence* FR Score	Final Freeridership Score	Percentage of Total Analysis Sample Gross Savings
Incentive	34	37%[a]	1%	19%	63%
Contractor	30	35%[a]	10%	23%	37%
Overall	**64**	**36%[b]**	**3%**	**20%[b]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

[b] Weighted by percentage of total analysis sample gross savings.

Participant Spillover Analysis

The evaluation team estimated participant spillover based on answers from respondents who purchased additional high-efficiency equipment or appliances following their participation in the Large Industrial offering. The evaluation team applied evaluated and deemed savings to the spillover measures that customers said they had installed as a result of their offering participation, presented in Table G-66.

Table G-66. Multifamily Offering – Participant Spillover Measures and Savings

Spillover Measure	Quantity	Total MMBtu Lifecycle Gross Savings Estimate
LED Lighting	160	1,845

Next, the evaluation team divided the sample spillover savings by the offering gross savings from the entire survey sample, as shown in this equation:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure Energy Savings for All Survey Respondents}}{\sum \text{Offering Measure Energy Savings for All Survey Respondents}}$$

This yielded a 3% spillover estimate, when rounded to the nearest whole percentage, for the Large Industrial offering respondents (Table G-67).

Table G-67. Multifamily Offering – Participant Spillover Percentage Estimate

Variable	Total Verified Lifecycle MMBtu Gross Savings Estimate
Spillover Savings	1,845
Offering Savings	69,878
Spillover Estimate	**3%**

Final Net-to-Gross Analysis

The evaluation team combined the spillover information with the freeridership results to achieve the NTG ratios (Table G-68), using the following calculation:

NTG = 100% – Freeridership + Spillover

Table G-68. Multifamily Offering – NTG Estimates

Analysis Category	n	Freeridership	Spillover	NTG	Percentage of Total Survey Sample Savings
Incentive	34	19%	3%	84%	63%
Contractor	30	23%	3%	80%	37%
Overall	**64**	**20%[a]**	**3%**	**83%[a]**	**100%**

[a] Weighted by verified lifecycle MMBtu gross energy savings.

EDA/EDR Offerings (New Construction)

The evaluation team conducted one EDA/EDR NTG analysis across all of the programs that include an EDA/EDR offering. This section presents methodology and results for the combined analysis.

Freeridership

Intention Freeridership Survey Questions

For the EDA/EDR offering, the participant survey's intention freeridership sections included five questions focused on modeling assistance, and five questions focused on the incentives, all asked in the survey format and shown below:

- E1. Without this assistance, would your team have conducted energy modeling to the same extent during the early stages of the design process?
- E2. And would you have conducted the same energy modeling in the early stages without the modeling tools, consultation and input provided by Focus on Energy staff?

- E3. [IF NO TO E1, OR E2] Would you have done modeling in the early stages at all?
- E4. [IF E3= YES] How would the modeling you would have done been different from the modeling performed by offering staff? Would it have been…
- E5. How important was the energy modeling analysis in the early stages on your decision to add higher efficiency measures to the project? Were the recommendations…

The incentive focused intention freeridership questions included (asked in the survey format):

- E6. Without the incentive, would you have considered and implemented strategies that were just as efficient?
- E7. Without the report, would you have considered and implemented strategies that were just as efficient?
- E8. Had the incentive or energy modeling not been available, when would you have considered and implemented the same energy efficiency strategies…
- E9. [ASK IF E8=1 OR 2] Before you became aware of the Focus on Energy's New Construction offerings, was the purchase and installation of the specific energy efficient strategies implemented included in your construction budget?
- E10. Did you expect an incentive for improved efficiency design when planning and budgeting for this project?

The influence-focused freeridership question asked participants to rate the level of influence—on a scale of 1 to 5, with 1 being *not at all influential* and 5 being *very influential*—of the following six factors in their decision to participate in the EDA/EDR offering:

- Total offering incentives
- Assistance provided by Focus on Energy staff in bundle selection
- Energy modeling results and report identifying energy saving options
- Information provided by Focus on Energy about energy savings opportunities
- Previous participation in a Focus on Energy efficiency offering

Intention Freeridership Scoring

Each freeridership score started with 100%, which the evaluation team decremented based on the participant's responses to the five questions as shown in Table G-69. Decrements are shown in parentheses following a response option.

Table G-69. Intention Freeridership Scoring Legend

E1. Without the incentive, would you have considered and implemented strategies that were just as efficient?	E2. Without the report, would you have considered and implemented strategies that were just as efficient?	E3. Had the incentive or energy modeling not been available, would you have installed the same energy efficient equipment…	E4. [ASK IF E6= 1 OR 2 AND E8=1 OR 2] Before you became aware of Focus on Energy's New Construction offerings, was the purchase and installation of the specific energy efficient strategies implemented included in your construction budget?	E5. Did you expect an incentive for improved energy efficiency design when planning budgeting for this project?
Yes - all (-0)	Yes - all (-0)	This year (-0%)	Yes (-0%)	Yes (-25%)
Yes - some (-25%)	Yes - some (-25%)	Within 1-2 years (- 50%)	No (-50%)	No (-0%)
No (-50%)	No (-50%)	More than 2 years (-100%)	Don't Know (-25%)	Don't Know (-0%)
		Never (-100%)		

Influence Focused Freeridership Scoring

The evaluation team used the maximum rating given by each participant for any offering factor addressed through the influence question to determine their influence freeridership score. Respondents were asked to rate each factor on a scale of 1 to 5, with 1 being *not at all influential* and 5 being *very influential*. Table G-70 presents the freeridership level implied by each influence rating.

Table G-70. Influence Focused - Freeridership Scoring Legend

Maximum Influence Rating	Influence Freeridership Score
1 - *Not at all influential*	100%
2	75%
3	50%
4	25%
5 - *Very influential*	0%

Intention Freeridership Findings

Table G-71 shows the unique response combinations from participants answering the *intention* freeridership questions (actual responses mapped to yes, no, or partial, as indicative of freeridership), the *intention* freeridership score assigned to each combination, and the number of responses. The evaluation team calculated an *intention* freeridership score for the offering based on the savings weighted average of the distribution of scores within the matrix.

Table G-71. EDA/EDR Offering - Frequency of Intention Freeridership Scoring Combinations

E1. Without the incentive, would you have considered and implemented strategies that were just as efficient?	E2. Without the report, would you have considered and implemented strategies that were just as efficient?	E3. Had the incentive or energy modeling not been available, would you have installed the same energy efficient equipment…	E4. [ASK IF E6= 1 OR 2 AND E8=1 OR 2] Before you became aware of Focus on Energy's New Construction offerings, was the purchase and installation of the specific energy efficient strategies implemented included in your construction budget?	E5. Did you expect an incentive for improved energy efficiency design when planning budgeting for this project?	*Intention* FR Score	Count
Yes	Yes	Yes	Yes	Yes	100%	3
Yes	Yes	Yes	Yes	No	75%	3
Yes	Yes	Partial	x	No	50%	2
Yes	Yes	Partial2	Yes	No	25%	1
Yes	Partial	Yes	Partial	Yes	50%	1
Yes	Partial	No	x	x	0%	1
Partial	Yes	Yes	Yes	No	50%	2
Partial	Partial	Yes	Yes	Yes	50%	1
Partial	Partial	Yes	Partial	Yes	25%	1
Partial	Partial	Yes	No	No	0%	3
Partial	Partial	Partial	x	No	0%	4
Partial	Partial	Partial2	Yes	No	0%	1
Partial	Partial	Partial2	No	Yes	0%	1
Partial	Partial	No	x	x	0%	4
Partial	No	No	x	x	0%	1
No	No	No	x	x	0%	1

Influence Freeridership Analysis

The evaluation team assessed *influence* freeridership by asking participants how important various offering elements were in their purchasing decisions. Table G-72 shows the offering elements participants rated for importance, along with a count and average rating for each factor.

Table G-72. EDA/EDR Offering – *Influence* Freeridership Responses

Influence Rating	*Influence* FR Score	Total program incentives	Assistance provided by Focus on Energy staff in bundle selection	Energy modeling results and report identifying energy saving options	Information provided by Focus on Energy on energy savings opportunities	Previous participation in a Focus on Energy energy efficiency program or offering
1 - Not at all important	100%	0	0	0	2	1
2	75%	0	0	1	2	1
3	50%	2	4	2	0	3
4	25%	8	17	12	3	5
5 - Very important	0%	19	7	14	2	14
Don't know/Not applicable	50%	0	2	1	0	6
Average Rating		**4.6**	**4.1**	**4.3**	**4.4**	**4.3**

The team determined each respondent's *influence* freeridership rate for each measure category, using the maximum rating provided for any factor included in Table G-72. As shown in Table G-73, the respondents' maximum influence ratings ranged from 1 (*not at all important*) to 5 (*very important*). A maximum score of 1 meant the customer ranked all factors from the table as *not at all important*, while a maximum score of 4 means the customer ranked at least one factor *very important*. Counts refer to the number of "maximum influence" responses for each factor, or *influence* freeridership score, response option.

The average *influence* freeridership score of 1% for the EDA/EDR offering is weighted by verified lifecycle MMBtu gross savings.

Table G-73. EDA/EDR Offering – *Influence* Freeridership Score

Maximum *Influence* Rating	*Influence* FR Score	Count
1 - Not at all important	100%	0
2	75%	0
3	50%	0
4	25%	4
5 - Very important	0%	25
Don't know	50%	1
Average Maximum Influence Rating - Simple Average		**4.9**
Average Influence Score - Weighted by Verified Lifecycle MMBtu Gross Savings		**1%**

Final Freeridership

The evaluation team calculated the mean of the overall *intention* and the overall *influence* of freeridership components to estimate final freeridership for the EDA/EDR offering. A higher freeridership score means more savings are deducted from the gross savings estimates. Table G-74 lists *intention*, *influence*, and final freeridership scores for the offering.

Table G-74. EDA/EDR Offering – Freeridership Score

Offering	n	*Intention* FR Score	*Influence* FR Score	Final FR Score
EDA/EDR	30	12%[a]	1%[a]	7%

[a] Weighted by verified lifecycle MMBtu gross energy savings.

Participant Spillover Analysis

The evaluation team determined that there was no spillover for the EDA/EDR offering based on self-report survey data. None of the surveyed participants attributed additional energy-efficient equipment purchases or energy modeling (for which they did not receive an incentive) to their participation in the EDA/EDR offering. This yielded 0% spillover (Table G-75).

Table G-75. EDA/EDR Offering – participant Spillover Percentage Estimate

Variable	Total Verified Gross Lifecycle MMBtu Savings Estimate
Spillover Savings	0
Offering Savings	927,355
Spillover Estimate	**0%**

Final Net-to-Gross Analysis

The evaluation team combined the spillover information with the freeridership results to achieve the NTG ratios, using the following calculation, as shown in Table G-76.

NTG = 100% – Freeridership + Spillover

Table G-76. EDA/EDR Offering – NTG Estimates

n	Freeridership[a]	Spillover	NTG[a]
30	7%	0%	93%

[a] Weighted by verified lifecycle gross MMBtu savings.

Midstream Contractor Offering

For circulator pumps in the Midstream Contractor offering, the evaluation team used a contractor, causal pathway NTG methodology. This approach is based on methods used in California and other states for similar upstream/midstream offerings, described in detail in the 2017 California Public Utilities Commission (CPUC) HVAC Impact Evaluation Report.[11]

The methodology establishes Midstream Contractor offering attribution by considering the pathways contractors take when selling high-efficiency equipment. The term "causal pathway" is used to represent how the offering is intended to influence the final purchase decisions of end users. This approach was used to integrate survey responses into freeridership and NTG values.

In this methodology, there are two main causal pathways of influence that can impact contractors:

- The offering encourages contractors to **upsell** high-efficiency units, and end users are influenced to purchase high-efficiency units rather than standard-efficiency units by promotional efforts.
- The offering encourages contractors to reduce the **price** of high-efficiency units or pass along rebates to end users, and, in turn, end users are influenced by the lower prices to purchase high-efficiency units rather than standard-efficiency units.

Table G-77 lists the question themes associated with the causal pathways for contractors.

Table G-77. Question Themes Associated with the Causal Pathways

Causal Pathways	Contractor Question Theme
Upselling	1. What was the Midstream offering's influence on encouraging the contractor to promote or upsell the units?
Price	2. Did the contractor pass on some or all of the incentive to buyers?

Each of the causal pathways is dependent on the contractor changing their behavior in response to the offering, and that change in behavior influencing the decision-making of their buyers. Each causal pathway is independently based on the assumption that if the offering failed to show attribution through the contractors for one causal pathway, then the offering did not affect the equipment sale on that particular causal path. This does not mean that the offering had no influence on the sale, only that any influence it had was not through this path. If another causal path did show offering influence, then the sale was at least partially attributable to the offering.

[11] DNV GL - Energy. April 1, 2019. 2017 *Impact Evaluation Report: HVAC (Appendix G. 6.12.1.1).* Prepared for California Public Utilities Commission. https://pda.energydataweb.com/api/view/2167/CPUC%20Group%20A%202017%20HVAC%20Impact%20Evaluation%20-%20Final%20Report.pdf

Table G-78 shows the contractor causal pathway attribution scoring approach for circulator pump equipment offered through the Midstream Contractor offering.

Table G-78. Contractor Causal Pathway Attribution Scoring Approach

Contractor Causal Pathways	General Question Series Logic	Attribution Scoring
Upselling	**Has the offering influenced any upselling or promoting of high-efficiency units?** D16. In situations where you are selling [EQUIPMENT TYPE], about what percentage of the time are you currently recommending the high-efficiency equipment? D17. For [EQUIPMENT TYPE] equipment, what percentage of the time would you have recommended the high-efficiency equipment had the offering not existed in 2023?	$\frac{(D16\ response - D17\ response)}{D17\ response}$ = Contractor Attribution$_{Upsell}$
Price	**Does any of the incentive get passed on to the end-use buyer?** D23. On average, what percentage of the rebate is passed on to the buyer for the [EQUIPMENT TYPE], either directly or indirectly?	$D23\ Response$ = Contractor Attribution$_{Price}$

Note: The evaluation team asked contractors general questions about whether they keep a supply of equipment in stock and if the Focus on Energy Midstream Contractor offering influenced their stocking practices. Contractors reported that they do not typically stock a significant amount of circulator pump equipment; therefore, a separate contractor stocking attribution score is not applicable.

The evaluation team calculated the causal pathway attribution scores (NTG ratio) for circulator pumps in the Midstream Contractor offering by averaging the lifecycle energy savings weighted survey attribution scores for the upselling and pricing causal pathways.

The team then subtracted the causal pathway attribution scores from 100% to calculate a freeridership rate on each path. Next, the team averaged the causal pathway freeridership scores together and subtracted the result from 100% to get the overall Midstream Contractor NTG value.[12]

The equations below show the flow of these calculations.

$$\text{Freeridership}_{Upsell} = 100\% - \text{Contractor Attribution}_{Upsell}$$

$$\text{Freeridership}_{Price} = 100\% - \text{Contractor Attribution}_{Price}$$

$$\text{Overall NTG} = 100\% - \text{Average}(\text{Freeridership}_{Upsell}, \text{Freeridership}_{Price})$$

[12] The evaluation team recommended averaging causal pathway scores instead of using a multiplicative method. The use of a multiplicative method to combine probabilities should be avoided. See Keating, Ken. 2009. "Freeridership Borscht: Don't Salt the Soup." Presented at the 2009 International Energy Program Evaluation Conference. https://www.iepec.org/conf-docs/papers/2009PapersTOC/papers/012.pdf

Table G-79 shows the contractor causal pathway attribution scores approach for circulator pumps offered through the Midstream Contractor offering. The evaluation team calculated the overall causal pathway attribution score (NTG ratio) for circulator pumps by averaging the lifecycle energy savings weighted overall upselling and pricing attribution scores.

Table G-79. Contractor Causal Pathway Attribution Scores/NTG Ratios (n=8)

Measure Category	Upselling Attribution	Pricing Attribution	Overall Attribution Score/NTG Ratio
Circulator Pumps	54%	87%	**71%**

Appendix H. Summary of Confidence and Precision

Focus on Energy gives serious consideration to evaluation design to ensure that its offerings achieve the most accurate and reliable results possible under the available evaluation budget. The evaluation uses statistical confidence and precision standards as a key driver in determining the scale and scope of the evaluation design for each offering; the net savings confidence and precision target is 90% confidence with ±10% precision over the CY 2023-CY 2026 quadrennium.

The evaluation team calculated the precision of final net first-year and lifetime energy savings estimates (MMBtu) at 90% confidence for each offering in the Focus on Energy portfolio. The precision reflects the uncertainty in the savings estimates due to measurement error, regression error, and sampling error. Measurement error refers to the uncertainty around engineering parameters derived from simulation or professional judgment, regression error refers to uncertainty around estimates derived from regression analysis, and sampling error refers to uncertainty introduced by estimating population parameters based on a sample.

After calculating standard errors, the evaluation team calculated the precision of the final estimates using the following formula:

$$relative\ precision = \frac{z\text{-}statistic * SE}{total\ net\ savings}$$

Where:

z-statistic	=	Critical value at a specific confidence level
SE	=	Standard error of the total net savings estimate
total net savings	=	Total net savings estimated based on the evaluation results

This appendix provides details on how the evaluation team calculated total net savings estimates and their standard errors.

Introduction to Statistical Uncertainty

The evaluation team collected data from surveys, billing histories, meters, and secondary sources, including the TRM to estimate net savings for each offering and the portfolio. Statistical uncertainty is inherent in all activities for which samples or models are used to estimate a property of a population. Using sampled data is often preferred to save on the costs and time associated with studying an entire population and because random samples of the population provide sufficiently reliable results. The strength of an estimate is related to the amount of uncertainty or error around it, which is determined based on the statistical properties of sampled data and how they are used to make inferences about a population.

Statistical uncertainty comprises two parts: the confidence and the precision of the estimate. Confidence intervals show the range of values within which one expects the unknown population

parameter to fall. Confidence refers to the probability that the true value of the metric of interest (such as kilowatt-hours saved) will fall within some level of precision.

A statement of precision without a statement of confidence is misleading. For example, if energy savings are estimated as 24 kWh with precision of ±5 kWh at 90% confidence, the interpretation is that one is 90% confident that the true energy savings is between 19 kWh and 29 kWh. Narrower confidence intervals indicate that the savings estimate is very precise, and wider confidence intervals indicate that the variability in the data is large and that more information would be required to produce a more precise estimate.

For the Focus on Energy evaluation, the general standard for uncertainty is to achieve evaluation results at 90% confidence with ±10% precision over the CY 2023-CY 2026 quadrennium. The team defined and prioritized evaluation activities to align with this standard. This standard is in line with nationwide best practices for the evaluation of energy efficiency programs, as documented in the U.S. Environmental Protection Agency's National Action Plan for Energy Efficiency and elsewhere.[13]

Combining Net Uncertainty with Gross Uncertainty

When two estimates are based on different evaluation activities and combined to produce a final estimate, the uncertainty from each estimate must be considered in calculating the uncertainty of the final estimate. For example, if one set of data collected from surveys, billing analyses, metering, and/or TRM review is used to estimate gross savings and another set of data collected from a separate survey is used to estimate spillover, freeridership, and NTG ratios and then that NTG ratio is applied to the gross savings to estimate net savings, the standard error of total net savings should be based on the standard error of gross savings and the NTG ratio. Details are provided below, specific to each set of offerings.

When the evaluation team estimates NTG ratios using survey data collected from an independent simple random sample of participants, it uses a ratio estimator and its standard error formula to quantify the uncertainty in the NTG ratios where net savings are represented by y_i, *ex post* savings are represented by x_i, and the standard error of the NTG ratio estimate is represented by SE_{NTG}, in the following formulas:

$$NTG\ Ratio = \frac{\sum_{sample} y_i}{\sum_{sample} x_i}$$

$$SE_{NTG} = \sqrt{\sum_{i=1}^{n} \frac{(y_i - NTG\ Ratio * x_i)^2}{\bar{x}^2 * n(n-1)}}$$

[13] U.S. Environmental Protection Agency. Accessed April 2024. "Energy and the Environment. National Action Plan for Energy Efficiency." National Action Plan for Energy Efficiency | Energy and the Environment | US EPA

The evaluation team then multiplies the NTG ratio by the total *ex post* gross savings to estimate total net savings and uses the formula for the standard error of the product of two independent random variables to calculate precision, as shown in this formula:

$$SE_{total\ net\ savings} = \sqrt{NTG^2 * SE^2_{total\ ex\ post\ gross\ savings} + total\ ex\ post\ gross\ savings^2 * SE^2_{NTG} + SE^2_{NTG} * SE^2_{total\ ex\ post\ gross\ savings}}$$

The evaluation team used this method for all offerings unless otherwise noted.

Nonresidential Offerings

The evaluation team selected a sample of projects in each nonresidential and multifamily offering to estimate *ex post* verified gross savings. It used a stratified sample design with a random stratum and a census stratum in most offerings. Sampling took place throughout the evaluation year in three waves. The evaluation team placed projects with savings above a percentage threshold of total offering savings in the census stratum. The remaining sample was pulled using a random sample design to reach 90% confidence with ±10% precision at the offering level, ultimately rolling up to 90% confidence with ±10% precision at the program level. The sample design was successful in achieving low precision values for all offerings, as seen in the CY 2023 precision results.

For the random stratum, the evaluation team applied the realization rates to the population total *ex ante* savings in each offering by wave to estimate that wave's population total *ex post* gross savings. The team calculated realization rates and standard errors in the random stratum in each wave using the formulas presented in the Uniform Methods Project sampling chapter.[14]

In the following formulas, y_i represents *ex post* savings for each evaluated measure, x_i represents *ex ante* savings for each measure, and n represents each wave's sample size.

$$RR_{random\ stratum} = \frac{\sum_{sample} y_i}{\sum_{sample} x_i}$$

$$random\ stratum\ ex\ post\ gross\ savings = RR_{random\ stratum} * \sum_{random\ stratum\ population} x_i$$

$$SE_{random\ stratum\ total\ ex\ post\ gross\ savings} = \frac{\sum_{random\ stratum\ population} x_i}{\sqrt{n} * \overline{x_i}} * \sqrt{\sum_{i=1}^{n} \frac{(y_i - RR * x_i)^2}{n-1}}$$

The team also calculated realization rates for the census stratum in each offering. In the census stratum, all projects are evaluated in order to directly verify the largest-saving projects. The census stratum has

[14] National Renewable Energy Laboratory. April 2013. *The Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures.* "Chapter 11: Sample Design Cross-Cutting Protocols." Prepared by Cadmus. http://energy.gov/sites/prod/files/2013/11/f5/53827-11.pdf

no sampling error. To estimate a single standard for each wave's combined census and random strata, the evaluation team used the following formula.

$$SE_{wave\ total\ ex\ post\ gross\ savings} = \sqrt{(SE_{random\ stratum\ total\ ex\ post\ gross\ savings})^2 + (SE_{census\ stratum\ total\ ex\ post\ gross\ savings})^2}$$

As the standard error of the census stratum is zero, the standard error for the wave simplifies to the following:

$$SE_{wave\ total\ ex\ post\ gross\ savings} = SE_{random\ stratum\ total\ ex\ post\ gross\ savings}$$

The following formulas show the realization rate calculations for the census stratum and the method for calculating a single realization rate for the wave. The team used similar methods to combine census and random stratum standard errors and realization rates within waves and across waves.

$$RR_{census\ stratum} = \frac{\sum_{census} y_i}{\sum_{census} x_i}$$

$$census\ stratum\ ex\ post\ gross\ savings = RR_{census\ stratum} * \sum_{census\ stratum\ population} x_i$$

$$RR_{wave} = \frac{random\ stratum\ ex\ post\ gross\ savings + census\ stratum\ ex\ post\ gross\ savings}{\sum_{wave} x_i}$$

The team estimated nonresidential NTG ratios using survey data collected from an independent simple random sample of participants and then multiplied these ratios with the total *ex post* gross savings to estimate total net savings for each offering. The team used a ratio estimator and standard error formula described above to quantify the uncertainty in the NTG ratios.

Table H-1 presents the precision of total net first and cumulative year MMBtu savings estimates at 90% confidence for each nonresidential offering by calendar year. The sources of uncertainty in all nonresidential savings estimates were due to estimating the realization rate and NTG values based on samples.

Table H-1. Nonresidential Net First-Year MMBtu Energy Savings Precision

Nonresidential Offerings	Precision at 90% Confidence				
	CY 2023	CY 2024	CY 2025	CY 2026	Cumulative
Agribusiness	11%	TBD	TBD	TBD	11%
Commercial and Industrial	8%	TBD	TBD	TBD	8%
Commercial and Industrial New Construction	12%	TBD	TBD	TBD	12%
Large Industrial	9%	TBD	TBD	TBD	9%
Large Industrial New Construction	16%	TBD	TBD	TBD	16%
Government	10%	TBD	TBD	TBD	10%
Schools	10%	TBD	TBD	TBD	10%
School and Government New Construction	11%	TBD	TBD	TBD	11%
Business Renewable Rewards	8%	TBD	TBD	TBD	8%
Total	**5%**	TBD	TBD	TBD	**5%**

Residential and Midstream Offerings

The evaluation team used various methods to evaluate the residential and midstream offerings. Table H-2 presents the precision of total net savings estimates and the sources of uncertainty for each residential offering, by calendar year and cumulatively.

Table H-2. Residential Net First-Year MMBtu Energy Savings Precision (90% Confidence)

Residential Program	Precision at 90% Confidence					Sources of Uncertainty
	CY 2023	CY 2024	CY 2025	CY 2026	Cumulative	
Online Marketplace	5%	TBD	TBD	TBD	5%	ISR and NTG ratio
Packs	3%	TBD	TBD	TBD	3%	ISR and NTG ratio
Retail	13%	TBD	TBD	TBD	13%	ISR and NTG ratio
Heating and Cooling	0.5%	TBD	TBD	TBD	0.5%	Baseline efficiency for furnaces and NTG ratio. Furnaces' relatively low contribution to gross savings and corresponding standard errors.
Insulation and Air Sealing	0.0%	TBD	TBD	TBD	0.0%	Deemed gross and NTG – no sampling uncertainty
Tribes	0.1%	TBD	TBD	TBD	0.1%	Baseline efficiency for furnaces and NTG ratio for heating and cooling measures. Furnaces' relatively low contribution to gross savings and corresponding standard errors.
Multifamily	7%	TBD	TBD	TBD	7%	Realization rate and NTG

Residential Program	Precision at 90% Confidence					Sources of Uncertainty
	CY 2023	CY 2024	CY 2025	CY 2026	Cumulative	
Multifamily New Construction	11%	TBD	TBD	TBD	11%	Realization rate and NTG
Renewable Rewards, Residential	7%	TBD	TBD	TBD	7%	NTG ratio
Residential New Construction	8%	TBD	TBD	TBD	8%	PRISM model
Total	**2%**	TBD	TBD	TBD	**2%**	

Table H-3 presents the precision of total net savings estimates and the sources of uncertainty for each midstream offering, by program year and cumulatively.

Table H-3. Midstream Net First-Year MMBtu Energy Savings Precision (90% Confidence)

Residential Program	Precision at 90% Confidence					Sources of Uncertainty
	CY 2023	CY 2024	CY 2025	CY 2026	Cumulative	
Midstream Contractor	6%	TBD	TBD	TBD	6%	NTG ratio
Community-Based Organization Distribution	0%	TBD	TBD	TBD	0%	Deemed gross savings and NTG. No sampling uncertainty.
Total	**0.5%**	TBD	TBD	TBD	**0.5%**	

Appendix I. Cost-Effectiveness and Emissions Methodology and Analysis

When developing potential offerings, APTIM, the Focus on Energy administrator, assesses the cost-effectiveness of offering designs prior to their implementation. The administrator, in collaboration with the PSC and the evaluation team, developed a cost-effectiveness calculator tool. Because maintaining consistency between planning and evaluation approaches is critical to understanding offering performance compared with expectations, the evaluation team used the same calculator to evaluate cost-effectiveness in CY 2023. These findings are presented in this appendix.

The PSC considers the modified TRC test to be the primary test in assessing the cost-effectiveness of both individual offerings and the entire Focus on Energy portfolio.[15] The PSC also directs that three additional tests be conducted for advisory purposes. These are an expanded TRC test that includes net economic benefits, the utility administrator cost test (UAT), and the societal test. Beginning with the CY 2020 evaluation, the PSC approved the inclusion of the avoided costs associated with reduced needs for transmission and distribution (T&D) infrastructure.[16] This inclusion continued into Quadrennium IV.[17]

Net-to-gross (NTG) ratios can have a significant effect on the results of the tests. NTG ratios are applied to adjust the energy savings impacts of the offerings so they reflect only the net gains that result. Therefore, NTG ratios account for energy savings that would have been achieved without the efficiency offerings as well as participant spillover (when NTG is less than 1, savings are removed; when NTG is greater than 1, savings are added). In all cases, the savings are multiplied by NTG.

On the cost side, expenditures that would have occurred without the efficiency effort are also removed. Costs that would not have occurred in the absence of the offerings—such as delivery and administrative costs—are not impacted by NTG.

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[15] The use of the modified TRC test as the primary cost-effectiveness test is directed by the PSC. Public Service Commission of Wisconsin. September 3, 2014. Quadrennial Planning Process II – Scope. Order PSC Docket 5-FE-100, REF#: 215245. Order was updated on November 14, 2022. Quadrennial Planning Process IIV. Order PSC Docket 5-FE-104, REF#: 453081. http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=453081.

[16] The calculation method and inclusion of avoided transmission and distribution costs are directed by the PSC. Public Service Commission of Wisconsin. March 10, 2021. Quadrennial Planning Process III. Order PSC Docket 5-FE-101, REF#: 406591. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=406591.

[17] November 14, 2022. Quadrennial Planning Process IV. Order PSC Docket 5-FE-104, REF#: 453081. http://apps.psc.wi.gov/vs2015/ERF_view/viewdoc.aspx?docid=453081

Test Descriptions

The evaluation team, as well as the administrator in developing its cost-effectiveness calculator, use methods adapted from the California Standard Practice Manual, the conventional standard of cost-effectiveness analysis for energy efficiency programs in the United States.[18] This section describes the four tests—the modified TRC test, the expanded TRC test, the UAT, and the societal test.

Modified Total Resource Cost Test

The TRC test is the most commonly applied test for evaluating the cost-effectiveness of energy efficiency and renewable resource programs around the country. Applications range across states and utility jurisdictions, from the standard TRC test to the societal test, which expands the test inputs to provide a more holistic societal perspective. The TRC test includes total participant and administrator costs and estimates benefits in the form of avoided utility costs. Common modifications to the standard TRC test often involve reducing the discount rate or including various environmental and other non-energy benefits (such as emissions reduction benefits). Wisconsin's version of the modified TRC test accounts for the standard TRC test costs and benefits and is modified to also include monetized benefits of reduced emissions (carbon dioxide, sulfur oxide, and nitrogen oxide) due to saving energy.

In CY 2023, the evaluation team used the modified TRC test to determine if the offerings were cost-effective from a regulatory perspective (as directed by the PSC) and, where feasible, measured the overall impacts of the benefits and costs of these offerings on the State of Wisconsin. In general, the test compares all benefits and costs that can be measured with a high degree of confidence, including any net avoided emissions that have commission-established values. The test's purpose is to determine if the total costs residents, businesses, and Focus on Energy incur for operating the offerings are outweighed by the total benefits they receive.

In simple terms, the benefit/cost value of the modified TRC test is the ratio of avoided utility and environmental costs from avoided energy consumption to the combination of administrative costs, delivery costs, and net participant incremental measure costs.

The benefit/cost equation used for the modified TRC test is:

$$TRC\frac{B}{C} = \frac{[Value\ of\ Gross\ Saved\ Energy + Value\ of\ Gross\ Avoided\ Emissions] * NTG}{[Adminstrative\ Costs\ +\ Delivery\ Costs + (Incremental\ Measure\ Cost\ * NTG)]}$$

Where:

$$Value\ of\ Gross\ Saved\ Energy = Net\ Gross\ Savings\ x\ Utility\ Avoided\ Costs$$

[18] California Public Utilities Commission. July 2002. *California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects*. http://www.calmac.org/events/SPM_9_20_02.pdf

Expanded Total Resource Cost Test with Net Economic Benefits

The evaluation team investigated the impact of expanding the TRC to include net economic benefits for the CY 2023 offerings. The evaluation team conducts analysis of economic benefits every two years and issues the results separately from the evaluation reports.

This is the benefit/cost equation used for the expanded TRC test with net economic benefits:

$$TRC\,\frac{B}{C} = \frac{[(Value\ of\ Gross\ Saved\ Energy + Value\ of\ Gross\ Avoided\ Emissions) * NTG + Net\ Economic\ Benefits]}{[Adminstrative\ Costs\ +\ Delivery\ Costs + (Incremental\ Measure\ Cost\ * NTG)]}$$

Utility Administrator/Offering Administrator Cost Test

The evaluation team also assessed the portfolio's cost-effectiveness using the UAT, which measures the net benefits and costs of the offerings as a resource option from the perspective of the Focus on Energy administrator. In Wisconsin, the UAT represents the collective perspectives of the participating utilities that hire and fund the administrator.

The UAT, previously called the revenue requirements test, effectively estimates the impacts on utility revenue requirements (the costs of providing service) by comparing the benefits of avoided utility costs from avoided energy consumption with the combined costs of operating the offering, such as incentive payments, administrative costs, and delivery costs. A positive benefit/cost ratio indicates that the offering improves an energy system's operational cost-effectiveness.

For this evaluation, the UAT's benefit/cost value indicates whether the combined revenue requirements from all participating utilities increase or decrease as a result of the Focus on Energy offerings. The net benefits determined with the UAT indicate the estimated dollar value of the change in the combined revenue requirements from all participating utilities. The NTG ratio impacts only the benefit side of the UAT because none of the costs would have occurred absent the effort and, therefore, all are kept in the test (not subtracted from the denominator).

The benefit/cost equation used for the UAT follows:

$$UAT\,\frac{B}{C} = \frac{[Value\ of\ Gross\ Saved\ Energy * NTG]}{[Participant\ Incentives +\ Adminstrative\ Costs\ +\ Delivery\ Costs]}$$

Societal Test

In addition to the expanded TRC, the evaluation team investigated the impact of several non-energy benefits such as health, water, purchase deferral, property value, and arrearage benefits that are included in the CY 2023 offerings. These non-energy benefits are estimated for purposes reporting the results of the societal test (SCT).

The benefit/cost equation used for the societal test is the following:

$$SOC\,\frac{B}{C} = \frac{[(Value\ of\ Gross\ Saved\ Energy + Value\ of\ Gross\ Avoided\ Emissions) * NTG + Net\ Economic\ Benefits + NEBs]}{[Adminstrative\ Costs\ +\ Delivery\ Costs + (Incremental\ Measure\ Cost\ * NTG)]}$$

A more detailed discussion of the various non-energy benefits in the societal test are presented below.

Non-Energy Benefits

Table I-1 summarizes the non-energy benefits from the five metrics that were quantified in the societal test. The five metrics are health benefits, water benefits, purchase deferral benefits, property value benefits, and income qualified arrearage benefits. Each benefit is further described in the following sections.

Table I-1. Non-Energy Benefits Results Summary

Benefit	Value	Unit
Health Benefit	$0.0326	per kWh
Water Benefits - Residential	$0.01033	per gallon
Water Benefits - Commercial	$0.00973	per gallon
Purchase Deferral	Measure specific	Measure specific
Property Values	$9,226	per home
Arrearages	$25.66	per participant

Health Benefits

The evaluation team estimated the value of health benefits accumulated by reduced emissions attributable to offering activity. The team followed the method recommended by the U.S. Environmental Protection Agency (EPA) using the benefits per kilowatt-hour (BPK) tool. The EPA introduced the BPK tool in late fall 2019, using data from 2017, to help interested parties estimate health benefits from reduced emissions. The EPA last updated the tool in May 2021 using data from 2019. In 2023, a literature scan confirmed that the 2021 update remained the most up-to-date version.

The BPK tool relies on the AVoided Emissions and geneRation Tool (AVERT) regional inputs, which specify the blend of electric generation sources (coal, natural gas, hydroelectric, other renewables, etc.) and the downstream effects of particulate generation from those sources as determined in the Co-Benefits Risk Assessment (COBRA) health impacts screening and mapping tool.

BPK values are determined using the following equation:

$$BPK_{t,r} = \frac{HealthBenefits_{t,US}}{GenerationChange_{t,r}}$$

Where:

$BPK_{t,r}$ = Annual monetized public health benefits per kilowatt-hour (c/kWh) for each energy efficiency/renewable energy technology type (t) and AVERT region (r)

$Health\ Benefits_{t,US}$ = Aggregated monetized public health benefits from emissions reductions for each type of energy efficiency/renewable energy technology (t) for the contiguous United States (US) in 2019 dollars

Generation Change$_{t,r}$ = Change in electricity generation for each energy efficiency/renewable energy technology type (t) and AVERT region (r)

The effects of these emissions are then tied to the negative health outcomes associated with inhaling those particulates. The EPA's 2021 report on public health and energy provides an in-depth methodology for calculating these benefits.[19] Figure I-1 shows a snapshot from the EPA's report for the included health inputs, along with the savings associated with each input.

Figure I-1. U.S. EPA Snapshot of Included Health Inputs

Health Endpoint	Age Range
Mortality[a]	25–99
Infant Mortality[b]	0–0
Acute Myocardial Infarction, Nonfatal[c]	0–24
Acute Myocardial Infarction, Nonfatal[c]	25–44
Acute Myocardial Infarction, Nonfatal[c]	45–54
Acute Myocardial Infarction, Nonfatal[c]	55–64
Acute Myocardial Infarction, Nonfatal[c]	65–99
Acute Myocardial Infarction, Nonfatal[d]	0–24
Acute Myocardial Infarction, Nonfatal[d]	25–44
Acute Myocardial Infarction, Nonfatal[d]	45–54
Acute Myocardial Infarction, Nonfatal[d]	55–64
Acute Myocardial Infarction, Nonfatal[d]	65–99
Hospital Admissions, All Cardiovascular (less-acute myocardinal infraction)	18–64
Hospital Admissions, All Cardiovascular (less-acute myocardinal infraction)	65–99
Hospital Admissions, All Respiratory	65–99
Hospital Admissions, Asthma	0–17
Hospital Admissions, Chronic Lung Disease	18–64
Asthma Emergency Room Visits (Smith et al. 1997)	0–99
Asthma Emergency Room Visits (Stanford et al. 1999)	0–99
Acute Bronchitis	8–12
Lower Respiratory Symptoms	7–14
Upper Respiratory Symptoms	9–11
Minor Restricted Activity Days	18–64
Work Loss Days	18–64
Asthma Exacerbation (cough, shortness of breath, or wheeze)	6–18

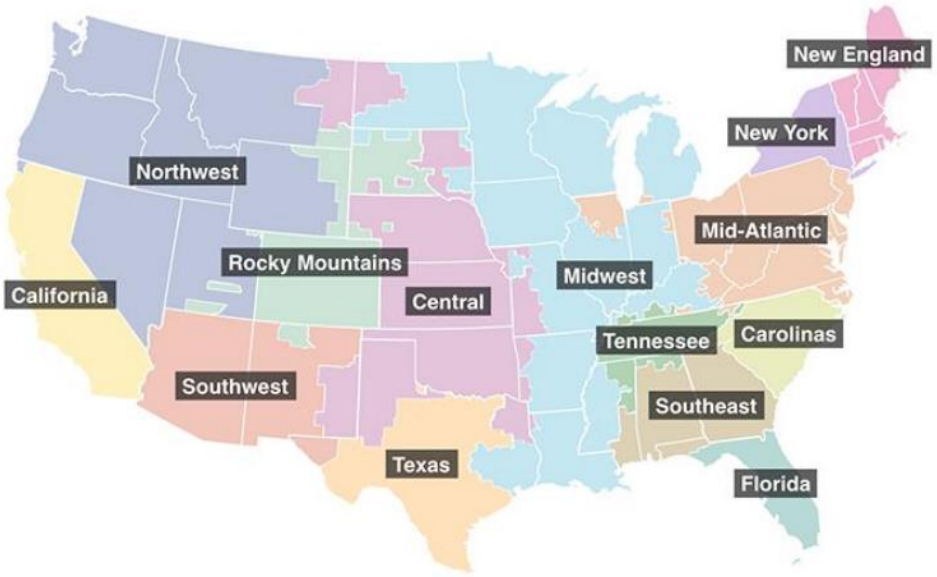
[a] Mortality value after adjustment for 20-year lag.
[b] Infant mortality value is not adjusted for 20-year lag.
[c] Based on Russell (1998).
[d] Based on Wittels (1990).

Source: U.S. Environmental Protection Agency

[19] U.S. Environmental Protection Agency. May 2021. *Public Health Benefits per kWh of Energy Efficiency and Renewable Energy in the United States: A Technical Report.* https://www.epa.gov/sites/default/files/2021-05/documents/bpk_report_second_edition.pdf

To determine Wisconsin-specific values, the evaluation team used the cost of emissions generated across the AVERT region that covers the state (Midwest, as shown in Figure I-2). The team assumed a 2% discount rate to comply with the PSC's decisions for Quadrennial Planning Process IV, the current Focus on Energy period.

Figure I-2. U.S. EPA AVERT Regions



Source: U.S. Environmental Protection Agency.

The inputs specific to Wisconsin health benefits are a low estimate value of 3.26 cents per kWh, a median estimate of 5.23 cents per kWh, and a high estimate value of 7.01 cents per kWh, as presented in Table I-2. The evaluation team determined that the lowest value was the most appropriate to use because it provides the most conservative estimate of offering-induced health benefits.

Table I-2. Wisconsin-Specific Health Benefits

Region	Technology	Cents/kWh (Low Estimate)	Cents/kWh (Median Estimate)	Cents/kWh (High Estimate)
Midwest - Wisconsin	Uniform energy efficiency	3.26	5.23	7.01

The team generated aggregated health benefits by applying the 3.26 cents per kWh to the first five years of lifecycle program savings, a shorter period than claimed for lifetime emissions benefits in the modified TRC. This is in line with EPA recommendations not to extend savings beyond the five-year threshold because of the uncertainty in the share of generation each region is expected to draw from various fuel sources during that period and for the likelihood of revisions to health savings assumptions as the tool is regularly updated. For example, coal generation is expected to start being supplanted by natural gas and renewable sources, which are less polluting than coal and which may substantially reduce the risk of certain specific negative healthcare outcomes while leaving others unaffected.

However, the cents per kWh value used in the societal test is only one among a wide potential range of estimates, depending on both BPK inputs and estimated EUL of program measures, which could represent the "real" health benefits accruing from Focus on Energy savings. In Table I-3, the team presents the results of varying the length of the EUL of benefit application, along with low, median, and high cents per kWh benefits assumptions.

Table I-3. Portfolio Health Benefits by Scenario

Scenario	Total Health Benefits (Low Estimate)	Total Health Benefits (Median Estimate)	Total Health Benefits (High Estimate)
5 Year EUL	$55,156,711	$88,487,606	$118,603,847
10 Year EUL	$105,250,523	$168,852,832	$226,320,909
Full Measure Life EUL	$178,610,604	$286,544,005	$384,067,587

Given the wide range of benefits, as the evaluation team begins research on updating the valuation of emissions benefits accruing from program activity, it will likewise re-evaluate and, if needed, update health benefits assumptions to accommodate a better understanding of the changing generation profile's impact on Wisconsin health outcomes in future years.

Water Benefits

The evaluation team estimated participant water delivery and wastewater bill savings attributed to reductions in volumetric water consumption accrued over the lifetime of efficient measures installed. These benefits are estimated for each offering by the following equation:

$$\sum_{Measure=1}^{n} Units_{Measure} \times PV(Water\ Savings\ Per\ Unit_{Measure} \times Marginal\ Cost\ of\ Water, EUL_{Measure})$$

Where PV indicates a present value function that takes annual bill savings and the number of periods as inputs and n indicates the count of unique measures installed within a particular offering.

The marginal cost of water is then shown in this equation:

$$Marginal\ Cost\ of\ Water = (Marginal\ Cost\ of\ Water\ Delivery\ + Marginal\ Cost\ of\ Wastewater\ Service)$$

The evaluation team acquired input data from various sources:

- Measure quantity ($Units_{Measure}$) came directly by Focus on Energy on an offering-by-offering basis.
- Volumetric water savings attributed to the efficient measure relative to some baseline measure ($Water\ Savings\ Per\ Unit_{Measure}$) came from Focus on Energy (savings were calculated using the Wisconsin TRM). The evaluation team scaled the savings data by the NTG ratio for each offering.
- The water delivery rate ($Marginal\ Cost\ of\ Water\ Delivery$) was estimated using a weighted averaging algorithm from a sample of 25 water utilities in Wisconsin. This sample includes the 10 largest water utilities in Wisconsin, a random sample of 10 utilities from the smallest 50% of

utilities in Wisconsin, and a random sample of five additional utilities in Wisconsin, where size is measured by average number of customers served.[20]

- From these 25 utilities, the evaluation team calculated average marginal (volumetric) delivery rates for each utility for both residential and commercial sectors by taking the arithmetic mean of the highest and lowest rate tiers charged by each utility.[21] The team then calculated overall rate estimates by taking weighted averages of these utility-specific averages for both residential and commercial sectors, where each utility's weight is proportional to the utility's average number of customers relative to the sum of each utility's average number of customers for all utilities included in the sample. The final water delivery rate estimates for Wisconsin are $3.96 and $3.91 per 100 cubic feet for residential and commercial sectors, respectively.

  Table I-4 summarizes the weighted averaging algorithm applied to residential rates in Wisconsin by showing intermediate calculation outputs.[22]

Table I-4. Residential Water Rate Algorithm Example

Utility Size Bracket	Rank by Gallons Sold	Utility Name	Average Number of Customers	Weight (Utility Customers/ Customers in Sample)	Highest/Lowest Tier Rates	Rate Average
Top 10	1	Milwaukee Water Works	160,775	33.74%	$2.46	$2.46
	2	Madison Water Utility	71,429	14.99%	Low: $4.60; High: $10.52	$7.56
	3	Racine Water Works Commission	34,493	7.24%	Low: $2.41; High: $3.11	$2.76
	4	Green Bay Water Utility	36,091	7.57%	Low: $1.89; High: $2.66	$2.28
	5	City of Oshkosh Water Utility	23,979	5.03%	Low: $4.26; High: $5.12	$4.69
	6	Janesville Water Utility	25,735	5.40%	Low: $2.19; High: $3.70	$2.95
	7	Appleton Water Department	28,334	5.95%	Low: $4.68; High: $6.08	$5.38
	8	Fond Du Lac Water Utility	16,315	3.42%	Low: $4.31; High: $4.74	$4.53

[20] Utility sales data was acquired from the PSC's E-Services Portal. The evaluation team used 2022 and 2023 water sales data. Public Service Commission of Wisconsin. March 2024. E-Services Portal: Municipal Annual Report Data. https://apps.psc.wi.gov/ARS/WEGSqueries/default.aspx

[21] Utility tariff data were acquired from the Public Service Commission of Wisconsin's E-Services Portal. Public Service Commission of Wisconsin. March 2024. E-Services Portal: Utility Tariffs. https://apps.psc.wi.gov/RATES/tariffs/default.aspx?tab=4

[22] Some participants obtain water from sources outside of conventional water delivery from a water utility, such as from natural bodies of water. These participants are not subject to the same marginal cost of delivery charged by water utilities. Because of an inability to reliably identify the source of water saved by program participants, the evaluation team conservatively assumes a water bill savings of $0 for those larger customers.

Utility Size Bracket	Rank by Gallons Sold	Utility Name	Average Number of Customers	Weight (Utility Customers/ Customers in Sample)	Highest/Lowest Tier Rates	Rate Average
	9	City of Waukesha Water Utility	20,749	4.35%	Low: $5.82; High: $9.64	$7.73
	10	Kenosha Water Utility	31,406	6.59%	Low: $1.76; High: $2.26	$2.01
Random Sample of 10 from Smallest 50%	338	Crandon Water and Sewer Utility	745	0.16%	Low: $2.65; High: $3.92	$3.28
	365	Arlington Water Utility	323	0.07%	$11.41	$11.41
	392	Hixton Municipal Water Utility	209	0.04%	Low: $6.12; High: $6.95	$6.54
	402	Town of Farmington Sanitary District	300	0.06%	Low: $5.35; High: $9.00	$7.18
	404	Lannon Municipal Water Utility	486	0.10%	$5.54	$5.54
	426	Clyman Utility Commission	141	0.03%	$1.22 Low:; High: $1.58	$1.40
	507	Loganville Municipal Water and Sewer Utility	144	0.03%	$5.12	$5.12
	508	Lowell Municipal Water And Sewer Utility	117	0.02%	$6.90	$6.90
	515	Stone Lake Sanitary District	140	0.03%	$4.60	$4.60
	535	Town of Knight Municipal Water Utility	114	0.02%	Low: $5.68; High: $6.04	$5.86
Random Sample of Five from Through-out	97	Brookfield Municipal Water Utility	13,196	2.77%	Low: $3.95; High: $4.80	$4.38
	157	Village of Pewaukee Water Utility	2,178	0.46%	Low: $3.20; High: $3.85	$3.47
	175	Ripon Water Utility	3,095	0.65%	Low: $1.63; High: $2.14	$1.89
	253	Redgranite Water Utility	434	0.09%	Low: $1.88; High: $2.15	$2.02
	451	Village of Allouez Water	5,567	1.17%	Low: $6.35; High: $10.30	$8.33
Final Rate Estimate						**$3.96**

- The wastewater service rate ($Marginal\ Cost\ of\ Wastewater\ Service$) estimate was constructed from a population-weighted average of marginal (volumetric) wastewater charges for 326 (41%) Wisconsin wastewater service territories. The evaluation team acquired population and volumetric charge data from the Wisconsin Sewer User Charge Survey Report.[23] The final water wastewater estimate is $3.77 per 100 cubic feet for both residential and commercial. This estimate accounts for the prevalence of utilities with no volumetric wastewater charge. The team used the same values and method as in 2019 due to a lack of updated data on wastewater service rates for 2023.
- The evaluation team conducted a well water pump analysis to estimate the water delivery rate for the population that uses privately owned wells and pump systems rather than being connected to the municipal system. According to the research, 31% of the Wisconsin population uses privately owned wells.[24] The team applied a weighted average to the water delivery rates to reflect both water delivery types and calculated the water delivery rate for residential as $0.00569 per gallon.
- The commercial sector costs of $3.37 for delivery and $3.24 for wastewater per 100 cubic feet of water equates to $0.0053 per gallon.
- The expected useful life of an efficient measure ($EUL_{Measure}$) derived from the TRM.
- The evaluation team assumed a real annual interest rate of 2%.

Purchase Deferral

Purchase deferral benefits account for the avoided costs of future baseline measure replacement in cases where the useful life of an efficient measure exceeds the useful life of the baseline measure it replaces. The evaluation team estimated purchase deferral benefits for lighting and non-lighting measures.

Lighting

The team estimated purchase deferral benefits for lighting measures on an EUL basis, where the lifetime of efficient measures (fixtures and lamps) tends to exceed those of their corresponding baseline measures.

The evaluation team assumed that participants of Focus on Energy offerings would have replaced each baseline measure with an identical baseline or equivalent at regular intervals equal to the baseline measure's useful life. Purchase deferral benefits are estimated for each offering by the following generalized expression:

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[23] MSA Professional Services, Inc. October 2019. *The Cost of Clean: Wisconsin Sewer User Charge Survey Report.*

[24] Wisconsin Department of Natural Resources. *Wisconsin Public Water Systems 2020 Annual Drinking Water Report.* June 2021. https://dnr.wisconsin.gov/sites/default/files/topic/DrinkingWater/2020AnnualDrinkingWaterReport.pdf

$$\sum_{Measure=1}^{n} Units_{Measure} \times PV(Avoided\ Replacement\ Costs_{Measure})$$

Where PV indicates a present value function and $Avoided\ Replacement\ Costs$ refers to the value of avoided baseline measure replacements over the lifetime of the efficient measure.

For each efficient measure installed, the evaluation team attempted to identify a corresponding baseline measure from the Mid-Atlantic TRM, which contains a study of purchase deferral benefits for lighting measures.[25] Where available, the team used the present value of purchase deferral benefits provided explicitly by the Mid-Atlantic TRM.

In cases where the Mid-Atlantic TRM did not provide purchase deferral benefit estimates or the efficient measure installed through a Focus on Energy offering was not an exact match, the team conducted research to identify the EUL (in life-hours and years) and the cost of the baseline measure indicated in the TRM. The team used these two inputs to estimate benefits accrued from each avoided baseline replacement over the lifetime of the efficient measure, reduced by the Focus on Energy discount rate of 2%. The implementation of the full Energy Independence and Security Act (EISA) in 2023 greatly reduced the theoretical benefits from purchase deferral, as most short-lived screw-based incandescent and halogen lamps were no longer available for purchase, and as the Focus on Energy portfolio largely phased out incenting most screw based LED lighting measures.

Non-Lighting

The evaluation team estimated purchase deferral benefits for non-lighting measures on an equipment maintenance cost deferral basis. The team leveraged EUL benchmarking data for the period of July 2020 to June 2021 to prioritize significant non-lighting measures based on the MMBtu saving contribution. For the identified measures, the team reviewed the Non-Energy Impacts study in the Mass Save TRM.[26] Benefits arising from equipment maintenance costs were reviewed for available measures.

Based on the aforementioned sources, the team estimated purchase deferral benefits for the following non-lighting measures:

- Residential boilers
- Residential furnaces
- Residential thermostats
- Residential/retail ductless mini-split heat pumps

Based on the sourced data, the evaluation team estimated benefits accrued from avoided equipment maintenance costs over the lifetime of the non-lighting measure and applied the Focus on Energy discount rate of 2%.

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[25] Northeast Energy Efficiency Partnerships. October 2019. *Mid-Atlantic Technical Reference Manual, Version 9.* https://neep.org/sites/default/files/resources/Mid_Atlantic_TRM_V9_Final_clean_wUpdateSummary%20-%20CT%20FORMAT.pdf

[26] Non-Energy Benefits. *Massachusetts Technical Reference Manual.* May 2020. https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12190505

Finally, the evaluation team scaled the calculated savings by the NTG ratio for each offering.

Property Values

Participating in energy efficiency programs can increase the value of a home and the associated property. Customers who participate in whole-home programs, such as Home Performance with ENERGY STAR, are most likely to see increases in property values.

In 2012, Cadmus completed a study for People Working Cooperatively (PWC), a provider of whole-home weatherization for low-income individuals in Cincinnati that researched the impact of low-income whole-home weatherization programs on home value.[27] Through this study, Cadmus found a $7,000 increase in property value for participants in the PWC program compared with nonparticipants with similar homes. A more recent study done in 2021 by Oak Ridge National Laboratory confirms that a whole-home weatherization project would increase property value for low-income customers.[28] Though these studies were specific to low-income customers, the team maintains the increase in property value can be applied to all customers who complete a whole-home weatherization project.

Many factors can impact home value, which makes it difficult to measure this benefit. To adjust for inflation from 2012, the net present value (NPV) of $7,000 is calculated as $9,226 per home. Therefore, for Wisconsin Focus on Energy, the evaluation team used an NPV benefit of $9,226 per whole-home participant (both Tier 1 and Tier 2) of the Insulation and Air Sealing offering within Trade Ally Solutions (formerly Home Performance with ENERGY STAR Program).

Arrearages

Outstanding customer debt incurs costs to the utility and the customer, including the costs associated with financing (carrying costs, bad debt write-offs) shutoffs, reconnections, sending notices, and collecting debts. Low-income programs provide customers with the opportunity to reduce monthly bills, which in turn lowers the probability they will carry debt and, among those who do carry debt, helps reduce the overall total.

Several utilities have included the reduced arrearage costs associated with providing low-income program benefits in their societal tests. However, there does not appear to be a universally agreed-upon per-participant value associated with these benefits. Limited primary research is available, but what does exist is not recent. Nevertheless, the evaluation team reviewed two benchmarking analyses (Skumatz Economic Research Associates, Inc. and Cadmus in 2010 and Skumatz Economic Research

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[27] Cadmus. December 2012. *PWC 2009 Ohio Program Services Evaluation Report.* Prepared for People Working Cooperatively. http://www.pwchomerepairs.org/Assets/PWC_2009_Evaluation_FIN/AL_DEC12.pdf

[28] Oak Ridge National Laboratory. March 2021. *Addressing Non-Energy Impacts of Weatherization.* ORNL_SPR-2020_1840.pdf

Associates, Inc. 2014),[29,30] which compiled several potential inputs related to the utility benefits associated with low-income programs.

The 2014 study found a typical arrearage-related carrying cost of $2.50 per participant, with an additional $1.75 associated with the paying of bad debt and $2.15 in total costs from shutoffs and reconnects, notices, and customer calls/collections. These direct arrearage costs sum to $6.40. An additional $13 per customer was also attributed to reduced low-income subsidy payments and discounts if the program was strictly low-income. Figure I-3 shows a snapshot of the study's findings.

Figure I-3. Typical Utility Costs Associated with Customer Debt

NEB Estimates from Multiple Weatherization Studies: Dollar and Percentage Analysis	Dollar NEB Values Range Low-High	Typical Value	Percent NEB Values Range Low-High	Typical Value	Notes
UTILITY PERSPECTIVE					
Payment-related					
Carrying cost on arrearages	$1.50 - $4.00	$2.50	0.6% - 4.4%	2.0%	Total arrearages $2-$100; $20-30 typical
Bad Debt Write-offs	$0.50 - $3.75	$1.75	0.4% - 2.0%	0.7%	
Reduced LI subsidy pymt/discounts	$3.00 - $25.00	$13.00	3.9% - 29.0%	16.4%	IF low income program
Shutoffs / Reconnects	$0.10 - $3.65	$0.65	0.1% - 4.4%	0.5%	
Notices	$0.05 - $1.50	$0.60	0.1% - 1.8%	0.9%	
Customer calls / collections	$0.40 - $1.60	$0.90	0.2% - 1.9%	0.6%	

Source: Skumatz Economic Research Associates, Inc. 2014

Therefore, for Focus on Energy, the evaluation team recommends that a per-participant value of $25.49 ($19.40 from 2014 adjusted for inflation) be applied to Tier 2 customers in the Insulation and Air Sealing offering in Trade Ally Solutions based on the results of the most direct benchmarking research available.

The evaluation team reviewed other, more recent evaluations of the impact of various program designs on the amount of debt participants carry. One of these programs, a prepayment program in the upper Midwest, showed evidence that customers were able to eliminate approximately $68 in total debt after participating in the program for at least one calendar year. However, key differences between that program design and the low-income offerings in Wisconsin make direct comparisons difficult. These differences include the targeting and/or opening of that offering to customers who are not low-income. That is, the total debt paid off through that prepayment program is not necessarily comparable to the debt held by strictly low-income customers in Focus on Energy's offerings in Wisconsin.

Interpreting Test Results

No single benefit/cost test can provide a comprehensive understanding of program performance or impacts in isolation. The results of tests that measure overall program cost-effectiveness, such as the modified TRC test, should be reviewed along with the results of other tests such as the UAT. Such a multi-perspective approach warrants a clear understanding of the tradeoffs among the tests.

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[29] Skumatz Economic Research Associates, Inc. & The Cadmus Group. 2010. *Non Energy Benefits: Status, Findings, Next Steps, and Implications for Low Income Program Analyses in California – Revised Report.*

[30] Skumatz Economic Research Associates, Inc. 2014. *Non-Energy Benefits/Non-Energy Impacts (NEBS/NEIS) and Their Role & Values In Cost-Effectiveness Tests: State Of Maryland.*

Test results summarize the impact of the Focus on Energy portfolio of programs from different perspectives, with test scores above 1.0 indicating that portfolio benefits outweigh the costs associated with generating those benefits. A modified TRC test score above 1.0 suggests that Focus on Energy is providing a net benefit, with energy and emissions benefits weighed against administrator and participant costs. The UAT score above 1.0 suggests that administrator costs, including incentives and program management and implantation, are outweighed by the avoided energy and capacity benefits. The expanded TRC and Societal Cost tests compare the same system-wide costs as the modified TRC against those same benefits, with additional benefits accruing from economic activity and non-energy benefits also included.

Because of changes in avoided electric energy and natural gas costs and in emissions allowance prices for Quadrennium IV, the cost-effectiveness results reported for Focus on Energy here are not directly comparable with results from the CY 2019-CY 2022 quadrennium. The changes to avoided costs decreased the benefit/cost test results across all offerings when compared with the avoided costs used in the previous quadrennium. This was particularly substantial for electricity generation and capacity benefits.

Additionally, starting in CY 2023, Market Effects for the Residential New Construction and Residential Retail programs were included in overall net savings. As a result, for those programs, results are not comparable between years. For example, the exclusion of Market Effects results in an modified TRC of 0.80 for the Residential New Construction Program, but with their inclusion, the modified TRC increases to 14.5. In CY 2022, program results excluded market effects, and the Residential New Construction program modified TRC was 0.31.

Energy Avoided Costs

The PSC established the methodology to estimate electric and natural gas avoided energy costs for quadrennium IV under PSC docket 5-FE-104 (PSC REF#: 453081). The approach represents a continuation of the avoided cost methodology previously used in Quadrennium II and III. The source for electric energy avoided costs is based on the Midcontinent Independent Transmission System Operator (MISO) forecasted locational marginal price (LMP), that is, the average of LMPs across Wisconsin nodes. Avoided natural gas costs are calculated based on Energy Information Administration 2023 Annual Energy Outlook forecasts of Henry Hub prices, adjusted using Wisconsin City Gate prices and retail prices.

Compared with the previous quadrennium, avoided costs calculated using updated price forecasts for the current quadrennium evaluation are lower by approximately 5% to 8% in early years (CY 2023 to CY 2026), to more than 60% in the furthest out years (CY 2040 to CY 2050). The primary driver of the lower trend in avoided electric energy costs is the anticipated ramp-up of zero fuel-cost renewable energy sources, particularly grid-scale solar, in MISO's most recent forecast modeling.

The PSC established the step-by-step methodology to estimate avoided electric capacity costs for the current quadrennium under PSC docket 5-FE-104 (PSC REF#: 453081).[31] The approach relies upon MISO-established Cost of New Entry (CONE) values as well as MISO Narrow Constrained Area net revenues to calculate avoided capacity costs. This methodology aligns with the PSC's decision for the CY 2019-CY 2022 quadrennium that, for the purposes of evaluating Focus on Energy, avoided capacity costs shall be based on the unit costs of a peaker plant.

The forecast model decreases the verified gross energy savings by the conventional attribution factor of NTG to derive net savings. The net savings are then increased by the line loss factor of 8% to account for avoided distribution losses. Table I-5 shows the assumptions for the CY 2022 (the final year of Quadrennium III of Focus on Energy) and CY 2023 (the first year of Quadrennium IV of Focus on Energy) evaluation avoided costs used for the cost-effectiveness tests. Table I-6 shows avoided electric generation costs, Table I-7 shows avoided electric capacity costs, and Table I-8 shows avoided natural gas costs for 2023 through 2050.

Table I-5. Avoided Costs Summary

Avoided Cost	CY 2022	CY 2023
Electric Energy ($/kWh)[a]	$0.03093–$0.05429	$0.0299–$0.0210
Electric Capacity ($/kW year)	$131.38–$182.67	$129.05–$156.37
Gas ($/therms)	$0.546–$0.797	$0.463–$0.595
Transmission and Distribution ($/kW year)	$66.47–$68.88	$49.25–$53.37
Avoided Cost Inflation	0%	0%
Real Discount Rate	2%	2%
Line Loss	8%	8%

[a] The CY 2023 cost-effectiveness analyses used a time series that deflates from $0.0299 to $0.0210 over 25 years in the forecast model.

[31] Public Service Commission of Wisconsin. November 14, 2022. Quadrennial Planning Process IV. Order PSC Docket 5-FE-104, REF#: 453081. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=453081

Table I-6. Avoided Electric Generation Costs

Year	Avoided Generation ($/kWh-Yr)	Year	Avoided Generation ($/kWh-Yr)
2023	$0.0299	2037	$0.0151
2024	$0.0292	2038	$0.0154
2025	$0.0286	2039	$0.0158
2026	$0.0280	2040	$0.0161
2027	$0.0273	2041	$0.0165
2028	$0.0267	2042	$0.0168
2029	$0.0260	2043	$0.0171
2030	$0.0254	2044	$0.0175
2031	$0.0248	2045	$0.0178
2032	$0.0241	2046	$0.0182
2033	$0.0223	2047	$0.0185
2034	$0.0205	2048	$0.0189
2035	$0.0187	2049	$0.0192
2036	$0.0169	2050	$0.0196

Table I-7. Avoided Electric Capacity Costs

Year	Avoided Capacity Cost ($/kW-Yr)	Year	Avoided Capacity Cost ($/kW-Yr)
2023	$129.05	2037	$133.95
2024	$128.76	2038	$135.19
2025	$128.48	2039	$136.44
2026	$128.21	2040	$137.70
2027	$127.95	2041	$138.96
2028	$127.70	2042	$140.24
2029	$127.45	2043	$141.53
2030	$127.22	2044	$142.83
2031	$126.99	2045	$144.13
2032	$131.65	2046	$145.45
2033	$132.09	2047	$146.78
2034	$132.54	2048	$148.12
2035	$133.00	2049	$149.47
2036	$133.47	2050	$150.83

Table I-8. Avoided Natural Gas Costs

Year	Avoided Natural Gas Cost ($/kW-Yr)	Year	Avoided Natural Gas Cost ($/kW-Yr)
2023	$0.463	2037	$0.568
2024	$0.451	2038	$0.571
2025	$0.464	2039	$0.571
2026	$0.480	2040	$0.571
2027	$0.490	2041	$0.571
2028	$0.511	2042	$0.568
2029	$0.530	2043	$0.564
2030	$0.538	2044	$0.564
2031	$0.541	2045	$0.565
2032	$0.551	2046	$0.567
2033	$0.561	2047	$0.571
2034	$0.566	2048	$0.579
2035	$0.569	2049	$0.588
2036	$0.569	2050	$0.595

Avoided Transmission and Distribution Costs

In its Final Decision of June 1, 2020, the PSC directed the Evaluation Work Group (EWG) to propose to the PSC a method for calculating avoided T&D costs to be used for the purpose of evaluating Focus on Energy (PSC REF#: 390566). In its Final Decision of March 10, 2021, the PSC approved the EWG's recommended methodology to estimate avoided electric T&D costs for Quadrennium III under PSC docket 5-FE-101 (PSC REF#: 406591), with the direction to incorporate avoided T&D costs into a parallel analysis of benefits achieved by Focus on Energy offerings in Quadrennial Planning Process III and to revisit avoided T&D costs in the Quadrennial Planning Process IV.

As stated in the commission order:[32]

> "In order to reduce the year-to-year variability of the costs, a four-year running average of the total miles and the annualized cost per mile per kW-Year are multiplied to get the average cost per kW-Year. For projecting values in future years, this approach escalates the most recent average Midcontinent Independent System Operating (MISO) Cost of New Entry (CONE) value by a growth factor that takes into account inflation and construction costs. The growth factor is calculated by taking the four-year average of construction cost growth as determined by the Wisconsin Department of Transportation in the Chained Fisher Construction Cost Index, and

[32] Public Service Commission of Wisconsin. March 10, 2021. Quadrennial Planning Process III. Order PSC Docket 5-FE-101, REF#: 406591. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=406591

subtracting inflation (U.S. Bureau of Labor Statistics Consumer Price Index, Midwest Region),[33] over the same period."

Following the approval for calculating avoided T&D costs, the evaluation team, using the method specified above, established estimated avoided T&D costs per kW for each year from CY 2018 to CY 2051. Table I-9 list these values, which are based on the PSC's Order in docket 5-FE-101.[34]

T&D benefits were reviewed during Quadrennial Planning Process IV (PSC Docket 5-FE-104). In its Final Decision in Quadrennial Planning Process IV, The PSC directed the Focus on Energy EWG, or EWG and a third-party, to propose a recommendation to the Commission that would revise the methodology for calculating avoided T&D benefits.[35] The evaluation team is currently researching a new T&D benefits calculation methodology and the EWG will likely approve a revised methodology in the coming year. The T&D values in Table I-9 are likely to be updated in the current quadrennium.

Table I-9. Calculated and Forecasted Avoided T&D Costs

Year	Avoided T&D Cost ($/kW-Yr)	Year	Avoided T&D Cost ($/kW-Yr)
2023	$49.25	2037	$49.67
2024	$48.98	2038	$49.89
2025	$48.78	2039	$50.12
2026	$48.65	2040	$50.35
2027	$48.58	2041	$50.60
2028	$48.55	2042	$50.85
2029	$48.56	2043	$51.11
2030	$48.62	2044	$51.38
2031	$48.70	2045	$51.65
2032	$48.81	2046	$51.93
2033	$48.95	2047	$52.21
2034	$49.10	2048	$52.49
2035	$49.28	2049	$52.78
2036	$49.47	2050	$53.07

[33] Bureau of Labor Statistics Midwest CPI Summaries available here: Midwest CPI Summaries : Midwest Information Office : U.S. Bureau of Labor Statistics (bls.gov)

[34] Public Service Commission of Wisconsin. January 20, 2021. Quadrennial Planning Process III. Order PSC Docket 5-FE-101, REF#: 403255. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=403255

[35] Public Service Commission of Wisconsin. November 14, 2022. Quadrennial Planning Process IV. Order PSC Docket 5-FE-104, REF#: 453081. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=453081

Emissions Benefits

The modified TRC benefit/cost calculations include the benefit of avoiding three air pollutants that are regulated under the Clean Air Act. These are carbon dioxide, sulfur dioxide, and nitrogen oxide. Determining the emissions benefits requires three key parameters: lifecycle net energy savings, emissions factors or a tool that uses emissions factors, and the dollar value of the displaced emissions.

Emissions factors are the rate at which the criteria pollutants are emitted per unit of energy generated and are most often expressed in tons of pollutant per energy unit. Electric is in tons/megawatt hour (MWh), and gas is in tons/thousand therms (MThm). The product of the emissions factor and the net energy savings is the total weight of air pollutant offset or avoided by the program.

The product of the total tonnage of pollutant saved and the dollar value of the reduced emissions per ton is, therefore, the avoided emissions benefit, as shown in this equation:

$$Value\ of\ Avoided\ Emissions = [Net\ Saved\ Energy\ x\ Emissions\ Factor\ x\ Value\ of\ Emissions\ Allowance]$$

For CY 2023, the evaluation team assessed the electric emissions benefits for Focus on Energy using AVERT, a tool developed by the EPA to calculate avoided emissions from renewable energy and energy efficiency programs. AVERT is a spreadsheet-based model that uses historical hourly generation and emissions data to determine the individual power plants that are likely to be displaced by energy efficiency or renewable energy during each hour of the year.

To use AVERT to calculate electric emissions benefits, the lifecycle net electric savings for Focus on Energy needed to be attributed to an AVERT region. Previously, Wisconsin was allocated to two regions; however, in 2020 the EPA revised its regions, and now Wisconsin falls into a single region.

Savings for Focus on Energy offerings are run through a region-specific version of AVERT to calculate the electric emissions benefits per offering. AVERT uses a model from the previous year to compare the electricity generation avoided by the Focus on Energy offerings during each hour of the year with the hourly generation information to determine the quantity of emissions displaced.

Table I-10 lists the gas emissions factor and allowance prices. For CY 2023, the electric emissions scalar was 853.20 tons of carbon dioxide per GWh. Note that this can be used to estimate avoided tons of carbon from electric savings; however, it is not exact, will not apply for any other years or regions, and will vary in results based on input GWh.

Table I-10. Emissions Factors and Allowance Price

Service Fuel Type	Carbon Dioxide	Nitrogen Oxide	Sulfur Dioxide
Gas Emissions Factor (Tons/MThm)	5.85	N/A	N/A
Allowance Price ($/Ton)	$24.77	$7.50	$2

For CY 2023, as in previous years, the evaluation team continued to obtain allowance prices for nitrogen oxide and sulfur dioxide emissions from the EPA's Cross State Air Pollution Rule, most recently updated in 2023.[36] The team used the carbon dioxide emissions price in the PSC's Order, docket 5-FE-104, PSC REF#: 487366, which states, "For the purposes of evaluating Focus in Quad IV, a starting point market-based value of $24.77 per ton of avoided carbon emissions is reasonable and in the public interest."[37] Further, this value will increase by 7% in each year of Quad IV.

The natural gas emissions factor has remained constant since the CY 2011 evaluation report and is derived from a best practice greenhouse gas inventory method developed by the California Energy Commission.[38]

Table I-11 lists the total avoided emissions by gas type in tons.

Table I-11. Total Emissions Benefits by Gas Type

Year	Carbon Dioxide	Nitrogen Oxide	Sulfur Oxide
CY 2022 Tons of Emissions Avoided	6,241,182	3,003	4,008
CY 2023 Tons of Emissions Avoided	6,844,843	2,437	3,006

Table I-12 lists the emissions benefits for all programs by segment. The substantial increase in relative benefits between CY 2022 and CY 2023 is primarily due to the increase in per-ton emissions benefits, which grew from $15 in CY 2022 to $24.77 in CY 2023. Additionally, proportionally higher natural gas savings in CY 2023 resulted in somewhat higher emissions reductions between years, as the overall emissions factor for electricity generation has decreased slightly, but the natural gas emissions factor has remained unchanged.

Table I-12. Total Emissions Benefits by Segment

Year	Residential	Nonresidential	Midstream [a]	Rural	Total [b]
CY 2022 Emissions Benefits	$24,980,488	$59,520,395	$737,740	$8,409,650	**$93,649,181**
CY 2023 Emissions Benefits	$20,901,895	$114,237,932	$7,894,761	N/A	**$168,421,243**

[a] The Midstream Program rebates both residential and nonresidential measures through a distributor-based delivery approach.

[b] Sector subtotals may not sum due to overlapping programs in rural and renewable categories.

[36] Progress Report - Program Compliance and Market Activity | US EPA. https://www.epa.gov/power-sector/progress-report-program-compliance-and-market-activity

[37] Public Service Commission of Wisconsin. June 6, 2018. Quadrennial Planning Process IV. Order PSC Docket 5-FE-104, REF#: 487366. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=487366

[38] California Air Resources Board. 2019. *California Greenhouse Gas Emissions for 2000 to 2017.* https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

Offering Costs

Focus on Energy's fiscal agent, the accounting firm Wipfli, provided the CY 2023 offering costs to the evaluation team, which represent all costs associated with running the efficiency offerings (including administration and delivery costs). Note that incentive costs are not included as TRC costs because they are deemed transfer payments, which is consistent with industry guidelines defining the TRC test. Incentive costs, however, are used for other tests such as the UAT.

Incremental Costs

The gross incremental costs are the additional costs incurred by participants as a result of purchasing efficient equipment over and above a baseline nonqualified product. The evaluation team derived the gross incremental cost values used in this CY 2023 evaluation from the incremental cost study conducted by the administrator, implementers, and evaluation team in CY 2023. This study established up-to-date incremental costs for all measures based on the best available data, including historical Focus on Energy program data and independent research from other state programs.

Wisconsin Bill Payer Impacts

The evaluation team determined average annual and projected lifetime values in total bill savings attributable to reductions in energy consumption due to program behavior. These results, shown in Table I-13, were not applied to any cost-effectiveness test, but are provided here for informational purposes. To calculate bill impacts, the evaluation team collected annual 2023 residential and nonresidential electricity rates from utility websites for Alliant Energy, Wisconsin Power & Light, WE Energies, Madison Gas and Electric, Upper Peninsula Power Company, Xcel Energy (Northern States Power), and Wisconsin Public Service Corporation. Annual 2023 Natural Gas rates were gathered from the Energy Information Administration (EIA) website.[39] Rates are then weighted using the same population-based ratios as were applied to develop avoided electric generation costs.

Table I-13. Bill Savings Inputs

	Weighted Average Rate ($/kWh or therms)	Annual Net Bill Savings	Average Measure Life	Total Projected Lifetime Bill Savings
Residential Rate (kWh)	$0.1480	$9,663,757	11	$96,177,879
Nonresidential Rate (kWh)	$0.1379	$40,137,408	16	$553,573,448
Residential Rate (therms)	$1.0530	$7,304,619	15	$91,688,000
Nonresidential Rate (therms)	$0.8324	$11,799,429	15	$155,567,783

[39] EIA. "Natural Gas Prices." Retrieved April 9, 2024. https://www.eia.gov/dnav/ng/NG_PRI_SUM_DCU_SWI_A.htm

Cost-Effectiveness Results by Test

Table I-14 presents the inputs and results from the modified TRC test for the Focus on Energy CY 2023 energy efficiency and renewable resource portfolio. Application of the modified TRC test showed that net statewide benefits to residents, businesses, and Focus on Energy from the CY 2023 offerings were $329,279,960.

Table I-14. CY 2023 Sector-Level and Overall Results, Modified Total Resource Cost Test

	Residential	Nonresidential	Midstream	Total
Administrative Costs	$1,089,405	$1,632,259	$180,821	$2,902,485
Delivery Costs	$10,527,443	$20,066,587	$1,760,187	$32,354,216
Incremental Measure Costs	$93,683,658	$146,546,603	$6,383,948	$246,614,209
Total TRC Costs	**$105,300,506**	**$168,245,449**	**$8,324,956**	**$281,870,910**
Electric Benefits	$41,296,952	$200,272,352	$6,308,308	**$247,877,613**
Gas Benefits	$36,558,418	$98,380,352	$13,468,326	**$148,407,096**
Emissions Benefits	$28,597,493	$131,928,989	$7,894,761	**$168,421,243**
T&D Benefits	$9,669,618	$36,214,570	$560,731	**$46,444,919**
Total TRC Benefits	**$116,122,481**	**$466,796,263**	**$28,232,126**	**$611,150,870**
TRC Benefits Minus Costs	**$10,821,975**	**$298,550,815**	**$19,907,170**	**$329,279,960**
TRC Benefit/Cost Ratio	**1.10**	**2.77**	**3.39**	**2.17**

Table I-15 presents the inputs and results from the expanded TRC test for the Focus on Energy CY 2023 energy efficiency and renewable resource portfolio. The expanded TRC test includes economic benefits from the portfolio. As expected, the inclusion of economic benefits increases the expanded TRC score substantially from the modified TRC.

Table I-15. CY 2023 Overall Results, Expanded Total Resource Cost Test

	Total
Administrative Costs	$2,902,485
Delivery Costs	$32,354,216
Incremental Measure Costs	$246,614,209
Total TRC Costs	**$281,870,910**
Electric Benefits	$247,877,613
Gas Benefits	$148,407,096
T&D Benefits	$46,444,919
Emissions Benefits	$168,421,243
Economic Benefits[a]	$444,835,241
Total TRC Benefits	**$1,055,986,111**
TRC Benefits Minus Costs	**$774,115,201**
TRC Benefit/Cost Ratio	**3.75**

[a] Cadmus. May 8, 2024. *Focus on Energy 2019-2022 Quadrennium Economic Impacts.* 2019-2022 Quad Economic Impacts Final Report (focusonenergy.com)

Table I-16 presents the inputs and results from the UAT for the CY 2023 Focus on Energy portfolio. The results indicate that the benefits generated by the portfolio far outweighed the combined costs of operating the programs.

Table I-16. CY 2023 Overall Results, Utility Administrator Cost Test

	Residential	Nonresidential	Midstream	Total
Incentive Costs	$22,650,877	$28,712,721	$3,744,005	$55,107,604
Administrative Costs	$1,089,405	$1,632,259	$180,821	$2,902,485
Delivery Costs	$10,527,443	$20,066,587	$1,760,187	$32,354,216
Total UAT Costs	**$34,267,726**	**$50,411,566**	**$5,685,013**	**$90,364,305**
Electric Benefits	$41,296,952	$200,272,352	$6,308,308	$247,877,613
Gas Benefits	$36,558,418	$98,380,352	$13,468,326	$148,407,096
T&D Benefits	$9,669,618	$36,214,570	$560,731	$46,444,919
Total UAT Benefits	**$87,524,988**	**$334,867,274**	**$20,337,365**	**$442,729,627**
UAT Benefits Minus Costs	**$53,257,263**	**$284,455,708**	**$14,652,352**	**$352,365,323**
UAT Benefit/Cost Ratio	**2.55**	**6.64**	**3.58**	**4.90**

Table I-17 shows the inputs and results from the societal test for CY 2023 energy efficiency and renewable resource offerings. As expected, the estimated overall benefit/cost value from the societal test is the highest of all the tests excluding the UAT, including the same costs as the modified TRC, with additional non-energy benefits. When interpreted within the context of the modified TRC test results, these findings suggest that Focus on Energy activities provide substantial additional benefits, generating additional value in terms of personal health cost savings, water savings, lighting purchase deferrals, property values, and arrearage repayment assistance. Benefits from the residential offerings were 1.47 times greater than the costs, while the benefits from the nonresidential offerings outweighed the costs by a factor of 3.08.

Table I-17. CY 2023 Sector-Level and Overall Results, Societal Test

	Residential	Nonresidential	Midstream	Total
Administrative Costs	$1,089,405	$1,632,259	$180,821	$2,902,485
Delivery Costs	$10,527,443	$20,066,587	$1,760,187	$32,354,216
Incremental Measure Costs	$93,683,658	$146,546,603	$6,383,948	$246,614,209
Total Non-Incentive Costs	**$105,300,506**	**$168,245,449**	**$8,324,956**	**$281,870,910**
Electric Benefits	$41,296,952	$200,272,352	$6,308,308	$247,877,613
Gas Benefits	$36,558,418	$98,380,352	$13,468,326	$148,407,096
Emissions Benefits	$28,597,493	$131,928,989	$7,894,761	$168,421,243
T&D Benefits	$9,669,618	$36,214,570	$560,731	$46,444,919
Health Benefits	$6,471,553	$46,000,969	$3,770,477	$56,243,000
Water Benefits	$10,027,081	$76,604	$244,052	$10,347,736
Purchase Deferral Benefits	$687,921	$4,550,500	$1,535,400	$6,773,821
Other Non-Energy Benefits[a]	$21,893,287	$0	$0	$21,893,287
Economic Benefits	N/A	N/A	N/A	$444,835,241
Total SCT Benefits	**$155,202,323**	**$517,424,336**	**$33,782,055**	**$1,151,243,955**
SCT Benefits Minus Costs	**$49,901,817**	**$349,178,887**	**$25,457,099**	**$869,373,045**
SCT Ratio	**1.47**	**3.08**	**4.06**	**4.08**

[a] Includes Property Values and Arrearages

Cost-Effectiveness Results by Offering

Table I-18 and Table I-19 provide the sector-level and overall results of the cost-effectiveness analysis shown by core efficiency offerings and renewables. Incentive costs are provided below, but they are not included in the TRC calculation. The TRC ratio equals the total TRC benefits divided by total non-incentive costs. Table I-20 provides UAT test results and Table I-21 provides societal test results.

Table I-18. CY 2023 Overall Cost-Effectiveness Analysis with Portfolio Breakout

Focus on Energy Benefits and Costs	Full Portfolio	Core Programs Alone	Renewables Alone
Incentives	$55,107,604	$49,209,627	$5,897,976
Modified TRC Benefits ($ millions)	$611,150,870	$499,518,470	$111,632,400
Modified TRC Costs ($ millions)	$281,870,910	$189,961,124	$91,909,786
Portfolio Modified TRC Ratio	**2.17**	**2.63**	**1.21**

Table I-19. CY 2023 Overall with Renewables Separate Cost-Effectiveness Analysis, Modified Total Resource Cost Test

	Residential	Nonresidential	Midstream	Renewables	Total
Administrative Costs	$928,986	$1,486,583	$180,821	$306,095	$2,902,485
Delivery Costs	$8,977,238	$18,275,685	$1,760,187	$3,341,106	$32,354,216
Incremental Measure Costs	$47,450,233	$104,517,443	$6,383,948	$88,262,585	$246,614,209
Total Non-Incentive Costs	**$57,356,458**	**$124,279,711**	**$8,324,956**	**$91,909,786**	**$281,870,910**
Electric Benefits	$20,151,885	$152,392,706	$6,308,308	$69,024,714	$247,877,613
Gas Benefits	$36,558,418	$98,380,352	$13,468,326	-	$148,407,096
Emissions Benefits	$20,901,895	$114,237,932	$7,894,761	$25,386,655	$168,421,243
T&D Benefits	$4,368,286	$24,294,872	$560,731	$17,221,031	$46,444,919
Total TRC Benefits	**$81,980,483**	**$389,305,861**	**$28,232,126**	**$111,632,400**	**$611,150,870**
TRC Benefits Minus Costs	**$24,624,026**	**$265,026,150**	**$19,907,170**	**$19,722,614**	**$329,279,960**
TRC Ratio	**1.43**	**3.13**	**3.19**	**1.21**	**2.17**

Table I-20. CY 2023 Overall with Renewables Separate Cost-Effectiveness Analysis, Utility Administrator Cost Test

	Residential	Nonresidential	Midstream	Renewables	Total
Incentive Costs	$19,315,453	$26,150,169	$3,744,005	$5,897,976	$55,107,604
Administrative Costs	$928,986	$1,486,583	$180,821	$306,095	$2,902,485
Delivery Costs	$8,977,238	$18,275,685	$1,760,187	$3,341,106	$32,354,216
Total UAT Costs	**$29,221,678**	**$45,912,437**	**$5,685,013**	**$9,545,177**	**$90,364,305**
Electric Benefits	$20,151,885	$152,392,706	$6,308,308	$69,024,714	$247,877,613
Gas Benefits	$36,558,418	$98,380,352	$13,468,326	-	$148,407,096
T&D Benefits	$4,368,286	$24,294,872	$560,731	$17,221,031	$46,444,919
Total UAT Benefits	**$61,078,588**	**$275,067,929**	**$20,337,365**	**$86,245,745**	**$442,729,627**
UAT Benefits Minus Costs	**$31,856,910**	**$229,155,493**	**$14,652,352**	**$76,700,568**	**$352,365,323**
UAT Ratio	**2.09**	**5.99**	**3.58**	**9.04**	**4.90**

Table I-21. Overall with Renewables Separate Cost-Effectiveness Analysis, Societal Test

	Residential	Nonresidential	Midstream	Renewables	Total
Incentive Costs	$19,315,453	$26,150,169	$3,744,005	$5,897,976	$55,107,604
Administrative Costs	$928,986	$1,486,583	$180,821	$306,095	$2,902,485
Delivery Costs	$8,977,238	$18,275,685	$1,760,187	$3,341,106	$32,354,216
Incremental Measure Costs	$47,450,233	$104,517,443	$6,383,948	$88,262,585	$246,614,209
Total Non-Incentive Costs	**$57,356,458**	**$124,279,711**	**$8,324,956**	**$91,909,786**	**$281,870,910**
Electric Benefits	$20,151,885	$152,392,706	$6,308,308	$69,024,714	$247,877,613
Gas Benefits	$36,558,418	$98,380,352	$13,468,326	$0	$148,407,096
Emissions Benefits	$20,901,895	$114,237,932	$7,894,761	$25,386,655	$168,421,243
T&D Benefits	$4,368,286	$24,294,872	$560,731	$17,221,031	$46,444,919
Health Benefits	$4,097,621	$40,547,306	$3,770,477	$7,827,595	$56,243,000
Water Benefits	$10,027,081	$76,604	$244,052	$0	$10,347,736
Purchase Deferral	$687,921	$4,550,500	$1,535,400	$0	$6,773,821
Other Non-Energy Benefits [a]	$21,893,287	$0	$0	$0	$21,893,287
Economic Benefits	N/A	N/A	N/A	N/A	$444,835,241
Total SCT Benefits	**$118,686,393**	**$434,480,272**	**$33,782,055**	**$119,459,995**	**$1,151,243,955**
SCT Benefits Minus Costs	**$61,329,936**	**$310,200,561**	**$25,457,099**	**$27,550,208**	**$869,373,045**
SCT Ratio	**2.07**	**3.50**	**4.06**	**1.30**	**4.08**

[a] Includes property values and arrearages

Table I-22 provides the residential offerings cost-effectiveness analysis. Incentive costs are provided below, but they are not included in the TRC calculation. The TRC ratio equals the total TRC benefits divided by total non-incentive costs.

Table I-22. CY 2023 Residential and Midstream Offerings Cost-Effectiveness Analysis

	Direct to Customer			Trade Ally Solutions			Multifamily		New Construction	Renewable Rewards	Midstream	
	Packs	Online Marketplace	Retail	Heating and Cooling	Insulation and Air Sealing	Tribes	Multifamily	EDA/EDR/PEP	Residential	Residential	Midstream	CBO
Incentive Costs	$3,699,968	$552,206	$147,295	$7,280,532	$2,789,417	$274,315	$923,414	$704,756	$2,943,550	$3,335,425	$707,195	$3,036,810
Administrative Costs	$177,952	$26,559	$7,084	$350,161	$134,158	$13,193	$44,412	$33,896	$141,572	$160,419	$34,764	$146,057
Delivery Costs	$1,719,633	$256,649	$68,458	$3,383,771	$1,296,436	$127,493	$429,175	$327,549	$1,368,073	$1,550,204	$348,769	$1,411,418
Incremental Measure Costs	$3,115,068	$1,558,429	$148,513	$17,200,952	$12,179,320	$188,682	$8,847,696	$4,211,573	$0	$46,233,425	$2,741,943	$3,642,005
Total Non-Incentive Costs	**$5,012,653**	**$1,841,636**	**$224,055**	**$20,934,884**	**$13,609,915**	**$329,369**	**$9,321,283**	**$4,573,018**	**$1,509,645**	**$47,944,048**	**$3,125,476**	**$5,199,480**
Electric Benefits (kWh)	$1,384,122	$880,335	$74,991	-$2,264,001	$1,004,160	$3,367	$663,323	$3,095,843	$3,561,590	$6,881,491	$326,100	$4,506,585
Electric Benefits (kW)	$599,714	$37,438	$30,375	$745,275	$2,872,290	$17,257	$353,333	$2,745,558	$4,346,916	$14,263,577	$221,930	$1,253,693
T&D Benefits	$227,835	$14,242	$11,566	$279,708	$1,067,542	$6,393	$130,137	$1,028,186	$1,602,677	$5,301,333	$83,972	$476,758
Gas Benefits	$3,931,035	$1,038,893	$5,428	$16,683,230	$3,571,606	$81,611	$1,686,350	$3,646,304	$5,913,959	$0	$546,848	$12,921,479
Emissions Benefits	$2,342,682	$1,008,738	$52,509	$3,078,546	$2,334,180	$31,838	$1,252,656	$4,384,149	$6,416,598	$7,695,598	$442,304	$7,452,457
Total TRC Benefits	**$8,485,387**	**$2,979,646**	**$174,869**	**$18,522,758**	**$10,849,778**	**$140,465**	**$4,085,799**	**$14,900,041**	**$21,841,741**	**$34,141,998**	**$1,621,153**	**$26,610,973**
TRC Benefits Minus Costs	**$3,472,734**	**$1,138,010**	**-$49,187**	**-$2,412,126**	**-$2,760,137**	**-$188,904**	**-$5,235,484**	**$10,327,023**	**$20,332,097**	**-$13,802,051**	**-$1,504,323**	**$21,411,493**
TRC Ratio Benefits	**1.69**	**1.62**	**0.78**	**0.88**	**0.80**	**0.43**	**0.44**	**3.26**	**14.47**	**0.71**	**0.52**	**5.12**

Table I-23 provides nonresidential offerings cost-effectiveness analysis. Incentive costs are provided below, but they are not included in the TRC calculation. The TRC ratio equals the total TRC benefits divided by total non-incentive costs.

Table I-23. CY 2023 Nonresidential Offerings Cost-Effectiveness Analysis

	Agribusiness	Business and Industry		Large Industrial		Schools and Government			Renewable Rewards
	Agribusiness	C&I	EDA/EDR	Large Ind	EDA/EDR	Schools	Government	EDA/EDR	Business
Incentive Costs	$2,388,735	$6,626,807	$1,340,949	$9,766,800	$189,175	$2,562,501	$2,029,967	$851,218	$2,562,552
Administrative Costs	$135,795	$376,720	$76,230	$555,222	$10,754	$145,673	$115,399	$48,390	$145,676
Delivery Costs	$1,669,426	$4,631,306	$937,155	$6,825,767	$132,210	$1,790,866	$1,418,692	$594,894	$1,790,902
Incremental Measure Costs	$7,063,516	$30,556,335	$7,780,662	$37,443,454	$799,719	$6,545,601	$8,077,592	$6,250,565	$42,029,160
Total Non-Incentive Costs	**$8,868,736**	**$35,564,361**	**$8,794,047**	**$44,824,443**	**$942,683**	**$8,482,140**	**$9,611,683**	**$6,893,850**	**$43,965,738**
Electric Benefits (kWh)	$10,183,690	$25,884,886	$5,284,967	$31,396,550	$508,223	$3,768,025	$7,625,698	$2,954,187	$15,808,930
Electric Benefits (kW)	$7,158,157	$20,389,957	$5,845,666	$19,849,867	$599,561	$3,672,333	$5,073,565	$2,038,063	$32,070,716
T&D Benefits	$2,692,467	$7,678,565	$2,189,150	$7,460,969	$224,530	$1,382,896	$1,903,057	$763,237	$11,919,698
Gas Benefits	$1,595,805	$19,177,222	$1,746,772	$64,374,009	$596,777	$5,843,061	$2,435,053	$2,611,652	$0
Emissions Benefits	$10,173,570	$29,884,055	$6,018,781	$49,803,397	$719,329	$5,419,268	$8,206,366	$3,899,696	$17,691,057
Total TRC Benefits	$31,803,689	$103,014,685	$21,085,336	$172,884,791	$2,648,421	$20,085,583	$25,243,740	$12,266,835	$77,490,402
TRC Benefits Minus Costs	$22,934,953	$67,450,323	$12,291,289	$128,060,348	$1,705,738	$11,603,443	$15,632,056	$5,372,985	$33,524,664
TRC Ratio	**3.59**	**2.90**	**2.40**	**3.86**	**2.81**	**2.37**	**2.63**	**1.78**	**1.76**

Cost-Effectiveness Results for Renewables

Table I-24 lists the CY 2022 and CY 2023 cost-effectiveness results, with renewables excluded and with renewables included.

Table I-24. CY 2022 and CY 2023 Cost-Effectiveness Results for Focus on Energy Portfolio

Calendar Year	Residential	Nonresidential	Midstream	Renewables	Total
CY 2022: Modified TRC Test Result with Renewables	1.55	2.93	1.38	N/A	**2.36**
CY 2022: Modified TRC Test Result Renewables Excluded	1.80	3.06	1.38	1.36	**2.36**
CY 2023: Modified TRC Test Result with Renewables	1.10	2.77	3.39	N/A	**2.17**
CY 2023: Modified TRC Test Result Renewables Excluded	1.43	3.13	3.39	1.21	**2.17**

Appendix J. Detailed Survey and Interview Findings

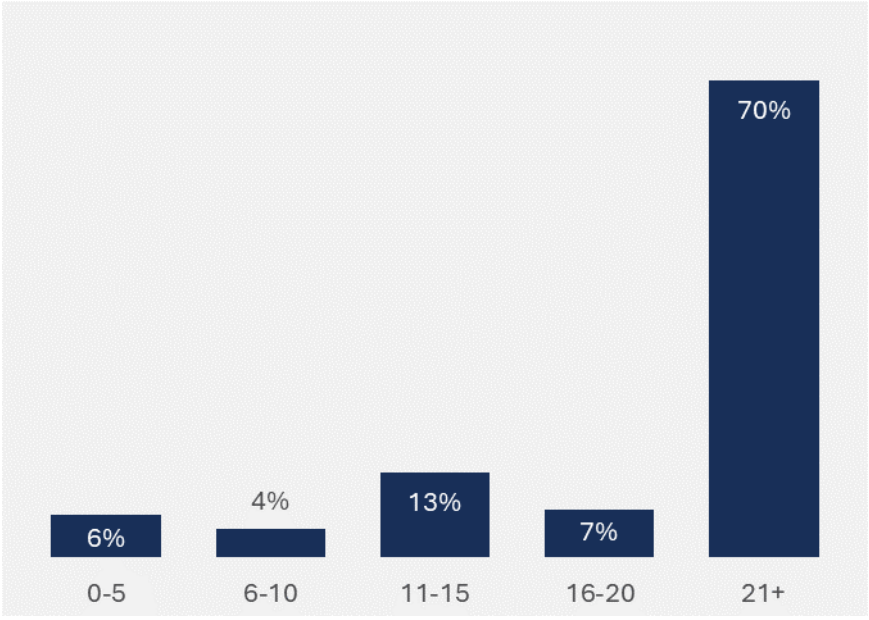
Heating and Cooling Offering Contractor Survey

Throughout August, September, and October 2023, the evaluation team conducted a survey with participating and nonparticipating HVAC contractors. The survey focused primarily on gathering information to support updating the furnace baseline efficiency, as discussed in the impact evaluation section. The survey also asked contractors for their insights on the furnace and air-source heat pump markets, as well as their awareness of the energy efficiency and electrification components of the Inflation Reduction Act (IRA). The contractor sample was drawn from a list of participating and nonparticipating contractors provided by the implementer. The results of that survey are detailed in the following sections.

Contractor Profile

Surveyed contractors first answered questions about their companies' years of installing residential HVAC equipment in Wisconsin, the length of time they've spent at their companies, and whether they've installed equipment that received a rebate or incentive from Focus on Energy's Heating and Cooling Program. As shown in Figure J-1, most contractors' companies have been installing residential HVAC equipment in Wisconsin for over 21 years (70%).

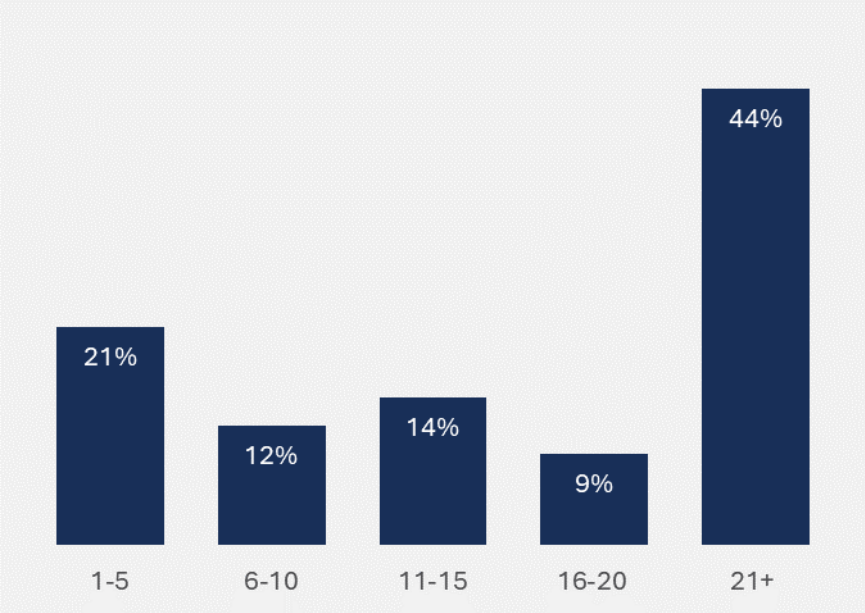
Figure J-1. Companies' Years of Installing HVAC Equipment in Wisconsin



Source: Focus on Energy Heating and Cooling Contractor Survey: "How long has your company been installing residential HVAC equipment in Wisconsin?" (n=144)

As shown in Figure J-2, 44% of contractors reported they had been at their companies for over 21 years, followed by one to five years (21%) and 11 to 15 years (14%).

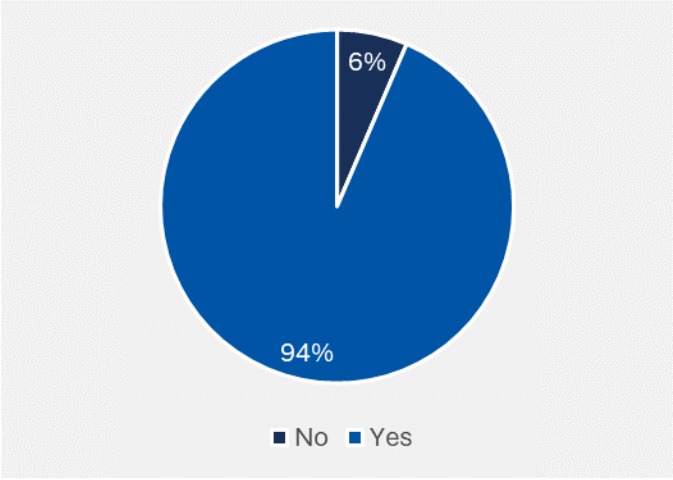
Figure J-2.Years Employed at Their Companies



Source: Focus on Energy Heating and Cooling Contractor Survey: "How long have you been employed with your company?" (n=147)

As shown in Figure J-3, 94% of contractors reported their company installed equipment that received a rebate or incentive from Focus on Energy's Heating and Cooling program within the past 12 months.

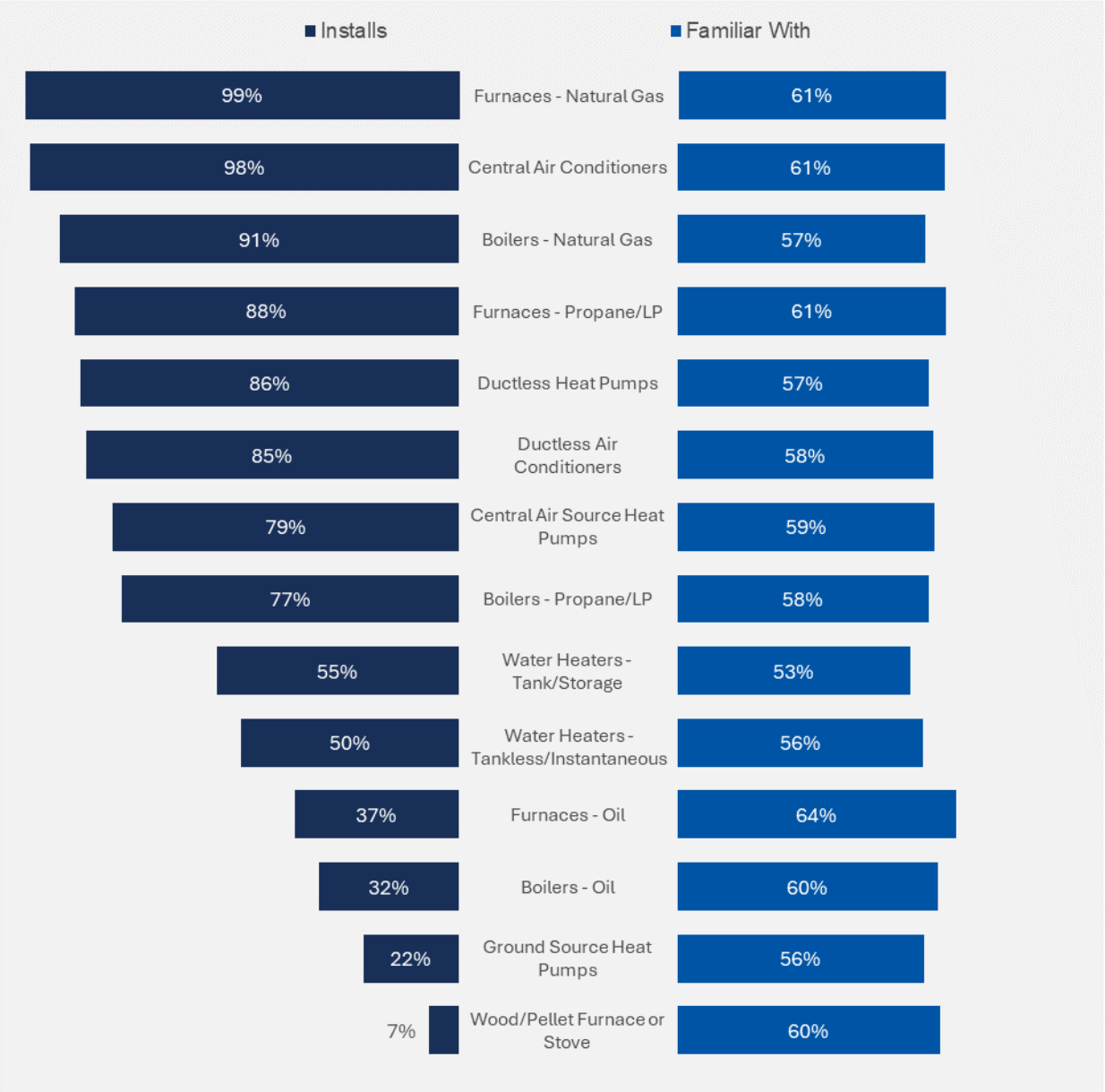
Figure J-3.Contractors Reporting Their Company Installed Rebated Equipment in the Past Year



Source: Focus on Energy Heating and Cooling Contractor Survey: "In the past 12 months, has your company installed equipment that received a rebate or incentive from Focus on Energy's Heating and Cooling program?" (n=124)

The survey also asked contractors to identify which types of equipment their company installs and whether they were familiar with their companies' sales of that equipment. As shown in Figure J-4, almost all contractors reported their companies install natural gas furnaces (99%) and central air conditioners (98%), while only 61% of those contractors said they were familiar with their companies' sales of that equipment. Familiarity with equipment sales was consistent across each type of equipment, ranging from 53% to 64% of contractors who reported that their company installed that type of equipment. The type of equipment least installed were wood/pellet furnaces or stoves (7%).

Figure J-4. Equipment Installed and Contractor Familiarity



Source: Focus on Energy Heating and Cooling Contractor Survey: "Please tell us which types of equipment your company installs and if you are familiar with your company's sales of that equipment? Select all that apply" (Installs n=147; Familiar With n=number of contractors reporting that their company installs)

Natural Gas Furnace Baseline Estimate

The evaluation team used the Wisconsin HVAC contractor survey results to update the residential furnace baseline assumptions in the furnace savings calculation. The survey asked contractors to estimate their lowest AFUE offerings to customers in single-family standard-income, single-family low/limited-income, multifamily standard-income, and multifamily low/limited-income homes to determine if different furnace baseline AFUE values were needed for these groups. To weight the AFUE responses, contractors reported on the number of furnaces they installed in the past 12 months, the percentage of installs in each home type, and the number of furnaces that were replacing non-condensing with condensing. In total, 147 contractors completed the survey and provided reasonable responses to questions about average furnace efficiency offerings. The team excluded contractors if they reported offering furnaces with AFUEs greater than 99 or less than 80. The team conducted follow-up surveys with contractors if their responses about replacing noncondensing furnaces and their reported lowest AFUE offering did not agree with the initial survey. Table J-1 shows the updated baseline AFUE values by customer sector based on the contractor survey results compared to the TRM's baseline AFUE values. The evaluation team used the updated baseline AFUEs in the CY 2023 evaluation and updated these values in the 2024 TRM.

Table J-1. Updated Baseline AFUE based on Contractor Survey Results

	Home Type	Total Estimated #Furnaces Installed	Updated Baseline AFUE Based on Weighted Average Lowest AFUE	2023 TRM Baseline AFUE
Single-Family	Low/Limited Income (Income Qualified)	1,535	88.3%	80%
	Standard Income	11,288	90.6%	92.8%
Multifamily	Low/Limited Income (Income Qualified)	2,261	80.7%	80%
	Standard Income	3,316	81.8%	86.7%

Table J-2 shows the estimated percentage of furnaces installed in each home type that replaced a non-condensing unit and replaced a non-condensing unit with a condensing unit. In both cases, single-family standard income had the highest percentage of replacements. Although relative results between standard and low/limited income were similar across both home types, multifamily homes had greater differences between replacing non-condensing units and replacing non-condensing units with condensing units.

Table J-2. Non-Condensing Furnace Replacements

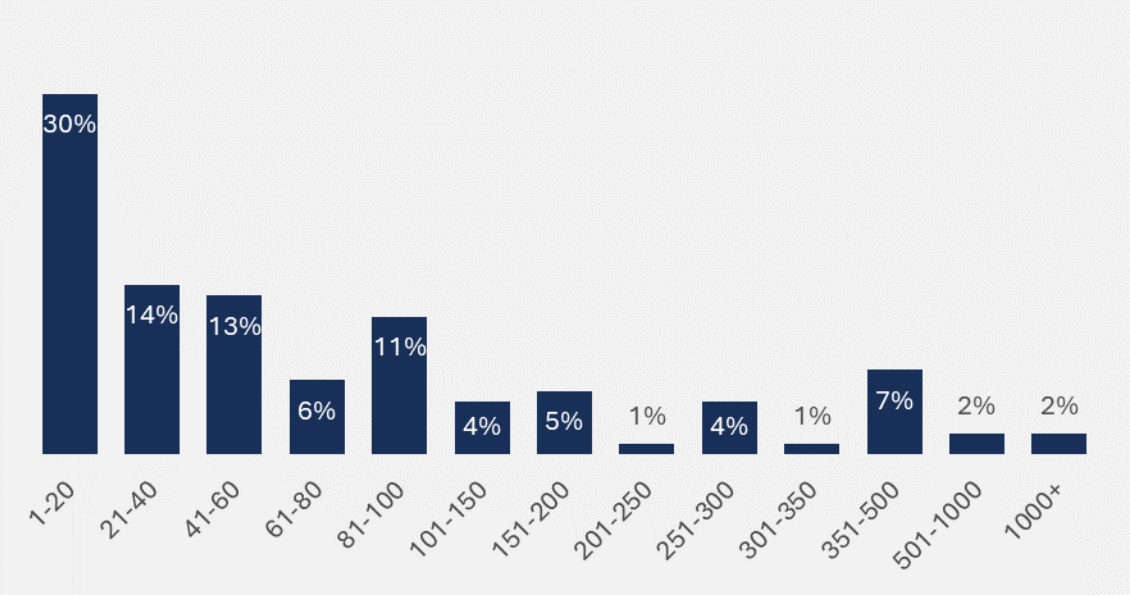
Home Type	Replaced Non-Condensing Unit	Replaced Non-Condensing Unit with Condensing Unit
Single-Family Low/Limited Income	16%	11%
Single-Family Standard Income	23%	17%
Multifamily Low/Limited Income	10%	3%
Multifamily Standard Income	18%	5%

When asked about the common reasons for why customers in single-family and multifamily homes do not upgrade a non-condensing unit to a condensing unit regarding single-family (n=43) and 50% for multifamily (n=20), most contractors (70%) cited cost as the reason customers do not upgrade, followed by the added difficulty of installation (12% single-family and 45% multifamily).

Furnace Sales

When asked roughly how many natural gas furnaces the contractors' companies installed, 30% of contractors' companies installed one to 20 furnaces in the past 12 months, while less than 5% of contractors reported over 500 installations (Figure J-5).

Figure J-5. Furnaces Installed in The Past Year

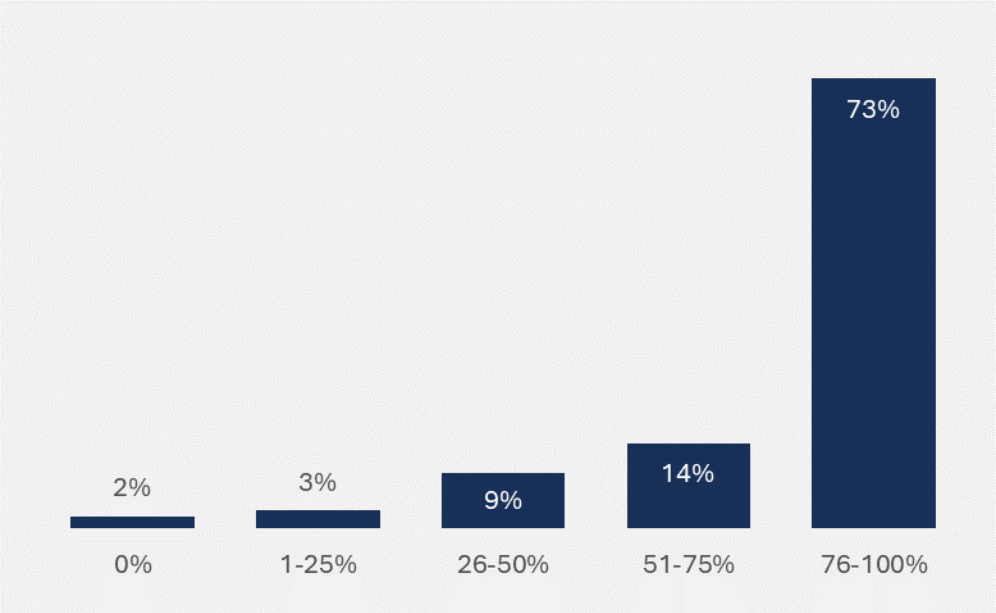


Source: Focus on Energy Heating and Cooling Contractor Survey: "About how many natural gas furnaces did your company install in Wisconsin homes in the past 12 months?" (n=115)

The survey asked contractors to provide an estimate for how many furnaces their company had sold in the past year that qualified for a Focus on Energy rebate. Eighty-seven percent of contractors estimated that over half of the furnaces they sold in the last year qualified for a Focus on Energy rebate, with 73% of contractors estimating that over 75% of the furnaces they sold qualified.

Figure J-6 on the following page summarizes these results.

Figure J-6. Percentage of Furnace Sales That Qualify for Focus on Energy Rebate

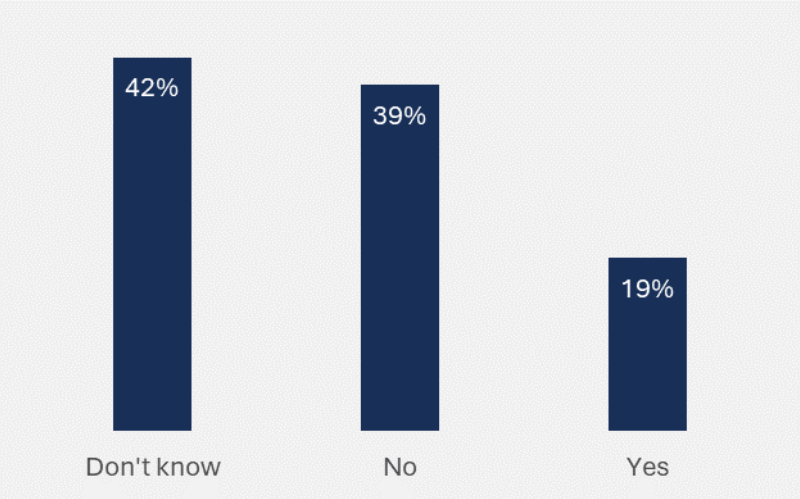


Source: Focus on Energy Heating and Cooling Contractor Survey: "In the past 12 months, about what percent of your company's Wisconsin natural gas furnace sales qualified for a Residential Focus on Energy rebate (i.e., AFUE of 95% or higher)?" (n=102)

The survey then asked contractors if they had sold any qualifying furnaces that did not receive a Focus on Energy rebate. Forty-two percent of respondents were not sure, with 29% of those explaining the customer fills out the rebate so they do not know if applications are submitted. Thirty-nine percent of contractors said all their qualifying furnaces received a Focus on Energy rebate (no), and 19% said some of their qualifying units did not receive a rebate (yes). For those that said yes (n=19), 53% said the furnaces did not qualify (for example, the customer was not serviced by a participating utility), 40% said the application process was a burden or the rebates were unclear, and 7% said they did not submit the application in time.

Figure J-7 on the following page summarizes these results.

Figure J-7. Sales of Qualified Furnaces that Did Not Receive a Rebate?

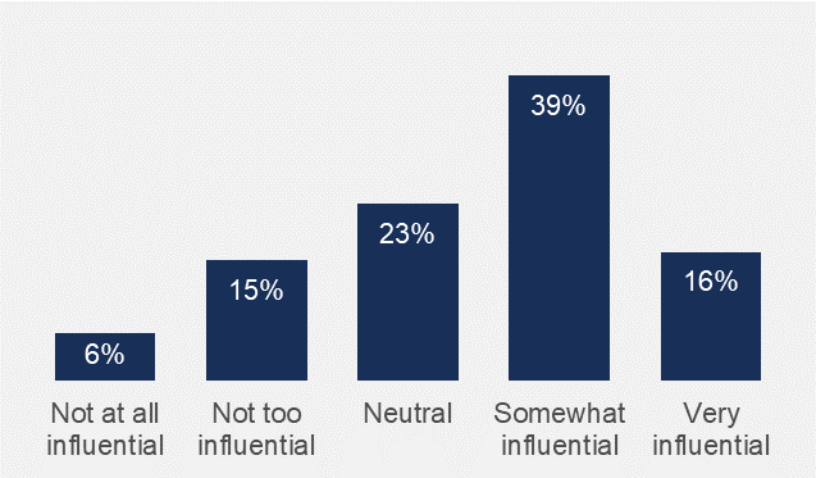


Source: Focus on Energy Heating and Cooling Contractor Survey: "In the past 12 months, did you sell any qualified residential furnaces in Wisconsin that did not receive a Focus on Energy rebate?" (n=98)

Focus on Energy Influence

When asked how influential the Focus on Energy rebate has been to the furnace efficiency their company recommends to residential customers, over 50% of surveyed contractors said that Focus on Energy has been *somewhat* or *very influential* on their recommendations (Figure J-8).

Figure J-8. Focus on Energy Influence on Recommended AFUEs in Past 12 Months



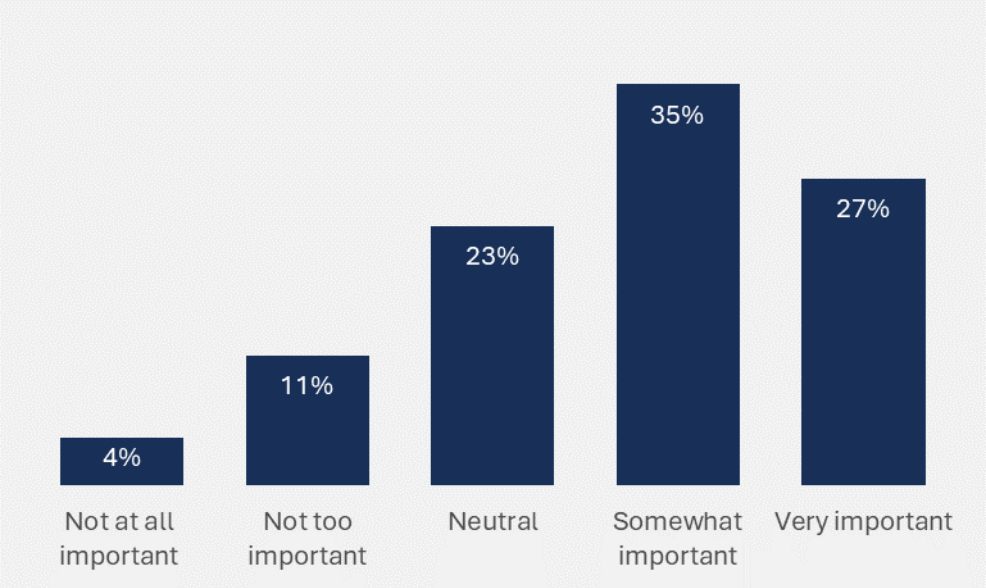
Source: Focus on Energy Heating and Cooling Contractor Survey: "Over the past 12 months, how influential has the Focus on Energy rebate been to the furnace efficiency your company recommends to residential customers?" (n=103)

When asked about this influence over the past five years, 61% of contractors (n=81) reported the program's influence on their furnace efficiency recommendations has not changed, while 11% reported the program has become less influential, and 28% reported that it has become more influential. The survey then asked how contractors' recommendations for high-efficiency natural gas furnaces would be different over the past five years had the rebate not been available. Eighty-six percent of contractors

(n=103) said they would have offered the same number of high-efficiency furnaces, while 6% said they would have offered less and 8% said more.

When asked to rate how important the Heating and Cooling offering has been in their sales of program qualifying furnaces in Wisconsin over the past 12 months, more than 60% of contractors reported that the Focus on Energy Program is somewhat or very important in their sales of program-qualifying furnaces. Less than 5% of contractors reported that the program is not at all important (Figure J-9).

Figure J-9. Importance of the Focus on Energy Program in Contractor Sales of Program-Qualifying Equipment



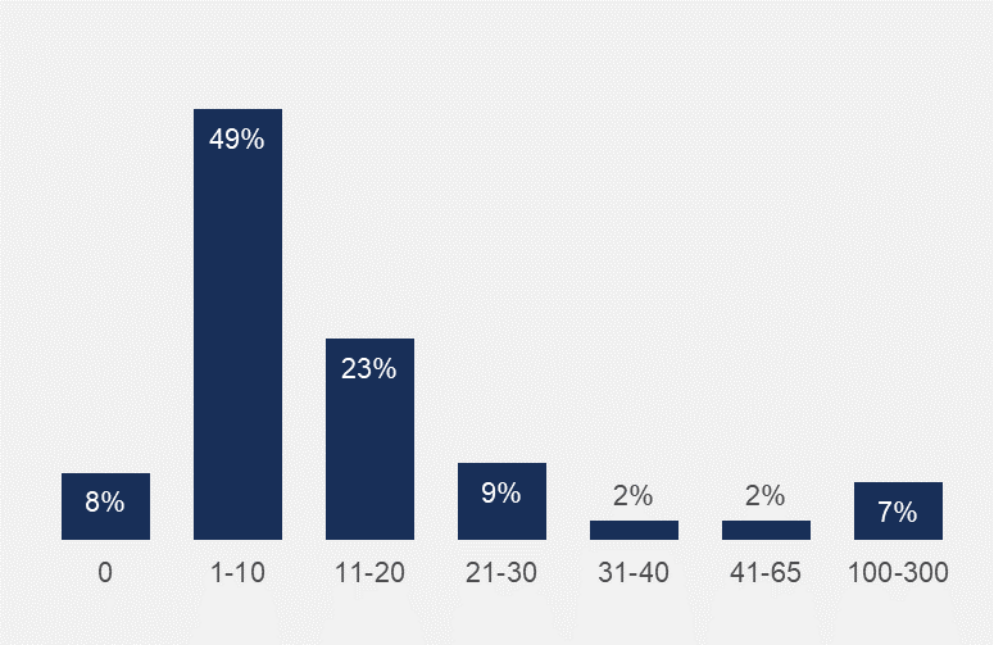
Source: Focus on Energy Heating and Cooling Contractor Survey: ": Please rate how important the Focus on Energy Residential Heating and Cooling Program has been in your sales of program-qualifying [furnaces] in Wisconsin over the past 12 months" (n=101)

When asked how their sales would have changed had the program not existed in the past 12 months, 81% of contractors (n=102) estimated that their sales of high-efficiency furnaces would not have changed.

Air-Source Heat Pump Market Observations

The survey asked contractors about their company's air-source heat pump sales, specifically how many air-source heat pumps they installed in the past 12 months and what percentage of all cooling equipment sales were air-source heat pumps. Among those contractors whose companies install air-source heat pumps, 92% reported installing them in the last 12 months. Among these, 49% installed up to 10 heat pumps, 7% installed between 100 and 300 heat pumps, and 8% had not installed any heat pumps over the past 12 months (Figure J-10).

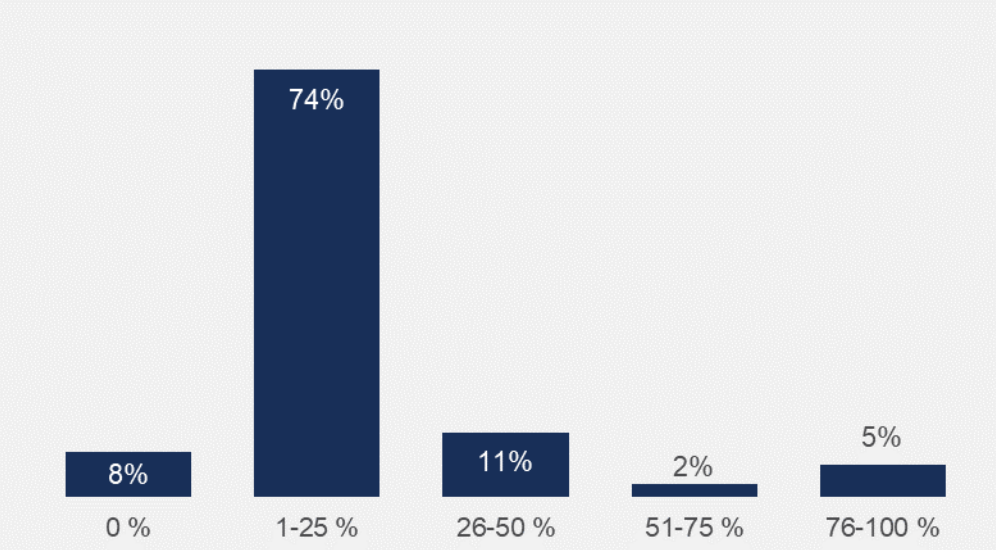
Figure J-10. Air-Source Heat Pump Installations



Source: Focus on Energy Heating and Cooling Contractor Survey: "About how many central air-source heat pumps did your company install in the past 12 months?" (n=91)

Surveyed contractors also reported that central air conditioners remained the primary cooling equipment that their company installed in the past 12 months (Figure J-11). Eighty-two percent of contractors reported that air-source heat pumps accounted for less than 26% of their cooling equipment sales over the past 12 months.

Figure J-11. ASHP Share of Cooling Equipment Sales



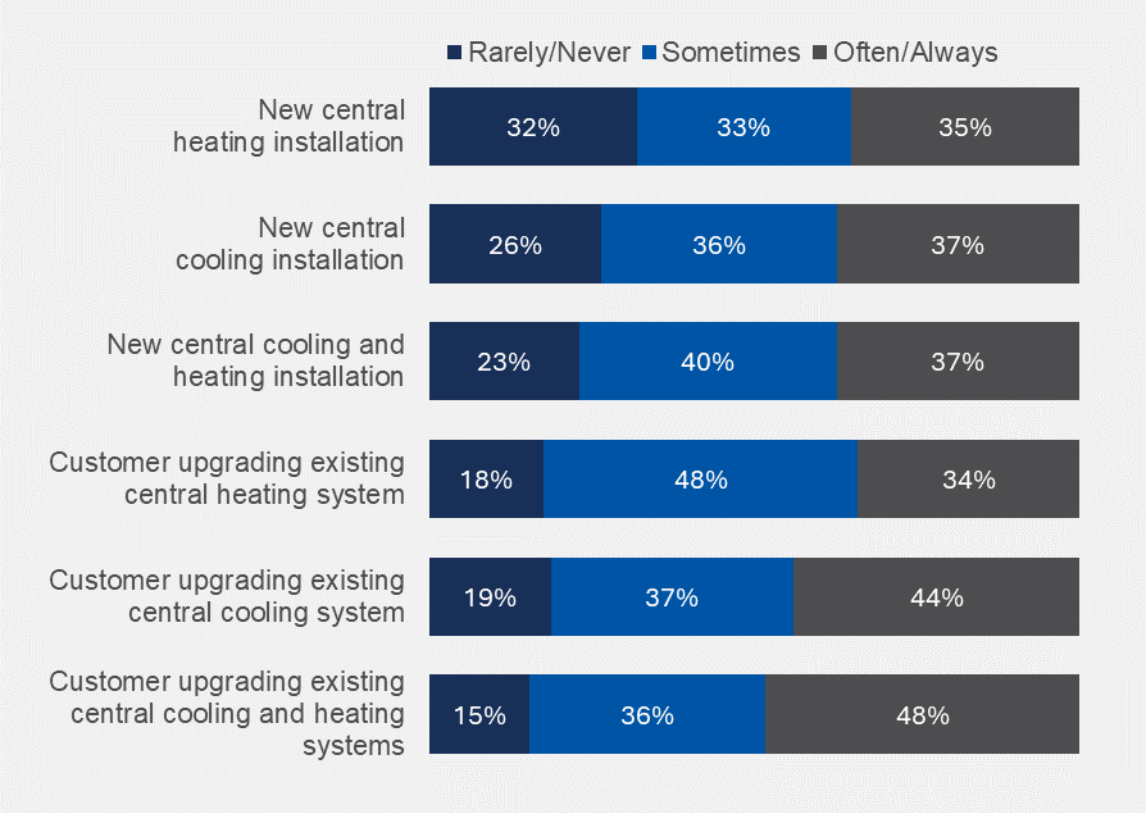
Source: Focus on Energy Heating and Cooling Contractor Survey: "Thinking about all of your residential heat pump and central air conditioner sales in the past 12 months, what percentage of your sales were air-source heat pumps?" (n=91)

Eighty-two percent (n=90) of contractors reported that they were *comfortable* or *very comfortable* installing heat pumps. Of those who were not *very comfortable* (n=41), 54% said they would be interested in additional training.

When asked how they expect their heat pump sales to change over the next five years, 52% of contractors (n=52), said their air-source heat pump sales would increase significantly over the next five years. However, 31% of the surveyed contractors thought their sales would decrease significantly, while 17% thought their sales would remain the same.

The survey also asked how often contractors would offer air-source heat pumps under different scenarios. As shown in Figure J-12, most contractors said they would offer an air-source heat pump when customers were upgrading existing central cooling (82% reporting sometimes or often/always) or heating equipment (81% reported sometimes or often/always), or both (84% reported sometimes or often/always). However, contractors said they were less likely to offer an air-source heat pump when the customer is installing new HVAC equipment.

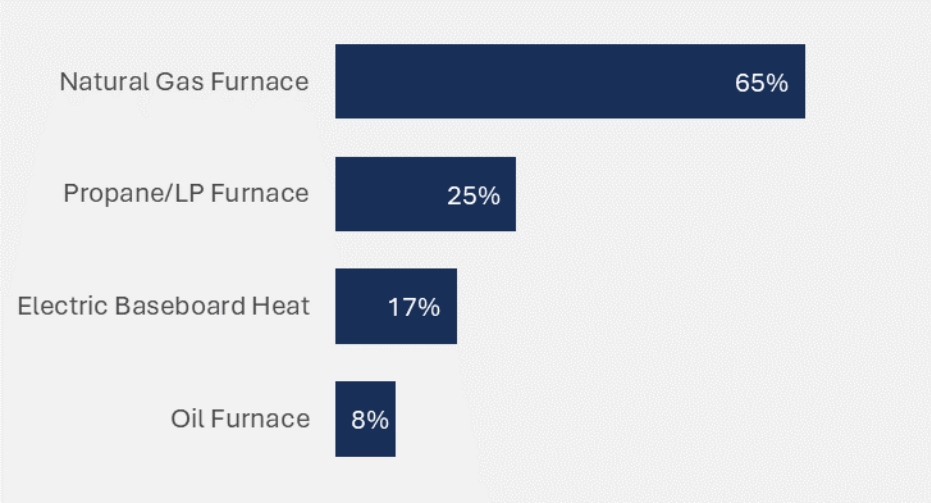
Figure J-12. How Often Were Heat Pumps Offered in Different Situations



Source: Focus on Energy Heating and Cooling Contractor Survey: "How often did you offer air-source heat pumps to customers in these situations?" (n=91)

The survey asked contractors about existing backup heating sources in homes where they installed a new air-source heat pump. Contractors reported that on average, weighted by the number of air-source heat pumps the contractor reported installing annually, the majority (65%) of households had a natural gas furnace backup heating source. Figure J-13 shows the complete breakdown for all reported backup heating sources.

Figure J-13. Existing Backup Heating Sources for Newly Installed Heat Pump



Source: Focus on Energy Heating and Cooling Contractor Survey: "In homes where you installed new air-source heat pumps, about what percentage had each of these existing backup heating sources?" (n=91)

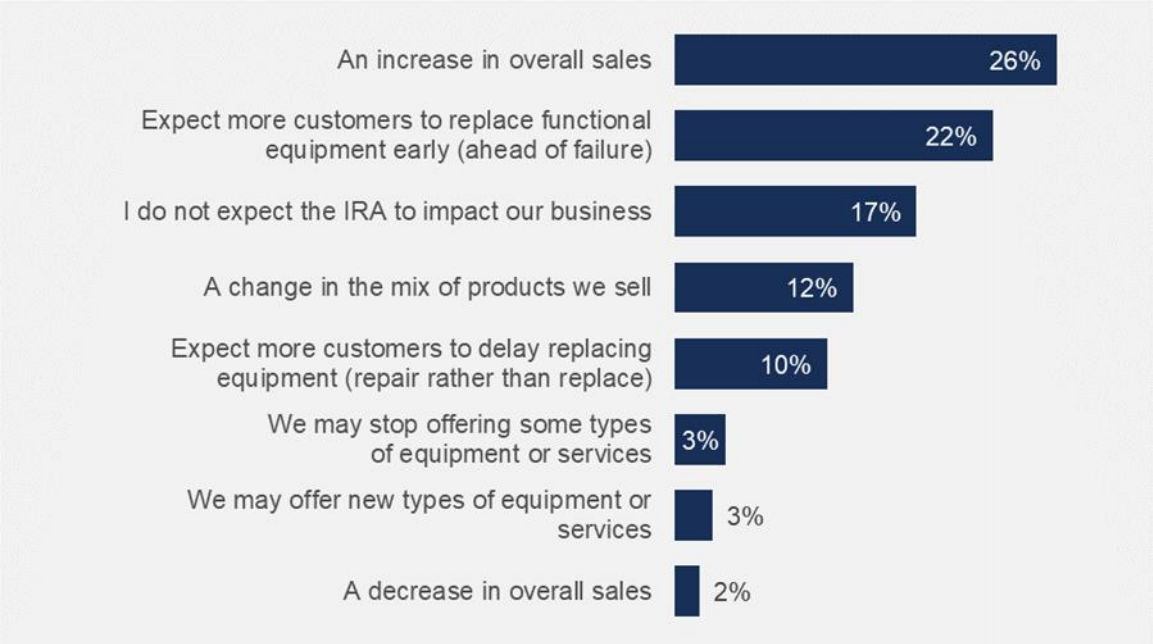
The survey also asked contractors what percentage of the time they upgraded the backup furnace to a new natural gas furnace when installing a new air-source heat pump. Contractors reported (n=86) that on average, weighted by the number of air-source heat pumps the contractor reported installing annually, they also replace the backup heating furnaces 66% of the time. Contractors also reported (n=82) that when replacing the backup furnace, on average, weighted by the number of air-source heat pumps the contractor reported installing annually, they typically install a 94% AFUE furnace.

Inflation Reduction Act Observations

When asked about familiarity with the IRA, 67% of the surveyed contractors (n=115) reported being *somewhat* or *very familiar* with the IRA. When asked about the type of changes they expect to see in their business as a result of the IRA, 26% (n=115) expect an increase in overall sales, 22% expect more customers to replace functional equipment early (ahead of failure), and 17% do not expect the IRA to affect their business. Additionally, 12% of contractors expect a change in the mix of products they sell; of those that expect a change, 93% (n=14) expect an increase in air-source heat pump sales.

Figure J-14 shows these results and other expected changes.

Figure J-14. Participants' Expected Changes Due to the IRA



Source: Focus on Energy Heating and Cooling Contractor Survey: "What changes do you expect to see in your business as a result of the IRA?" (n=115)

Surveyed contractors (n=52) suggested a few ways they are planning to address IRA changes. Twenty-seven percent planned to inform the customer and give them more options, 29% discussed training and educating staff, 12% wanted to learn more and be more proactive about heat pumps, and 8% planned to encourage customers to replace equipment with higher efficiencies.

Cross-Cutting Nonresidential Participant Surveys

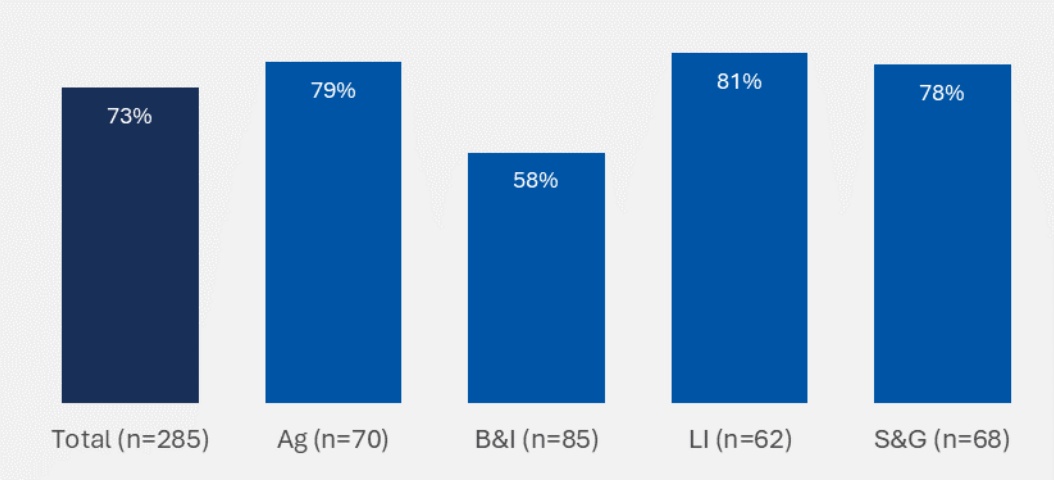
This section describes the cross-cutting results of CY 2023 participant surveys across the nonresidential offerings that provide custom and prescriptive rebates through the Large Industrial, Schools and Government, Business and Industry, and Agribusiness programs. In total, the analysis team surveyed 285 nonresidential participants. Survey results are presented both in aggregate and by program, with statistical comparisons provided where relevant.[40] In all figures, specific program names are abbreviated as follows:

- Agribusiness Program: Ag
- Business and Industry Program: B&I
- Large Industrial Program: LI
- Schools and Government Program: S&G

Past Participation

The majority of respondents (73%) across all programs reported having previously worked with Focus on Energy (Figure J-15). Past participation rates were relatively similar across Schools and Government, Large Industrial, and Agribusiness respondents (78% to 81%), while Business and Industry respondents reported working with Focus on Energy in past years less frequently (58%); the difference is statistically significant.

Figure J-15. Participants with Past Focus on Energy Experience

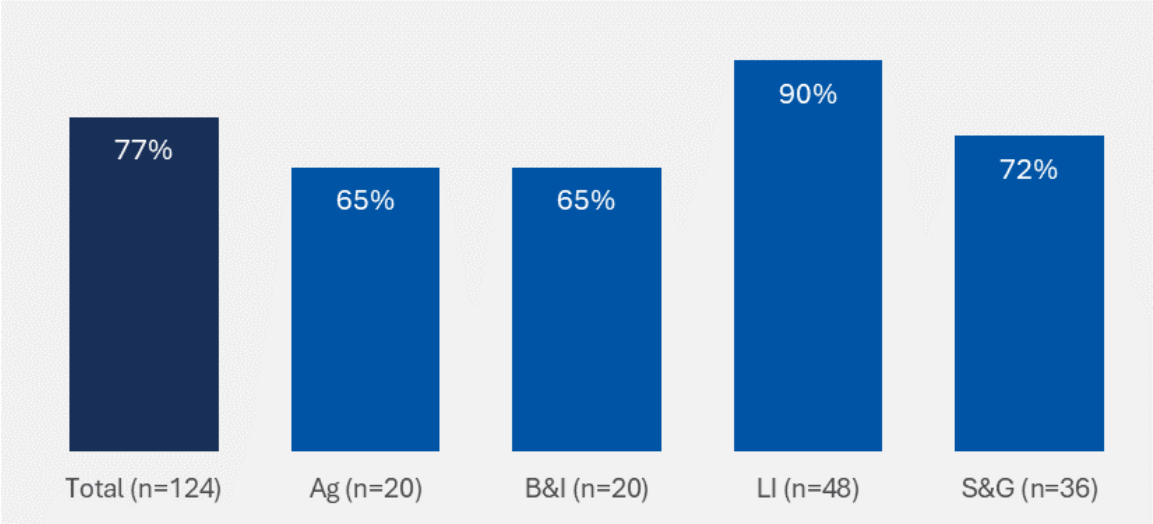


Source: Nonresidential Participant Survey Question. "Prior to receiving any incentives from Focus on Energy in 2023, had you worked with Focus on Energy in previous years?"

[40] All statistical comparisons used a two-proportions z-test at the 90% significance level, without applying the Yates continuity correction.

Of the respondents who reported either learning about incentives through a Focus on Energy representative or energy advisor or having worked with one to complete a past project, 77% reported working with the same contact in CY 2023 (Figure J-16). Large Industrial respondents reported working with the same Focus on Energy contact more often than other groups (90%), with differences that are statistically significant. Business and Industry and Agribusiness respondents were least likely to report working with the same contact (65% each), while Schools and Government respondents reported a rate slightly lower than the overall average (72%).

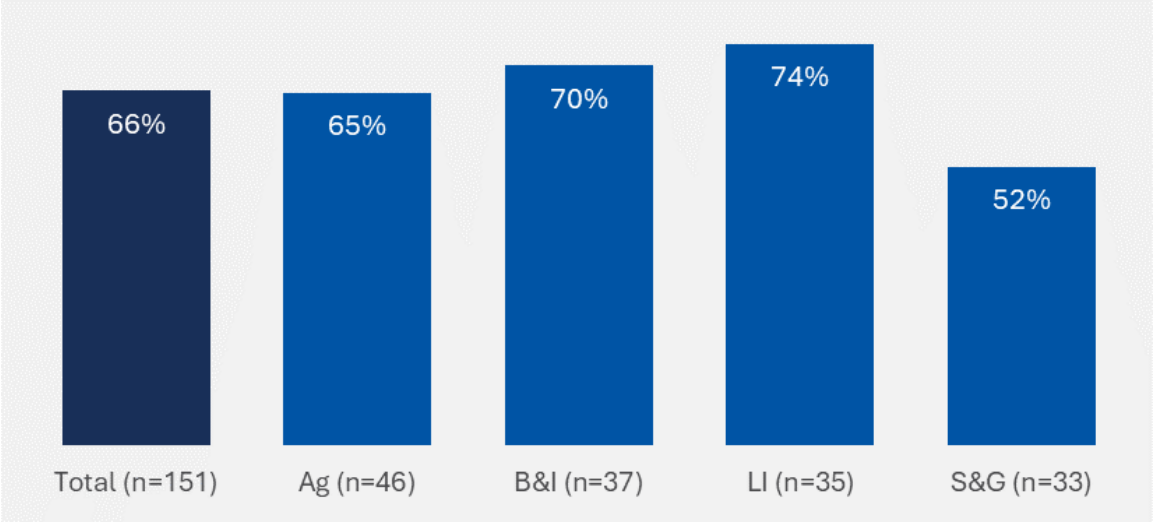
Figure J-16. Participants Who Worked with the Same Energy Advisor in CY 2023



Source: Nonresidential Participant Survey Question. "You indicated that you learned about the incentives through a Focus on Energy representative or energy advisor or worked with one to complete your project. For this year's project, did you work with the same contact you had worked with previously?"

Overall, over half of the respondents (66%) who worked with a contractor in the past worked with the same contractor in CY 2023 (Figure J-17). Large Industrial respondents reported working with the same contractor at the highest rate (74%), while Business and Industry respondents reported the second highest rate (70%) and Agribusiness respondents reported working with the same contractor at a rate approximately the same as the overall average (65%). Schools and Government respondents reported working with the same contractor at a lower rate than all other groups (52%), though the differences were not statistically significant.

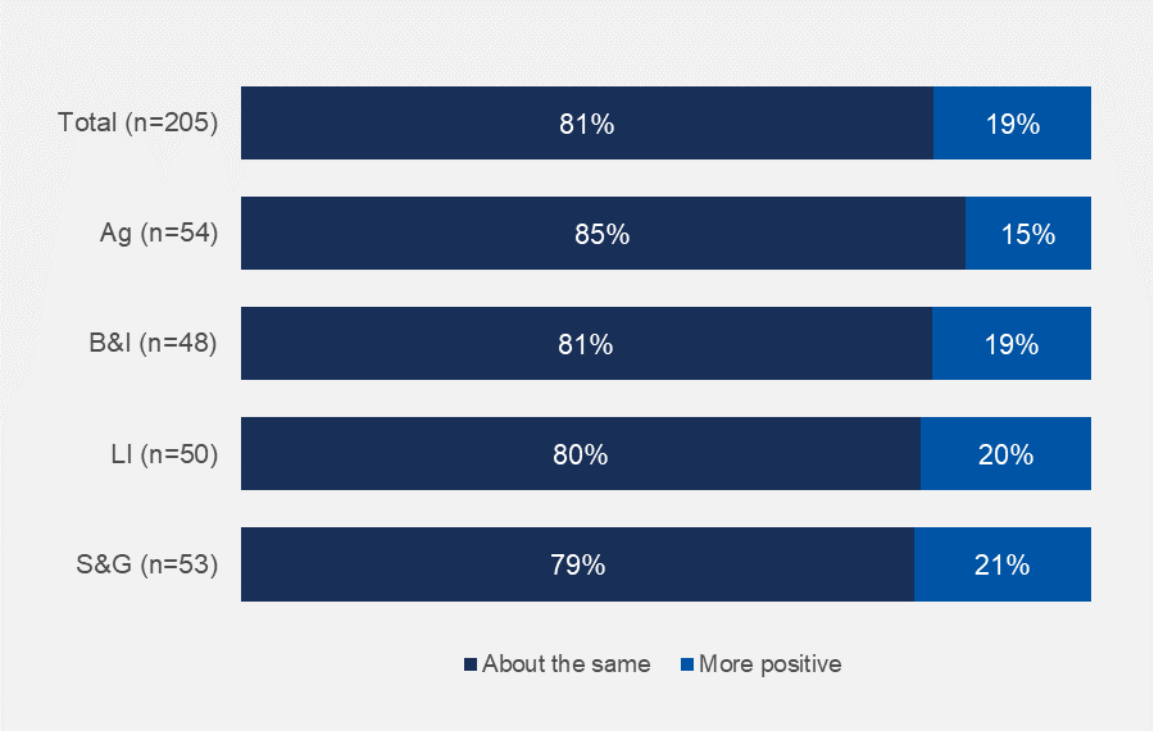
Figure J-17. Respondents that Worked with the Same Contractor in CY 2023 as in the Past



Source: Nonresidential Participant Survey Question. "You indicated that you worked with a contractor to complete your project. For this year's project, did you work with the same contractor you had worked with previously?"

When asked about how their current experience with Focus on Energy compared to past years, 81% of all respondents reported that their experience in CY 2023 was about the same, while 19% reported that it was more positive (Figure J-18). While Schools and Government respondents rated their current experience as more positive the most frequently (21%) and Agribusiness the least frequently (15%), differences in responses were not statistically significant across programs.

Figure J-18. Participant Experience with Focus on Energy Compared to Past Years

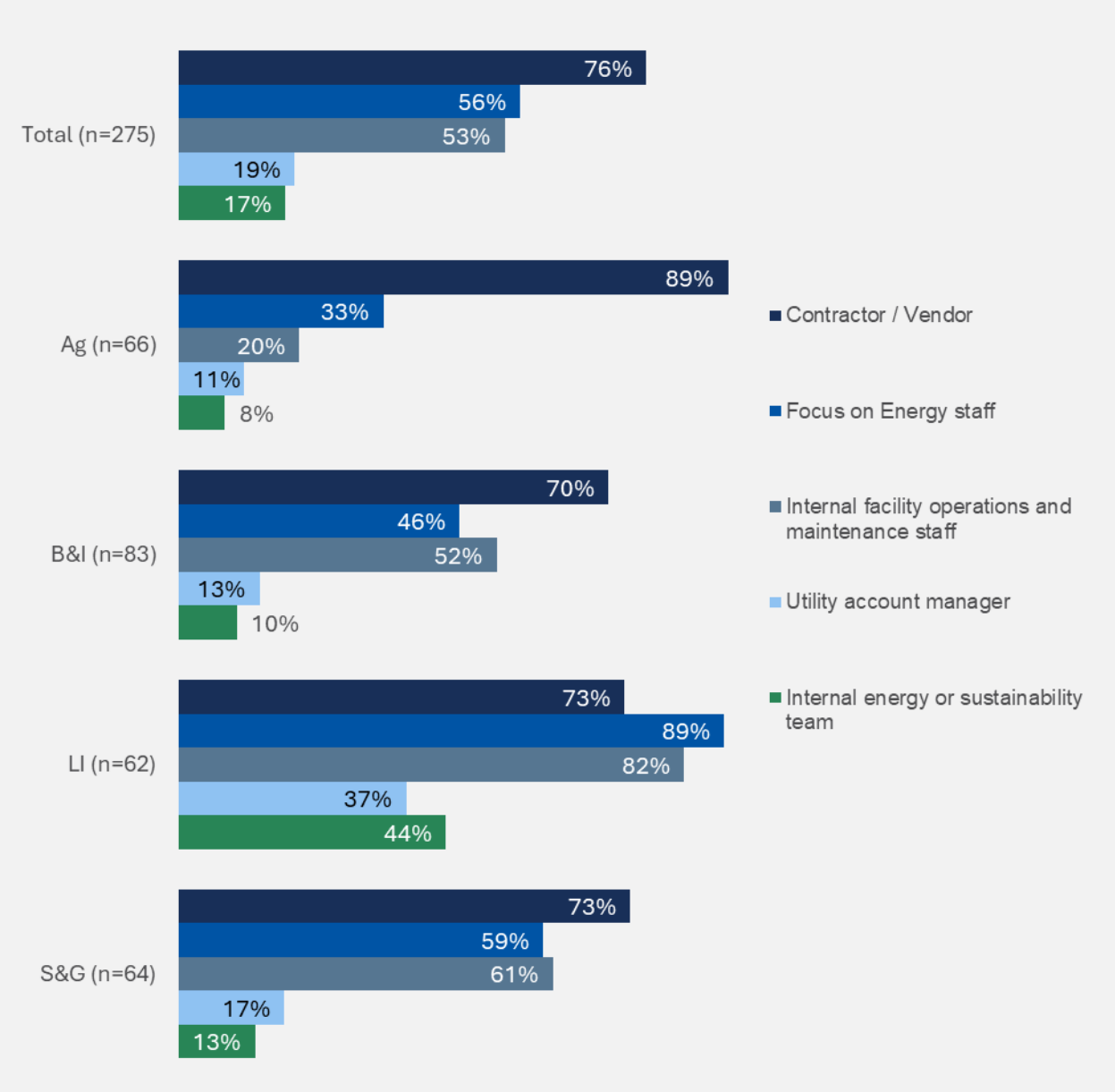


Source: Nonresidential Participant Survey Question. "Overall, how would you say your experience with Focus on Energy was this year compared to prior years?"

Key Actors in Initiating Projects

Across all surveys, most respondents (76%) reported that a contractor or vendor had helped them initiate their energy efficiency project; contractors were involved more often than any other party (statistically significant, Figure J-19). Respondents were nearly equally likely to have worked with facility operations staff (56%) or a Focus on Energy staff member (53%) to start their project. Agribusiness respondents reported that a contractor or vendor helped initiate their project more often than other groups (89%, differences are statistically significant), and reported working with Focus on Energy staff less frequently (not significant) than any other group. Large Industrial respondents reported having highly collaborative processes for initiating projects, as they were more likely than other groups to have worked with Focus on Energy staff (89%, difference is statistically significant), their internal facility operations and maintenance staff (82%), utility account managers (37%), and internal energy or sustainability teams (44%).

Figure J-19. Who Helped to Initiate Energy Efficiency Projects

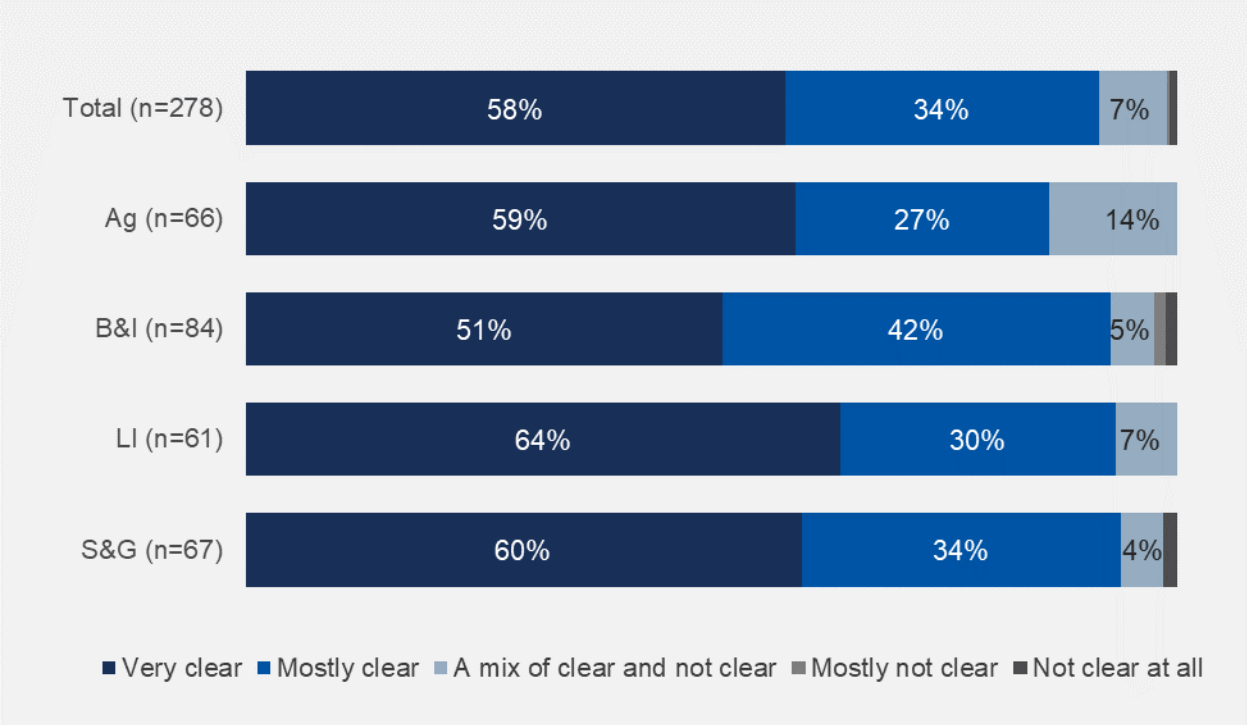


Source: Nonresidential Participant Survey Question. "Please tell me who, if anyone, was involved in helping you initiate your energy efficiency project?" (Multiple responses allowed)

Clarity and Sources of Program Information

Across all surveys, most respondents said that information regarding Focus on Energy incentives was either *mostly clear* (34%) or *very clear* (58%, Figure J-20). Large Industrial respondents were the most likely across all programs to report that incentive information was *very clear* (64%), while Agribusiness respondents were most likely to report that this information was *a mix of clear and not clear* (14%).

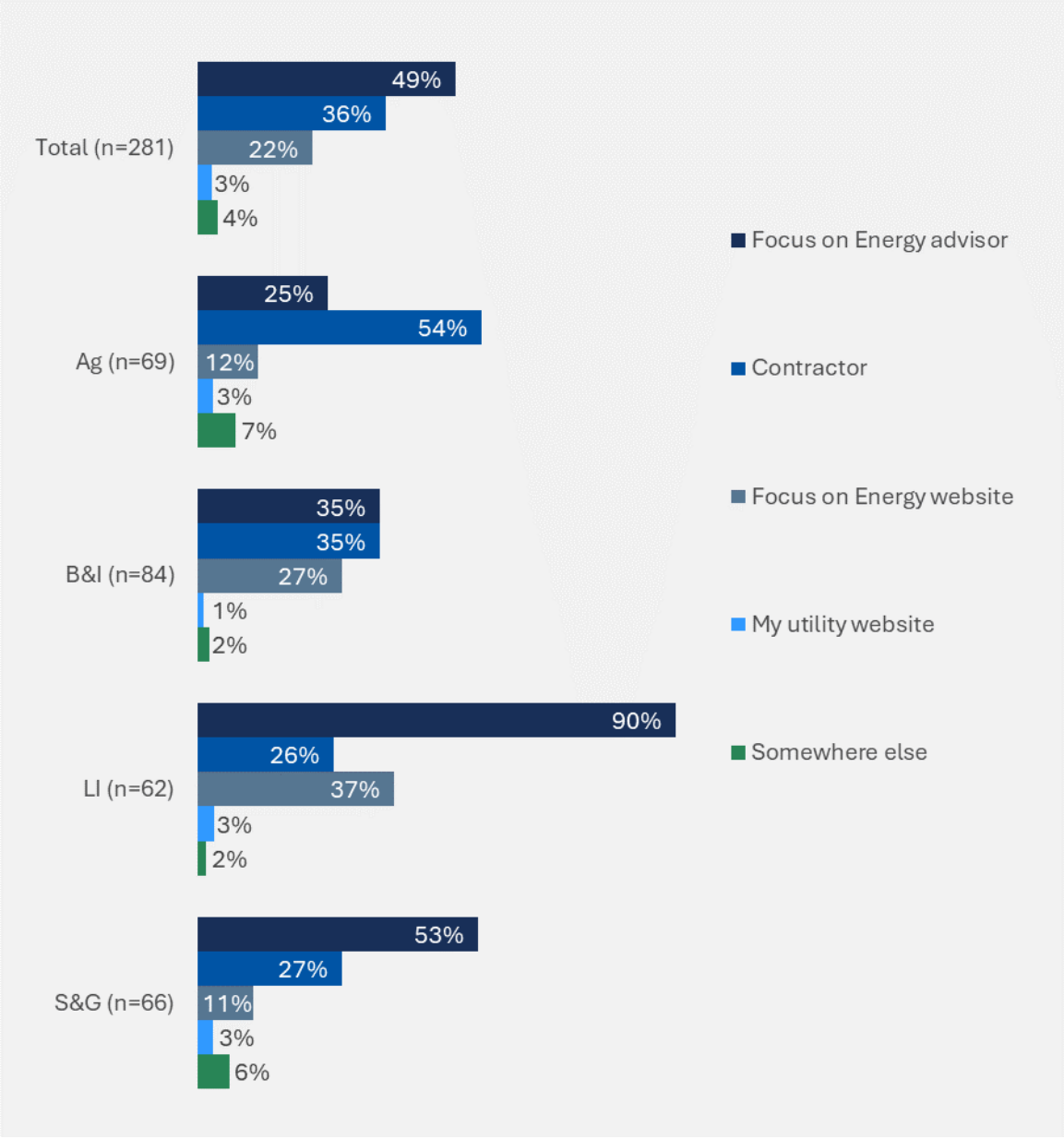
Figure J-20. Clarity of Eligibility Information



Source: Nonresidential Participant Survey Question. "How would you describe your experience in learning about whether your project or equipment qualified for a Focus on Energy incentive? Would you say that project eligibility information was…" (5-point scale from *very clear* to *not at all clear*)

When looking for information on the Focus on Energy programs, Focus on Energy advisors were the most common source of information for survey respondents across all programs (49%, Figure J-21), while very few respondents went to their utility websites for this information (3%). Large Industrial survey respondents were more likely than other groups to report going to their Focus on Energy advisor for information (90%, differences are statistically significant), while Agribusiness respondents were the least likely (25%). Conversely, Agribusiness respondents were more likely than other groups to look to a contractor for information (54%), while Large Industrial respondents were the least likely (26%, differences are statistically significant).

Figure J-21. Sources of Information on Focus on Energy Program

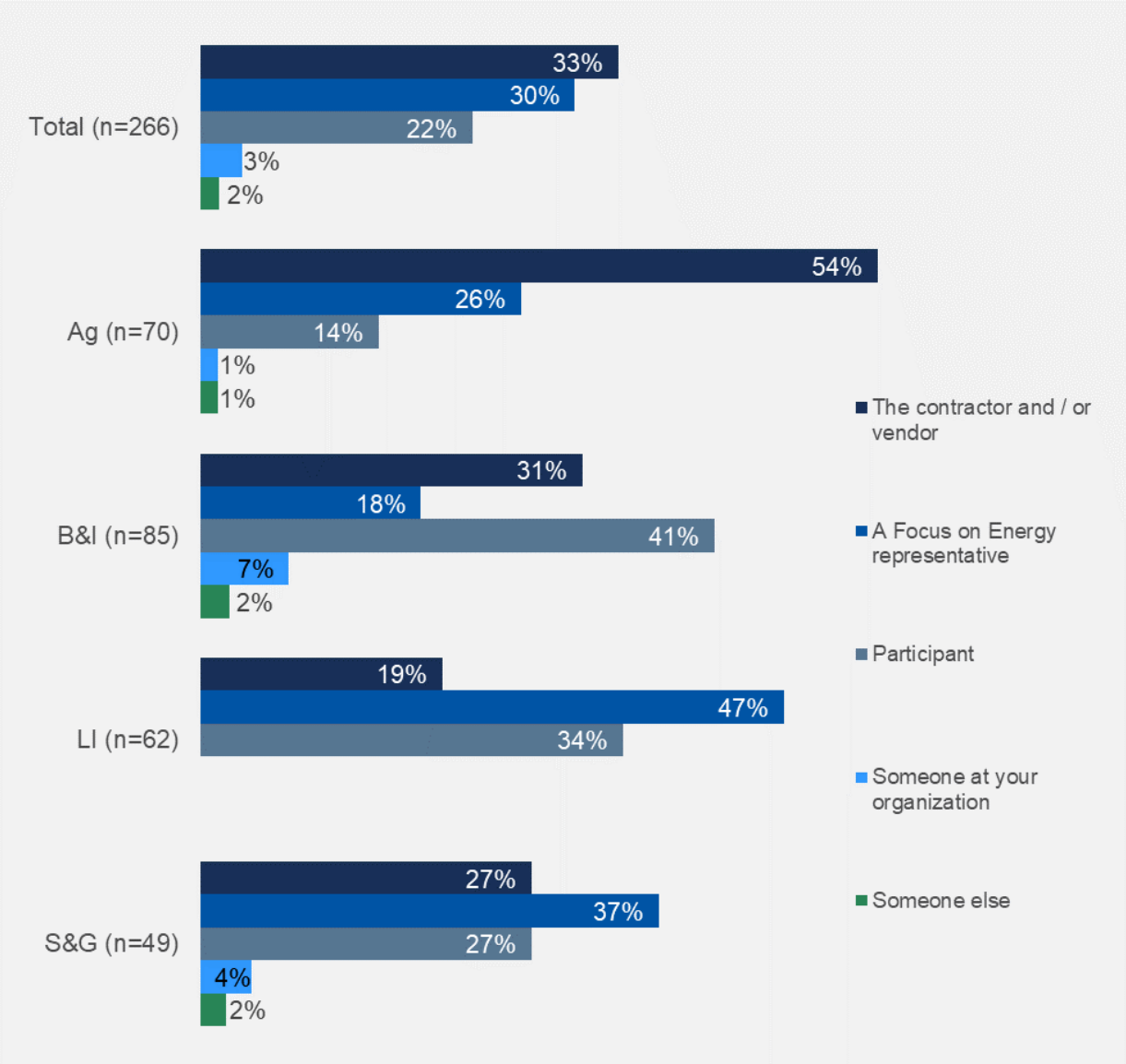


Source: Nonresidential Participant Survey Question. "When looking for information on the Focus on Energy program, where do you go to find that information?" (Multiple responses allowed)

Application Process

Across all programs, contractors or vendors commonly took the lead on completing the Focus on Energy incentive application (33%), but this varied substantially across programs (Figure J-22). Agribusiness respondents were more likely than other groups to report that their contractor or vendor took the lead on their application (54%, differences are statistically significant). Business and Industry respondents were the most likely to have completed the application themselves (41%, not statistically significant). Schools and Government respondents were the most likely to report that a Focus on Energy representative completed their application (37%, not statistically significant). Large Industrial respondents were more likely than other groups to report that a Focus on Energy advisor completed the application (47%, differences are statistically significant).

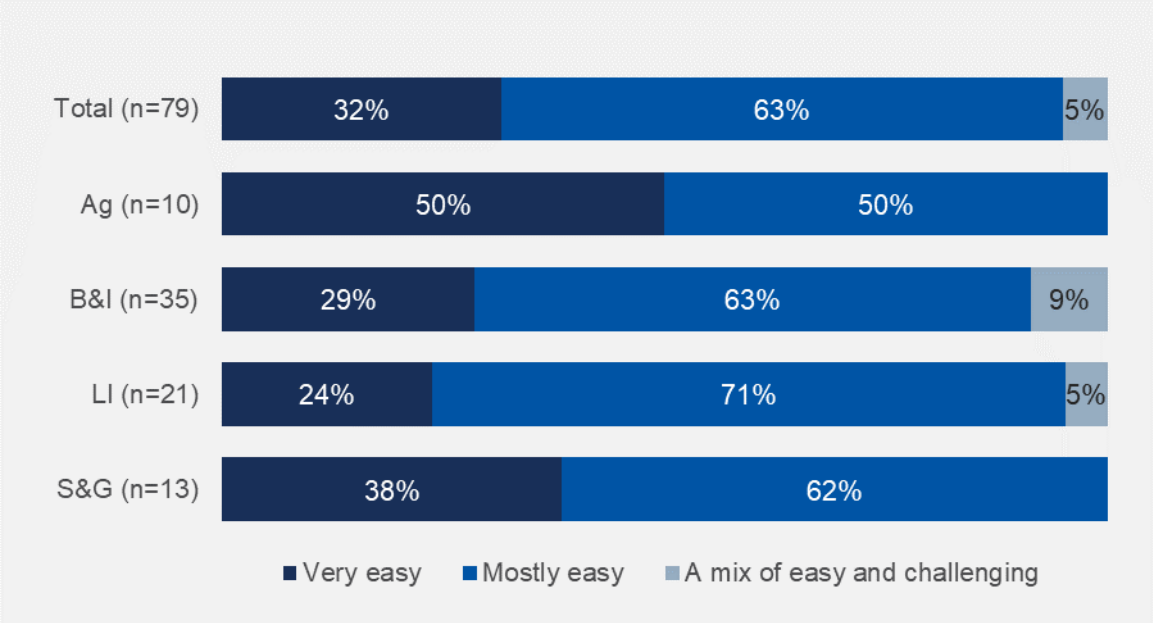
Figure J-22. Who Took the Lead to Complete the Application



Source: Nonresidential Participant Survey Question. "Who took the lead role in completing the application for the financial incentive?" (Multiple responses allowed)

Among survey respondents who stated they had completed the application paperwork themselves, very few reported any difficulty with the application (Figure J-23), with only 5% reporting that it was *a mix of easy and challenging*. Most respondents said the application was either *mostly easy* (63%) or *very easy* (32%). Business and Industry respondents were the most likely (not significant) to report that the application was *a mix of easy and challenging* (9%), Large Industrial respondents were the most likely (not significant) to report that it was *mostly easy* (71%), and Agribusiness respondents were the most likely (not significant) to report that the application was *very easy* (50%).

Figure J-23. Participant Experience Completing Application

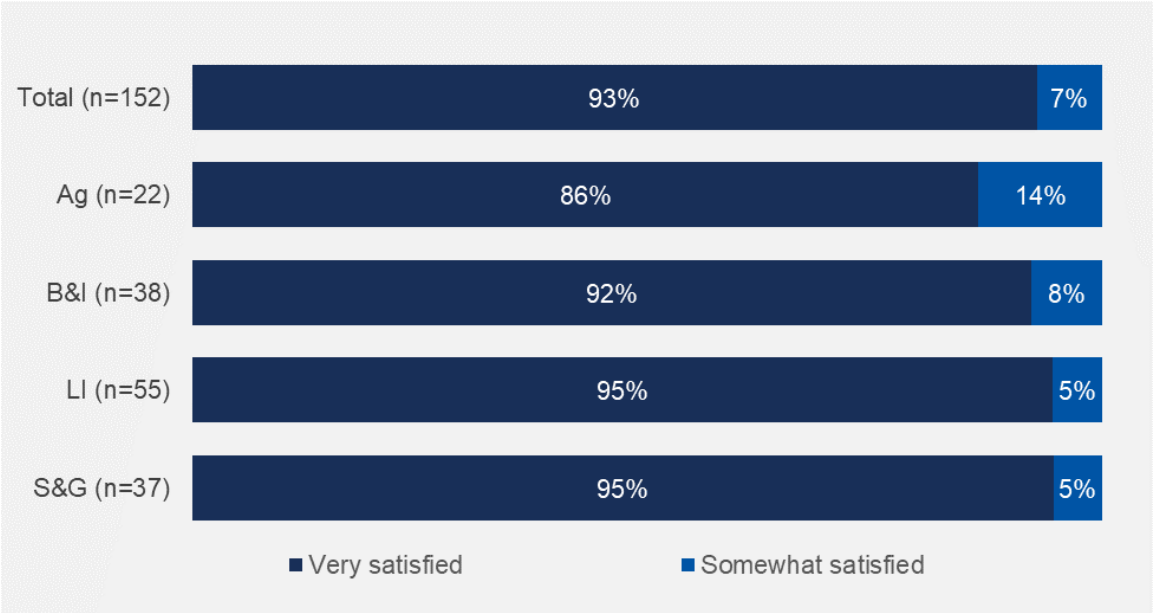


Source: Nonresidential Participant Survey Question. "How easy would you say this paperwork was to complete?" (5-point scale from *very easy* to *very challenging*)

Satisfaction with Energy Advisor Support

Respondents who were supported by an energy advisor with their project were overwhelmingly satisfied with the report they received, as 93% of respondents across all programs reported that they were *very satisfied* (Figure J-24); there were no significant differences in responses among the various groups.

Figure J-24. Participant Satisfaction with Energy Advisor Support



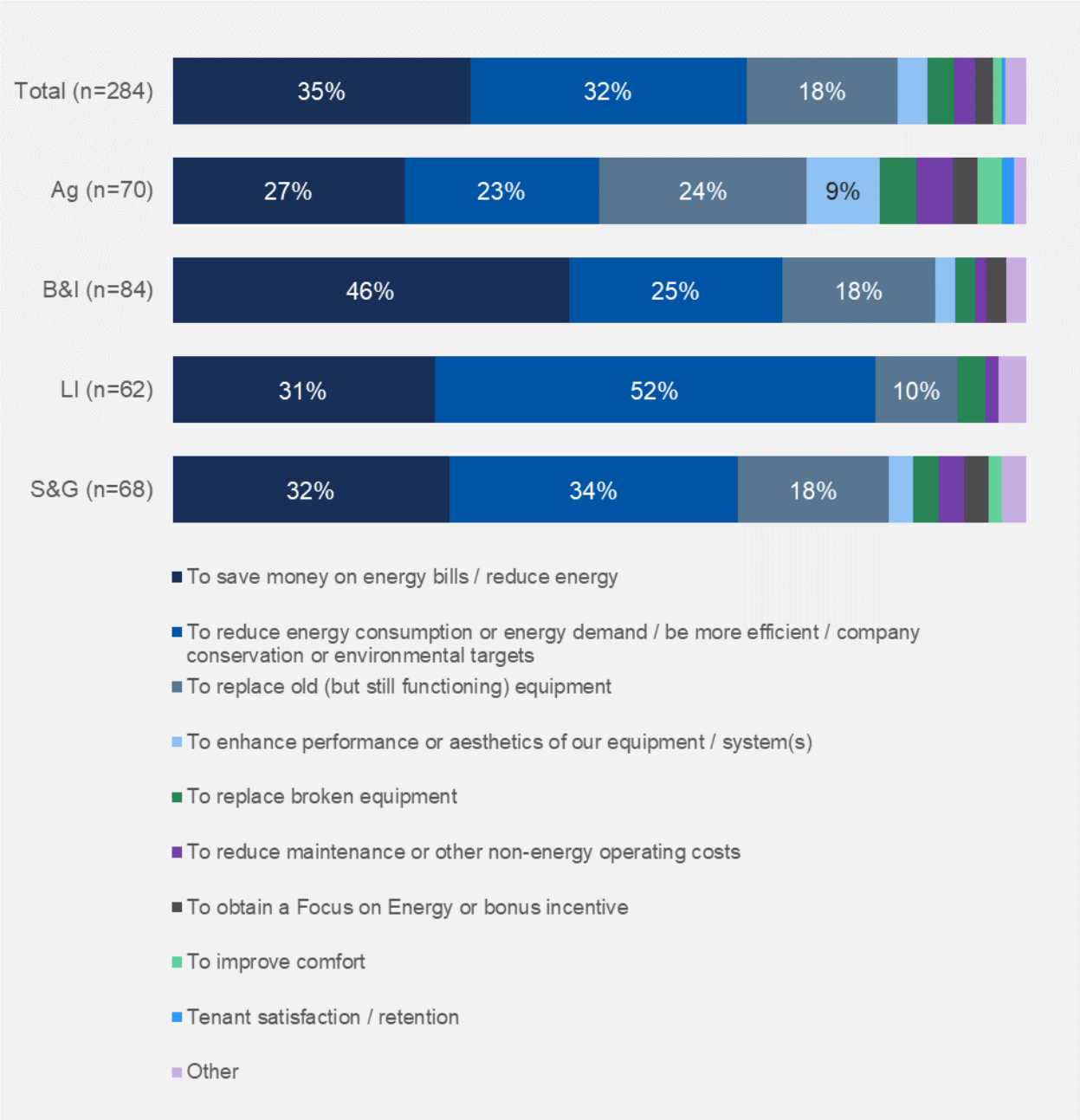
Source: Nonresidential Participant Survey Question. "Overall, how satisfied were you with the project support you received from your Focus on Energy advisor?" (5-point scale from *very satisfied* to *very dissatisfied*)

Customer Motivations and Challenges to Participation

Across all surveys, respondents identified saving money as the most important factor motivating their energy efficiency upgrades (35%), followed in importance by reducing energy consumption or demand (32%). Business and Industry respondents reported saving money as their primary motivation more than any other group (46%, differences are statistically significant). Large Industrial respondents were the most likely to report reducing energy as their primary motivation by a statistically significant margin (52%) and were the only group to rank reducing energy consumption as more important than saving money (differences are statistically significant).

Figure J-25 summarizes participant motivations across programs.

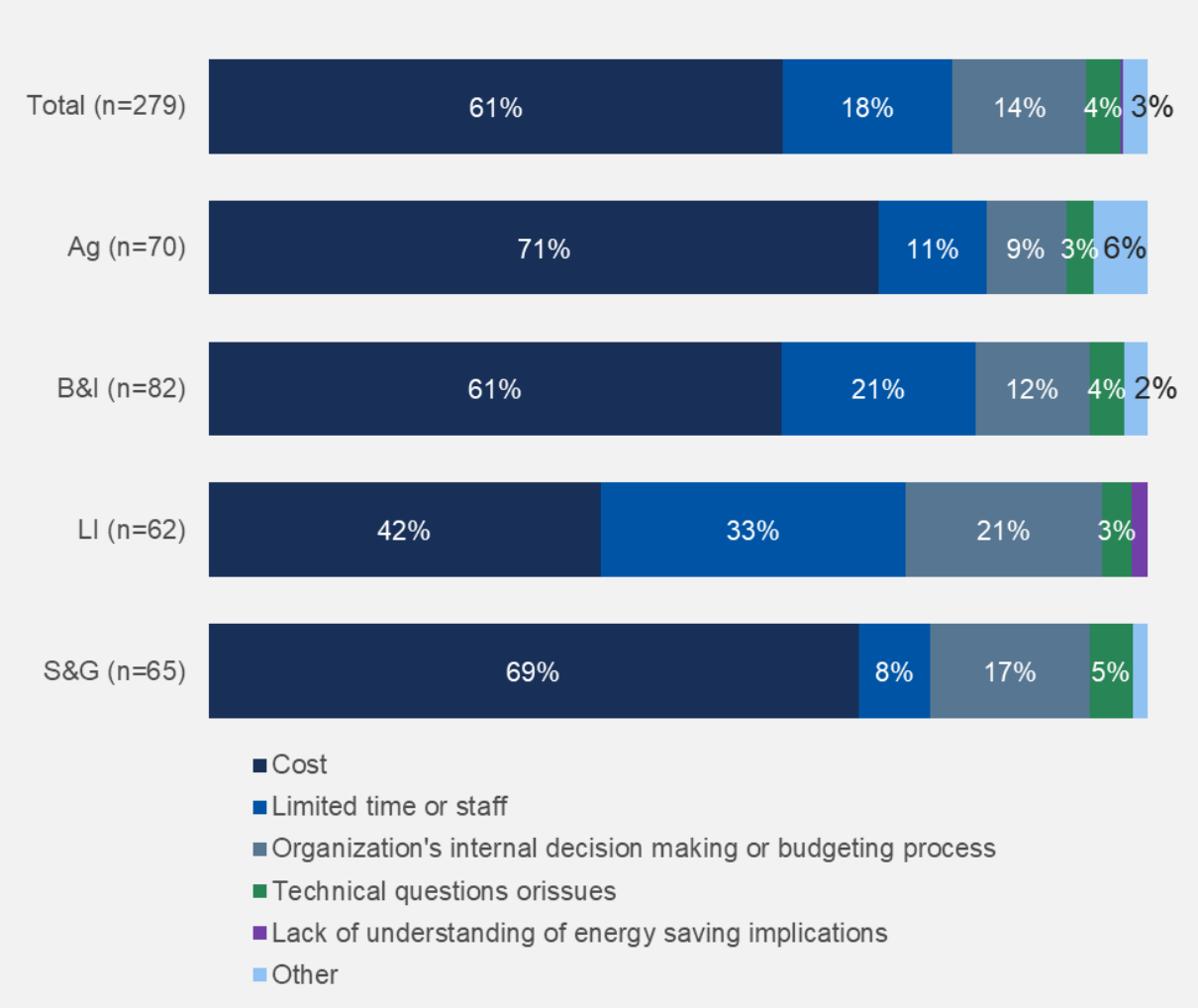
Figure J-25. Participant Motivations for Implementing Project



Source: Nonresidential Participant Survey Question. "What factor was most important to your company's decision to make the energy-efficient upgrades for which you received an incentive?"

More than half of all respondents (61%) reported that cost was their biggest challenge in implementing energy efficiency upgrades (Figure J-26), while limited staffing or time (18%) and internal decision-making and budgeting processes (14%) were reported less frequently (differences are statistically significant). Large Industrial respondents identified cost as a barrier less frequently than other customer types (statistically significant) and more frequently identified limited time or staff as a primary challenge (33%, not statistically significant).

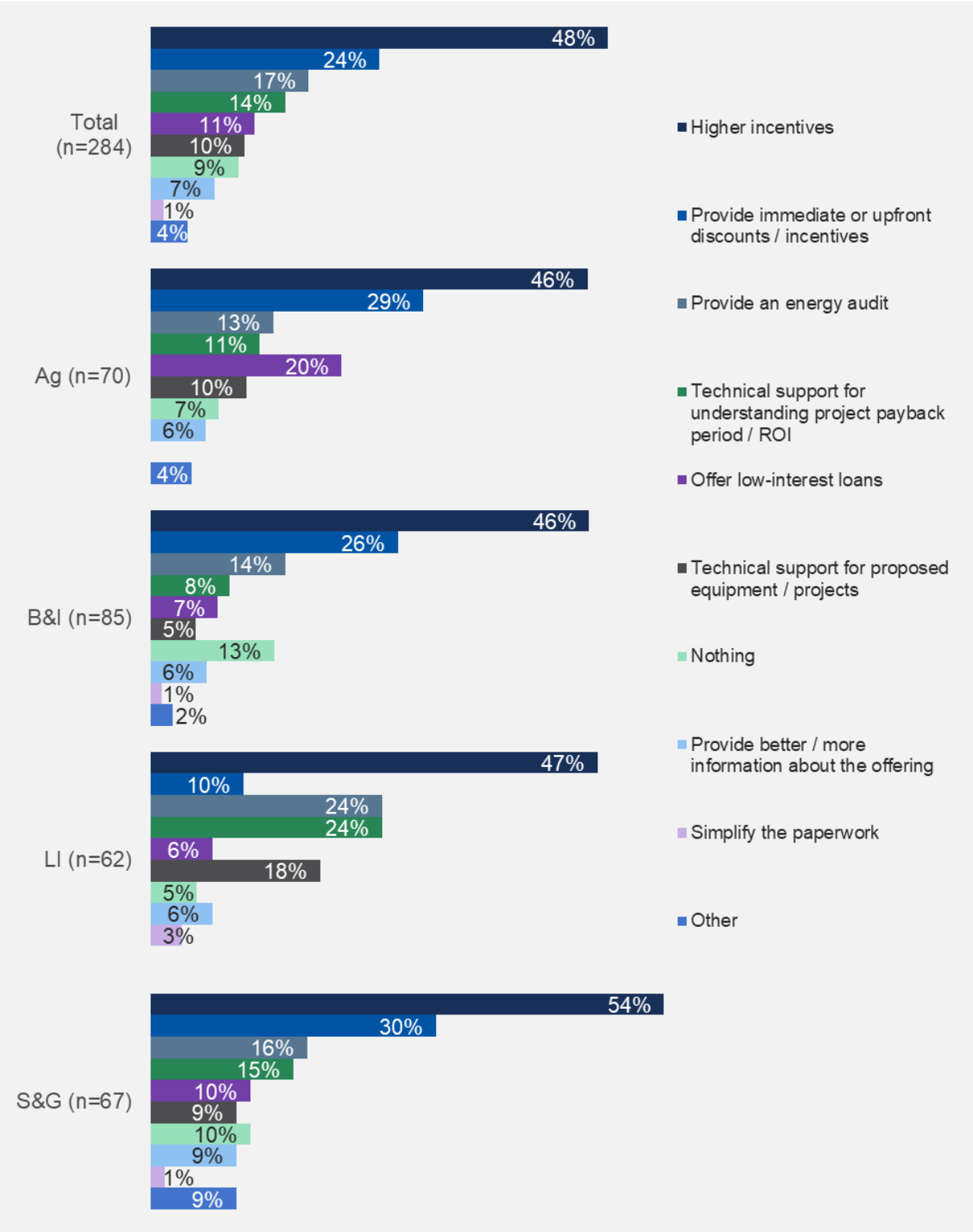
Figure J-26. Participants' Challenges in Implementing Energy Efficiency Projects



Source: Nonresidential Participant Survey Question. "If you had to choose just one, what would you say is the largest challenge in implementing energy efficiency projects and upgrades at your organization?"

Across all segments, respondents most frequently identified higher incentives as an opportunity to overcome customer barriers to implementing energy efficiency projects (48%) by a significant margin (Figure J-27). Large Industrial respondents reported less need for immediate or upfront discounts/incentives (10%, differences are statistically significant) and more of an interest in energy audits (24%), technical support for understanding both return on investment (24%), and proposed projects (18%), with all differences statistically significant. Agribusiness respondents expressed a greater desire for low-interest loans (20%) than other groups (differences are statistically significant).

Figure J-27. How Focus on Energy Can Help Participants Overcome Barriers to Making Energy Efficiency Improvements

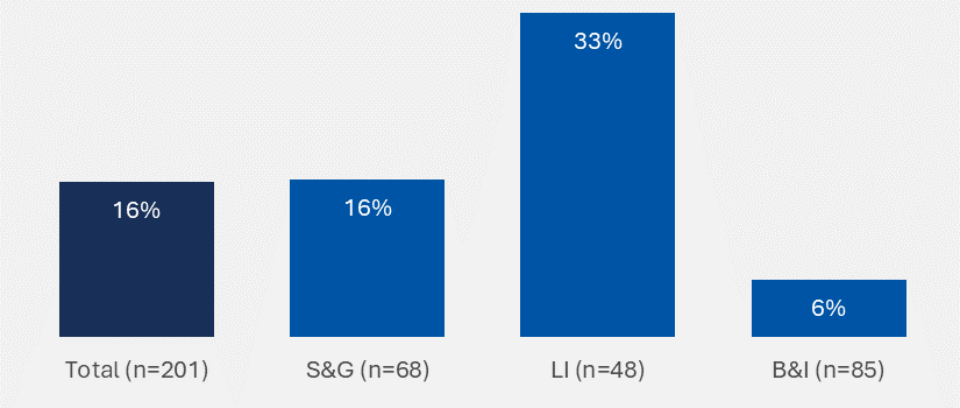


Source: Nonresidential Participant Survey Question. "What could be done to help your company overcome challenges with energy efficiency improvements?" (Multiple responses allowed)

Customer Engagement with Focus on Energy Trainings

As shown in Figure J-28, a minority of respondents (16%) said they had participated in Focus on Energy trainings within the past two years. Large Industrial respondents participated in a Focus on Energy training more often (33%) than any program group (differences are statistically significant), followed by Schools and Government (16%) and Business and Industry (6%). Agribusiness participants were not asked about their past participation in Focus on Energy trainings.

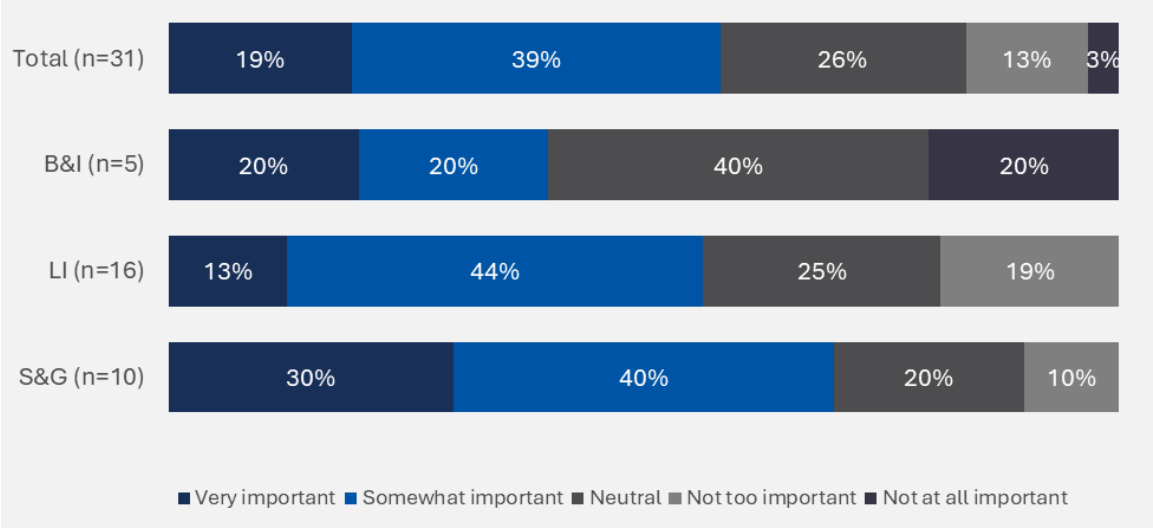
Figure J-28. Percentage of Engagement in Focus on Energy Trainings in the Past Two Years



Source: Nonresidential Participant Survey Question. "Have you or anyone else within your organization attended an in-person or web-based training delivered by Focus on Energy in the past two years?"

Of the 31 respondents who had previously participated in a Focus on Energy training, over half said that the training was either *somewhat* (39%) or *very important* (19%). Most Schools and Government respondents said the training was either s*omewhat* (40%) or *very important* (30%), while most Business and Industry respondents said they were *neutral* (40%) or thought it was *not too important* (20%).

Figure J-29. Importance of Focus on Energy Training



Source: Nonresidential Participant Survey Question. "How important was your business' participation in the training in your decision to move forward with the energy efficient upgrades for which you received an incentive" (n=32)

Cross-Cutting Nonresidential Trade Ally Interviews

This section describes results from the interviews with trade allies who participated in the offerings that provide custom and prescriptive rebates across the four nonresidential programs: Large Industrial, Schools and Government, Business and Industry, and Agribusiness. In total, the evaluation team interviewed 47 trade allies across these offerings; of these, 36 were registered Focus on Energy trade allies.[41] All interviewed trade allies had participated in Focus on Energy programs between two to 20 years, with the majority reporting more than 10 years of involvement (Table J-3). This section notes if trade ally comments that may have been influenced by program knowledge were made by registered or non-registered trade allies.

Table J-3. Trade Ally Tenure with Programs

Tenure	Large Industrial (n=12)	Schools and Government (n=15)	Business and Industry (n=10)	Agribusiness (n=10)	Total (n=47)
2-5 years	2	0	3	0	5
>5-10 years	5	8	5	8	26
>10 years	5	7	2	2	16

Trade Ally Motivations and Benefits

The evaluation team interviewed trade allies about their initial motivations for working with the Focus on Energy program and the benefits they have experienced from doing so. Of the 24 trade allies who responded to this question, 16 said that their primary motivation for program participation was simply the ability to offer incentives to their customers. Relatedly, trade allies often referenced how the program can be a tipping point that helps customers either move forward with projects or choose more efficient products, and that the incentives allow them to differentiate themselves from their competition and gain a competitive advantage.

While the ability to offer incentives was the primary motivation for most (14) trade allies to join the program, trade allies said that assistance from program energy advisors was the most important reason for their continued participation. Four trade allies said that one of the most important reasons for their continued participation in the programs is that the Focus on

> *"The Focus on Energy brand provides credibility. People recognize it, and it definitely provides them some reassurance if I can show them my name on the website."*
> - ***Business and Industry Trade Ally***

[41] The evaluation team identified registered trade allies by screening the company names of interviewed trade allies against trade allies listed on the Focus on Energy website: https://focusonenergy.com/trade-allies. Registered trade allies must submit a W-9 and agree to follow the Focus on Energy Trade Ally Code of Conduct. While nonregistered trade allies may submit applications for projects and offer incentives to their customers, they are not eligible to accept incentives on their customers' behalf or receive trade ally bonuses. Additionally, registered trade allies are provided with reimbursements on co-branded marketing materials, provided with training opportunities, receive dedicated support and technical assistance, and are listed on the Focus on Energy website.

Energy programs increases their credibility because the Focus on Energy brand is well known and respected.

Trade Ally Program Satisfaction

Overall, the trade allies expressed high satisfaction with each of the individual program offerings on a scale of 1 to 5, where 1 means *not at all satisfied* and 5 means *very satisfied,* providing an overall program satisfaction score of 4.3 (Table J-4). Overall trade ally satisfaction by program follows:

- Schools and Government trade allies reported the highest overall satisfaction of 4.5; however, satisfaction scores were statistically equivalent across all programs.
- Each of the four Large Industrial trade allies (two registered, two not registered) who reported a numeric satisfaction value with the program rated it a 4.
- All but one of the 15 Schools and Government trade allies (all registered) reported being either *satisfied* or *very satisfied* with the program overall.
- Seven of the Business and Industry trade allies (five registered, two not registered) were satisfied, with five being *very satisfied* (three registered, two not registered); the two who were only *somewhat satisfied* were both registered trade allies.
- Five Agribusiness trade allies rated their satisfaction as a 5 (three registered, two non-registered), one registered trade ally rated the program a 3, and one nonregistered trade ally rated the program a 2.

Table J-4. Overall Trade Ally Satisfaction

Rating	Agribusiness (n=7)	Business and Industry (n=9)	Large Industrial (n=4)	Schools and Government (n=15)	Total (n=35)
1 (Not at all satisfied)	0	0	0	0	0
2	1	1	0	0	2
3	1	1	0	1	3
4		2	4	5	11
5 (Very Satisfied)	5	5	0	9	19
Average	**4.3**	**4.2**	**4.0**	**4.5**	**4.3**

Across all programs, satisfied trade allies most commonly identified the support provided by energy advisors and the straightforward nature of the majority of incentive calculations as contributing to their high program satisfaction.

Large Industrial trade allies specifically noted high satisfaction with the program's marketing and information sharing, such as overall customer awareness and webinars (4 trade allies), and energy advisors and the support they provide throughout program processes (3 trade allies). Large Industry trade allies also valued the straightforward nature of most incentive calculations (2 trade allies), with one mentioning they like that Focus on Energy tracks the trade ally's total savings over time and one mentioning they have access to matching funding from the co-ops.

Schools and Government and Business and Industry trade allies specifically noted high satisfaction with the program's energy advisors and the support they provide throughout program processes. These trade allies also valued the year-over-year consistency of the program, the straightforward nature of the majority of the incentive calculations, the project support that is always available, and the sense that Focus on Energy is always looking for ways to improve the programs. Only one Schools and Government trade ally (registered) was *somewhat satisfied* with the program–this trade ally exclusively provides lighting measures and said their relative dissatisfaction was because there were fewer energy advisors available to provide support than there had been previously, making it difficult to get information when needed. The Business and Industry trade allies (both registered) who were only *somewhat satisfied* with the program exclusively provide lighting measures. The primary reason they provided lower satisfaction ratings was partly due to a perceived lack of proactive communication from Focus on Energy staff.

Agribusiness trade allies who were *very satisfied* said they appreciated the ease of participation (3 trade allies) and the responsiveness of the energy advisors who serve the program (2 trade allies). They also liked the trade ally bonus (2 trade allies), marketing material templates (1 trade ally), and the exterior lighting component (1 trade ally). Agribusiness trade allies that provided lower satisfaction scores reported less overall awareness of the intricacies of energy-saving measures specific to the agricultural sector. One trade ally (nonregistered) suggested that Focus on Energy and the energy advisors could be better informed about dairy refrigeration, which could help increase savings. Another trade ally said that the new construction and retrofit offerings are very complicated and should be streamlined.

Concerning general program improvements, trade allies across nonresidential programs provided the following suggestions:

- Increase communication and visibility with application tracking, such as a portal (9 trade allies)
- Incentivize trade allies/vendors to offset the costs of completing the paperwork (8 trade allies)
- Increase communication with energy advisors (5 trade allies)
- Reduce the amount of time to receive the incentive check (2 trade allies)
- Offer more in-person meetings for Q&A and program support (2 trade allies)
- Continue ensuring trade allies have program materials and training and that customers are aware of the program and incentives (2 trade allies)
- Reduce custom project application turnaround time, such as approving the incentive before the project starts (2 trade allies)
- Recommend trade allies to customers (1 trade ally)
- Stop incentivizing LEDs (1 trade ally)
- Make sure energy advisors respond in a timely manner (1 trade ally)
- Increase cooperative participation and involvement in the western part of the state (1 trade ally)
- Start incentivizing carbon-neutral energy savings dashboards (1 trade ally)
- Incentivize heat recovery in existing buildings as is done in new builds (1 trade ally)
- Vett prospective or current trade allies (1 trade ally)

- Assist with acquiring customer account numbers (1 trade ally)
- Restructure networked lighting control offerings (1 trade ally)
- Streamline the custom lighting workbook (1 trade ally)
- Provide more assistance with custom applications (1 trade ally)
- Make more custom measures available as prescriptive measures (1 trade ally)
- Improve the retro-commissioning process (1 trade ally)
- Offer combined heat and power incentives (1 trade ally)

Incentive Satisfaction

Though most trade allies said the ability to offer incentives was one of the main drivers of their initial involvement with the program, they had mixed feelings about the current value of the incentives and how often the incentives influence projects. Overall, three trade allies said the incentives *were very influential*, 16 trade allies said they were *somewhat influential*, five said they were *not very influential*, and two said it depends on the customer and project.[42] A breakdown of these results follows:

- Two Schools and Government trade allies said the incentives are *very influential*, six said they are *somewhat influential*, and four said incentives are *not very influential*.
- Five Large Industrial trade allies said the incentives are *somewhat influential* and two said it depends on the customer and project.
- Five Agribusiness trade allies said incentive levels are *somewhat influential* in increasing sales and services of energy-efficient products, one said they are *very influential*, and one said they are *not very influential*.

In general, trade allies thought having some incentive is better than none and it will at least open some doors. Five trade allies said incentives were less than they see in other states (3 Business and Industry, 2 Agribusiness), though one of these respondents reported that the Focus on Energy incentives seem to be better paced throughout the year and "don't run out" compared to other states with higher incentives. Another trade ally said the incentives were not enough to encourage small "main street businesses" to participate. Five trade allies (two Schools and Government, two Business and Industry, and one Agribusiness) said they "don't often bother" pursuing an incentive on small projects unless a customer explicitly asks them to because it is not worth their time to complete the application paperwork.

Trade Ally Engagement with Energy Advisors

Overall, trade allies reported high satisfaction with the program's energy advisors. Each trade ally who commented on their satisfaction with the energy advisors said they appreciated the energy advisors'

[42] Business and Industry trade allies were not asked to score the program in the same manner as the other trade allies.

availability to answer questions, assist with applications, review documents, provide additional expertise on incentives available, and generally do anything that trade allies need to help push projects forward.

Table J-5 shows the breakdown of where trade allies said they find information about the program when they have questions.

Table J-5. Trade Ally Sources of Program Information

Source	Large Industrial (n=4)	Schools and Government (n=9)	Business and Industry (n=10)	Agribusiness (n=7)	Total (n=30)
Engage directly with energy advisor	4	9	4	7	**24**
Focus on Energy website	1	2	1		**4**
Product Distributor		1			**1**
Web searches			3		**3**

These results are further detailed below:

- Four Large Industrial trade allies reported that they engage directly with an energy advisor (two registered, two not registered); one said that in addition to the energy advisor, they go to the website.
- Nine Schools and Government trade allies said they engage directly with an energy advisor. Only two trade allies reported additional approaches: the Focus on Energy website (2 trade allies) or asking their product distributor (1 trade ally).
- Four Business and Industry trade allies said they most commonly engage directly with an energy advisor about program or measure eligibility questions. Three trade allies said they predominantly find information through web searches, and one said the Focus on Energy website.
- Agribusiness trade allies unanimously responded that when they have a question about the program or about measure eligibility, the most common course of action is to engage directly with an energy advisor.

While trade allies in other nonresidential programs often mentioned that the energy advisors were a primary benefit of the program, none of the Large Industrial offering trade allies did so. This relatively lower satisfaction may be due to the specialized subject-matter expertise needed to advise customers in this sector, as two trade allies (both registered) said there was a lack of consistency and competency between the different advisors.

Application Process

The evaluation team asked trade allies for feedback about the application process. In general, trade allies were satisfied with the process, but some have come to rely heavily on assistance from energy advisors to either fully complete applications or provide specific pieces of information.

As shown in Table J-6, trade allies had mixed responses about who typically completes the application, but most reported that they complete applications.

Table J-6. Trade Ally Responses to Who Completes the Application

Application Approach	Large Industrial (n=7)	Schools and Government (n=11)	Business and Industry (n=8)	Agribusiness (n=9)	Total (n=35)
Customer does all/majority	2	1	1	1	**5**
Mix of customer and trade ally	3	4	1	1	**9**
Trade ally does all/majority	2	2	5	5	**14**
Energy Advisor completes		4	1	2	**7**

Five of the seven Large Industrial offering trade allies said they either heavily assisted the customer with the application or did the entire application themselves, whereas one said their customers did all the paperwork. One trade ally who works predominantly on lighting projects completes the application paperwork for their customers but is aware that many customers submit their own applications for lighting projects. Of the five trade allies who said they completed the applications, four said it was *easy*, and one said that it was *average*. Two of the trade allies who responded that the application process was *easy* were referring to custom projects and said that prescriptive projects are slightly more challenging than in other utility programs.

Eleven Schools and Government trade allies provided feedback on the application process. Of these, seven were satisfied with the application process and three said the process seems "middle of the road." Only one trade ally reported that the application process was difficult. This trade ally (registered) exclusively provides lighting measures and said that without help from the program representative to fill out applications, they would not participate in the program at all. Four of the interviewed Schools and Government trade allies said they typically send all of their application paperwork to their energy advisor to complete because the custom applications can be difficult (3 trade allies) or simply because the energy advisors are better at identifying measures that qualify for incentives (1 trade ally).

Of the eight Business and Industry trade allies who volunteered information about the ease of the application during the interview, five were satisfied with the application process and three expressed concerns. Of the three who expressed concern, two said they would prefer to submit applications through a portal rather than by email,[43] one had a concern about the timing and said it took much longer than four to six weeks to receive payment, and one had a concern about the level of detail required and having to look at several links in order to complete the application (lighting rebates).

Nine Agribusiness trade allies shared information about the ease of the application process. Seven found it easy, one found it difficult, and one reported a mix of both easy and difficult.

[43] Registered trade allies who complete project applications on behalf of their customers have access to a trade ally portal that allows them to track and monitor submitted projects, but currently does not provide the option of completing and submitting the applications themselves.

Respondents across all programs reported the following difficulties with the application process:

- Low transparency with submitted applications/a desire for an online portal (9 trade allies; 3 registered, 6 not registered)
- Difficulty finding the exact DLC product that qualifies for lighting measures (2 trade allies)
- Custom lighting incentive calculation is too difficult/complex (1 trade ally)
- Getting customers tax ID numbers can be burdensome (1 trade ally)

EDA/EDR Participant Surveys

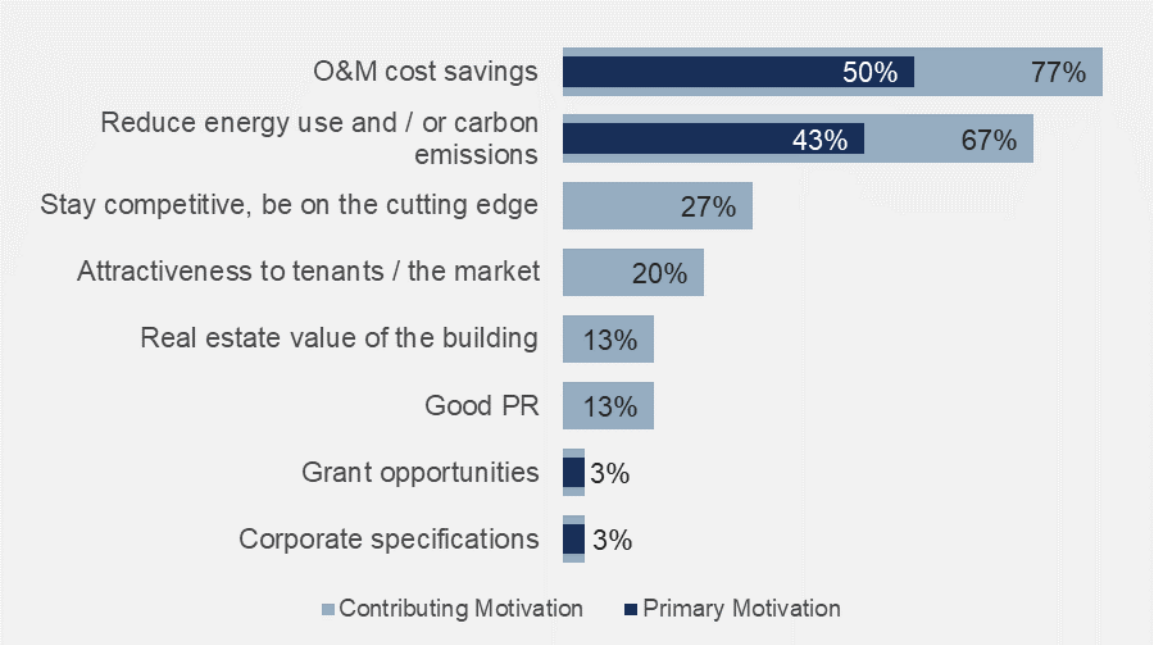
The evaluation team surveyed CY 2023 participants in the EDA/EDR offerings using phone and online surveys.[44] The following section describes the survey results. Of the 30 EDA/EDR participants who completed the survey, 13 participated in the Schools and Government Program, 10 in the Business and Industry Program, seven in the Multifamily Program, and none in the Large Industrial Program.

Customer Drivers for Participation

To understand customer motivations for participating in the EDA/EDR offering, the survey asked participants about influences on their decisions to incorporate energy-efficient design specifications and features. The survey asked both about the *main reasons* and the *primary reason* respondents included aspects of energy efficient design. Overall, respondents were highly motivated by saving money and reducing energy consumption; the most common consideration in integrating energy efficiency was O&M cost savings (77%), followed by a reduction in energy use and/or carbon emissions (67%, Figure J-30). These factors were also the most singularly influential drivers of energy efficient design (50% and 43%, respectively). Comparatively fewer respondents identified motivations other than cost/energy savings; 27% of respondents reported a desire to stay competitive/be on the cutting edge, and 20% said improving their attractiveness to tenants and/or the market in general. However, no survey respondents identified either of those factors as the single most important driver of energy efficient design.

[44] The evaluation team sampled participants from the most recently available tracking data, which included projects that were approved for payment between January and November 2023.

Figure J-30. Participant Motivations to Participate in EDA/EDR Offerings



Source: EDA/EDR Participant Survey Question: "Referring to the project at [SITE ADDRESS], what were your main reasons for including energy efficient design specs and features?" (n=30, multiple responses allowed) and EDA/EDR Participant Survey Question: "Among those, what would you say was your primary reason for including energy efficient design specs and features?" (n=30, single response)

The EDA/EDR participant survey asked if participant organizations had made an ongoing commitment to build to more aggressive energy goals, such as carbon neutral or zero net energy buildings. Of all survey respondents, 43% (n=30) indicated that their organization has made such commitments, reporting:

- Plans to add on-site generation or renewables (4 respondents)
- Actively researching options/performing studies (2 respondents)
- Attaining building certification (1 respondent)
- Building to net-zero standards (1 respondent)

Five respondents said their organization has general energy consumption reduction goals, while one respondent said their organization has a specific strategic plan to meet energy goals. The survey asked those participants with an ongoing commitment to building more aggressive energy goals (n=11) what Focus on Energy could do to help them achieve their organization's goals. Ten respondents said proactive communication of program offerings and available incentives, while one said to offer solar grants.

> *"If Focus on Energy could proactively reach out to us regarding incentives and programs, we would consider implementing more energy efficient systems and materials. I'm sure we miss many opportunities and many times we miss out simply because of timing."*
> ***—EDA/EDR Survey Respondent***

Customer Engagement with Focus on Energy Trainings

In CY 2023, Focus on Energy provided customers with web-based training to help them identify and implement energy efficiency projects. Of the 30 EDA/EDR respondents, seven reported that someone at

their organization had previously attended a training. Among those who had attended a training, four said it was *very important* in their decisions to move forward with their energy-efficient design options, while three said it was *somewhat important*.

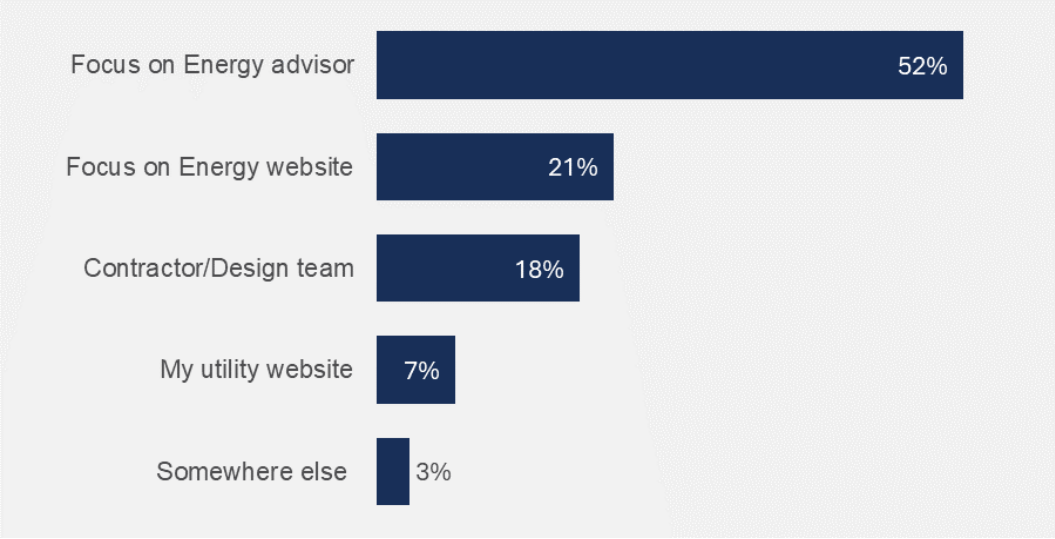
Customer Familiarity with New Construction Design Offerings

The survey asked participants if they had previously participated in the EDA/EDR offering. Nearly half of the respondents (44%) had previously participated in the offering, while 56% had not. Among the EDA/EDR participants who had previously participated in the offering (n=12), two respondents said they had participated in the offering once before, six respondents had previously participated twice, and one had participated 12 times.

Most repeat participants said that their experience with the EDA/EDR offering was about the same as their previous projects (9 respondents), while two respondents said their experience was more positive, and one said their experience was less positive (due to not having yet received the incentive check). The two respondents who said their experience improved each reported that the process was more organized, in-depth, and helpful. Four of the repeat participants said that they had worked with the same design contractor or architect that they had previously worked with: one of these respondents said their experience was less positive than previously, while the other three said it was about the same. Looking forward, 48% of respondents (n=27) said that they have either considered or are actively pursuing Focus on Energy incentives for energy efficient design for other buildings, while 44% stated that they are not, and 7% were unsure.

When asked where they look for information when they have questions about Focus on Energy offerings, over half of the survey respondents reported that they ask a Focus on Energy advisor (Figure J-31), with comparatively fewer respondents using the Focus on Energy website (21%), their design team (18%), or their utility's website (7%).

Figure J-31. Where EDA/EDR Participants Go for Information About Focus on Energy

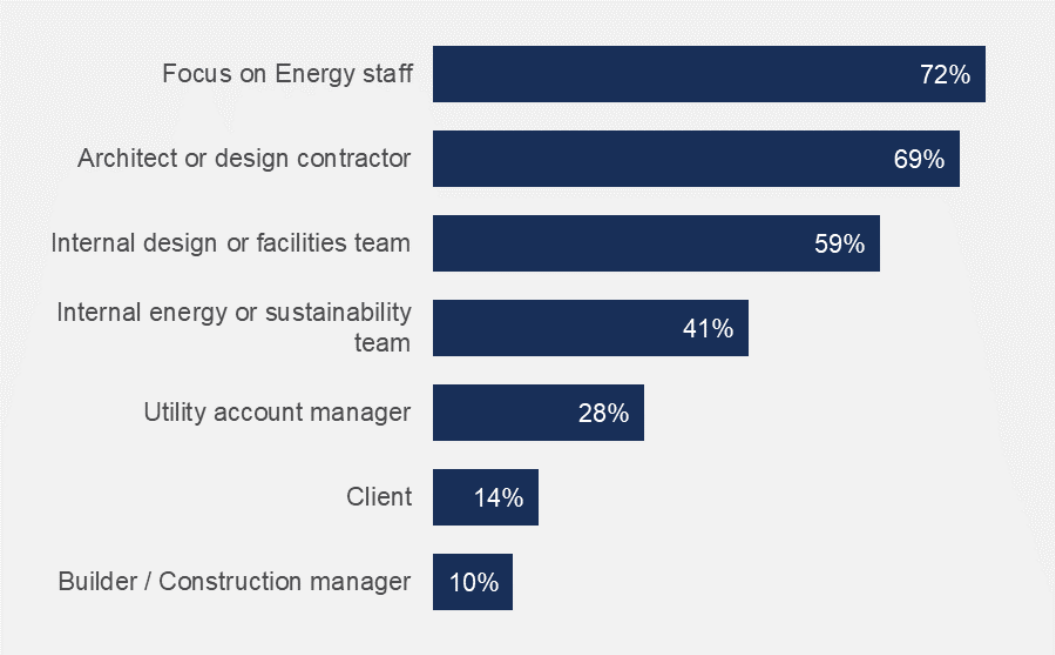


Source: EDA/EDR Participant Survey Question. "When looking for information on the Focus on Energy offering, where do you go to find that information?" (n=30)

Key Actors in Initiating Projects

The survey asked EDA/EDR participants who were involved in prompting them to pursue the projected incentivized by Focus on Energy. As shown in Figure J-32, most respondents said that external parties, including Focus on Energy staff (72%) and architects or design contractors (69%) helped initiate projects. A majority of respondents also said that internal actors were involved, including internal design and/or facilities teams (59%) and internal energy/sustainability teams (41%).

Figure J-32. Who Helped Initiate EDA/EDR Energy Efficiency Projects

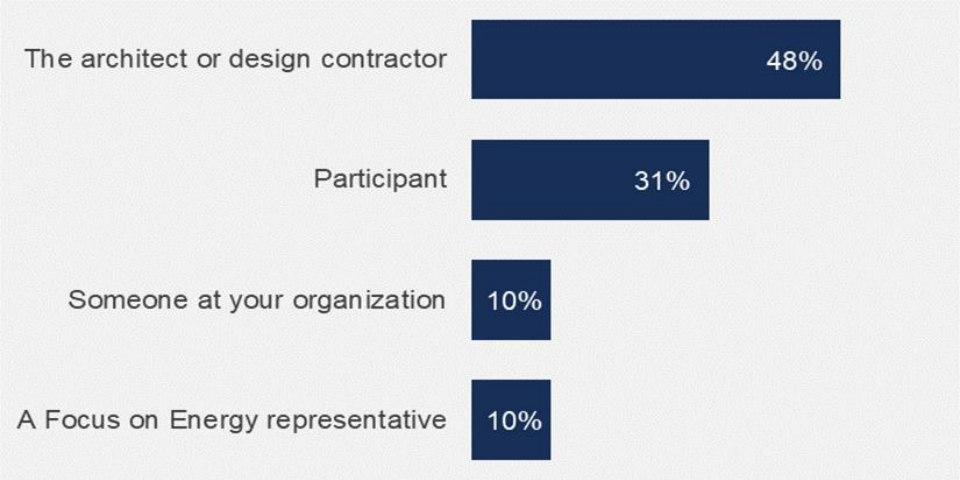


Source: EDA/EDR Participant Survey Question. "Please indicate who, if anyone, was involved in prompting you to pursue the Focus on Energy offering and incentives?" (n=29, multiple responses allowed)

Application Process

The evaluation team asked both EDA/EDR participants for feedback about the application process. Survey responses varied in response to the question about the person who took the lead on completing the Focus on Energy (Figure J-33); 48% of respondents said the architect or design contractor took the lead role, while 31% said they completed the application themselves. Respondents who completed the application paperwork themselves (9 respondents) expressed varying levels of difficulty with the process, as three respondents said it was *very easy*, three said it was *mostly easy*, two said it was *a mix of easy and challenging*, and one said it was *mostly challenging*. Two respondents who expressed difficulty stated that it was either confusing (1 respondent) or simply time-consuming (1 respondent).

Figure J-33. Who Completed the Application

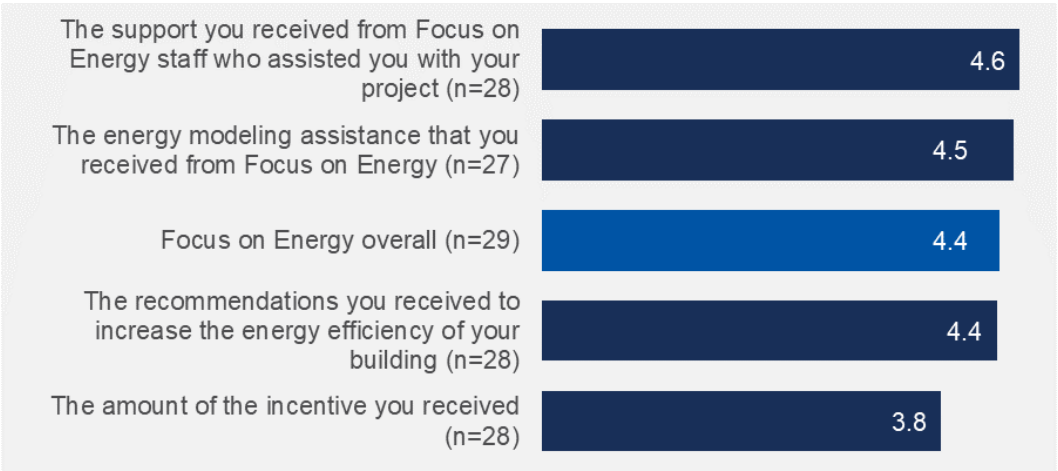


Source: EDA/EDR Participant Survey Question. "Who took the lead role in completing the application for the financial incentive? Was it…" (n=29)

Customer Satisfaction with the EDA/EDR Offering

The survey asked participants to rate their satisfaction with various components of the EDA/EDR offering using a 5-point scale, where 1 means *not at all satisfied* and 5 means *very satisfied* (Figure J-34). Respondents were highly satisfied with the overall support (4.6) and the energy modeling assistance (4.5) provided by Focus on Energy staff, as well as with the recommendations provided (4.4) and Focus on Energy overall (4.4). Respondents were comparatively less satisfied with their incentive amount (3.8).

Figure J-34. Participant Satisfaction with Components of the EDA/EDR Offerings

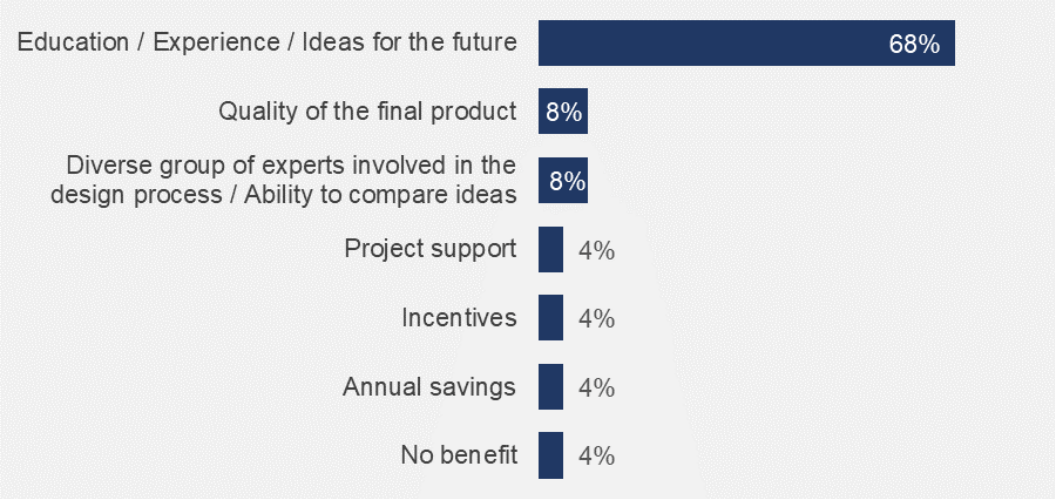


Source: EDA/EDR Participant Survey Question. "On a scale from 1 to 5, where 1=not at all satisfied and 5=very satisfied, how satisfied are you with…"

The survey also asked participants about the largest benefit aside from the incentive that they received from participating in the Focus on Energy offering (Figure J-35). Most survey respondents said that the education/experience/ideas for the future that they received (68%) was the largest benefit, and only a

few respondents said it was the quality of the final product (8%), reemphasized the incentives (4%), or annual energy/financial savings (4%).

Figure J-35. Largest Benefit of EDA/EDR Participation



Source: EDA/EDR Participant Survey Question. "What was the largest benefit you received from working with Focus on Energy, aside from than the incentive?" (n=25)

Two respondents reported having negative experiences with the EDA/EDR offering and provided low scores (1 or 2) for each satisfaction metric. One of these respondents was dissatisfied because they had built a multimillion-dollar building but received an incentive that covered less than 0.5% of the cost for all their work, and the other respondent paid more to use an architect than the incentive they received in return from Focus on Energy.

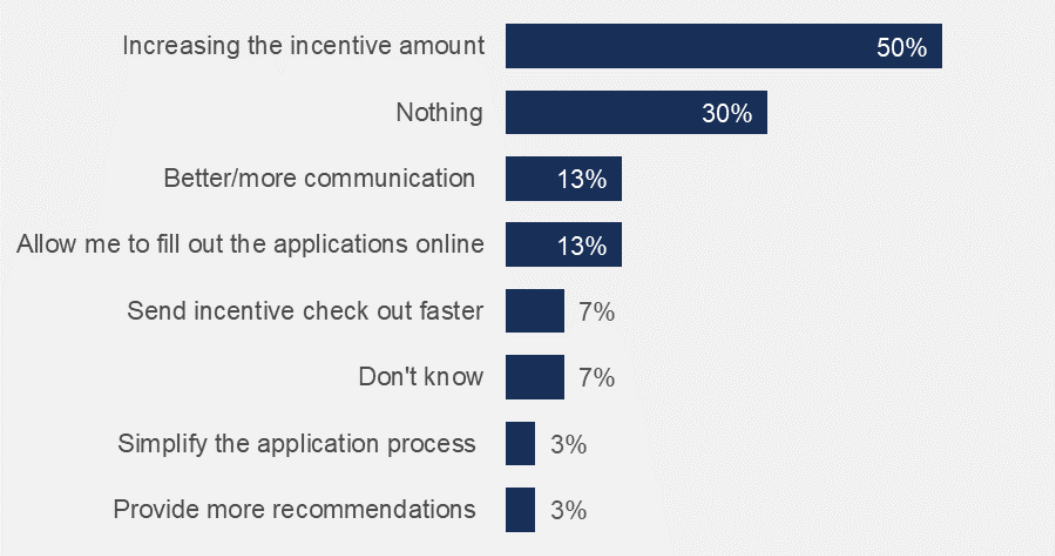
Survey respondents who provided satisfaction scores lower than four for a given program component provided the following reasons for their relative dissatisfaction:

- Incentive amount (9 respondents):
  - "Cost-implementing measures greatly increased the incentive involved."
  - "Fiscally the impact is not a lot, but it is still a big deal and we have never done this before. The incentive is nice to get us off the ground. I have reservations giving a rating not even a year into use of the new building's high-efficiency equipment."
  - "Geothermal and solar are expensive so a larger rebate would make it more attractive to add to facilities."
  - "To be worth the hassle, the project has to be big enough to justify the time."
  - "It would always be nice to have a larger incentive. The HVAC system we will be installing is about $1.2M; the incentive proposed was $7,000. Would be great to have a more proportional incentive."
  - "Relative to the overall cost of our building, the incentive really is incidental at best. It's nice to have but didn't impact our bottom line much."
  - "We aren't sure yet what the incentive will be."

  - "We had to pay more for the architect to do the paperwork than we got from Focus on Energy."
- Recommendations from Focus on Energy (4 respondents):
  - "Mainly our recommendations came from their contractor."
  - "Our architect and most of our building committee knew all of this already."
  - "We would have preferred more direct conversation about recommendations and how they benefit our district including payback, longevity, and required maintenance."
- Support received from Focus on Energy staff (2 respondents):
  - "One of the people involved was not professional."
- Energy modeling assistance (2 respondents):
  - "Wasn't overly accurate, too many variables."
- Focus on Energy overall (2 respondents):
  - "I felt we would get a lot more financial help for our project which is a public library. I wanted it to be a shining example of energy efficiency but couldn't make the investment due to lack of funding."

When asked for suggestions concerning what Focus on Energy can do to improve participants' overall experience, respondents most frequently said increasing the incentive amount (50%, Figure J-36). Respondents also cited better/more communication (13%) or requests to fill out the applications online (13%).

Figure J-36. Opportunities to Improve Program Experience



Source: EDA/EDR Participant Survey Question. "What could Focus on Energy have done to improve your overall experience, if anything?" (n=30)

Customer Awareness of IRA Incentives

The majority of EDA/EDR survey respondents (63%) said they were aware that the federal government increased tax incentives for organizations incorporating significant energy efficiency improvements in 2023 (n=30). Among those respondents who said they were aware (n=19), eight said that it made them look for more savings opportunities, three said that it accelerated their projects, and one said it increased the energy efficiency measures incorporated into other projects. The remaining seven were unsure of the impact.

EDA/EDR Trade Ally Experience

The evaluation team administered phone-based interviews to trade allies who were active in the EDA/EDR offerings between January and November in CY 2023. The following sections describe the findings from these trade ally interviews. In this case, trade allies are design or architectural and engineering companies. All the interviewed trade allies (n=5) who participated in the EDA/EDR offerings have been involved with Focus on Energy for an extended period of time (one reported 15 years or more of engagement, and four indicated it had been "quite a while" or a "long time"). All five reported working on the EDA channel, whereas only one reported having experience with the EDR offering for one project. Overall, over 91% of all EDA/EDR projects in CY 2023 were EDA rather than EDR. Relating to EDR, one trade ally said they "try to expend energy on the front-end where it is more impactful." Another trade ally with experience in EDR said it is project-dependent and they preferentially participate in EDA if the customer is a good fit. Four out of the five trade ally firms conduct work outside of Wisconsin.

Motivations and Benefits for Trade Allies

The evaluation team asked EDA/EDR trade allies about their initial motivations for working with the Focus on Energy program and the benefits they experienced from doing so. Two of the five trade allies said the primary reason that they participate is to help convince owners to make higher-efficiency choices. When asked how influential the offerings and incentives were in increasing their business, one trade ally reported that the offerings were *very influential*, three said they were *somewhat influential*, and one said they were *not at all influential* in increasing sales and services; that trade ally went on to say that although the incentives were not influential, the offerings do help with client confidence and trust. Three trade allies, however, specifically mentioned that the cost-payback analysis and information provided by the offerings are highly influential to customer decision-making.

> *"There's this outside entity […] that says hey peek at these alternative mechanical or lighting or control systems, and then let's help you understand what that looks like financially."*
> – ***EDA/EDR Trade Ally***

Two trade allies reported that the program's primary benefit is providing the ability to offer new and different measures for consideration. All five trade allies said that payback is always the primary decision-making factor for customers. Two trade allies reported that a payback of 10 years or less is convincing, and two reported that a five-year payback is a "no brainer" for their customers.

Trade allies reported that the types of projects influenced by the EDA/EDR offerings vary based on the projects' needs. These trade allies had experience with customers who incorporated high-efficiency HVAC systems (4 trade allies), lighting or controls (2 trade allies), building envelopes (2 trade allies), renewables (1 trade ally), and water holding tanks/loop systems (1 trade ally). Two trade allies said they first ask potential customers if they are interested in energy efficiency, and if they are not interested, they do not bring up the EDA/EDR offering. One of these trade allies said that 25% of their projects are EDA participants. One trade ally encouraged all their clients to participate.

Trade Ally Satisfaction

> *"I'm motivated to be involved because I know I'm going to grow from it, and there are no losers in the process."*
> ***– EDA/EDR Trade Ally***

Each EDA/EDR trade ally expressed satisfaction with the program and had very few suggestions for improvement. Four trade allies specifically said they were highly satisfied with the advanced insights and analysis for designing property-specific solutions, and one was satisfied with the incentives. The trade ally with experience in the EDR program said that Focus on Energy does a "nice job explaining the process and bundles so we could go from good to better."

The evaluation team asked trade allies where they go for information about the program when they have questions. All five said they engage directly with Focus on Energy or the design assistance implementer, Wildan, and one said they also peruse the website. Only one trade ally suggested an area for improvement, which involved their interactions with Focus on Energy and Wildan. This trade ally said that a response to their question could take as long as a week and a half, and they would like a quicker response. The other four said they received quick responses to their questions. One trade ally said they appreciate their contact "comfortably pushing enough to keep us on track." All five trade allies said that Focus on Energy provides extensive knowledge and new ideas for each project.

The evaluation team asked trade allies for suggestions to increase participation in the Focus on Energy EDA/EDR offerings and for any summary comments. Across those questions, trade allies provided the following ideas to improve the program:

> *"Everything right now is talking about carbon footprint. […] When Focus develops energy models in these projects, it would be helpful to [get that information]."*
> ***- EDA/EDR Trade Ally***

- Increase marketing: share successes, promote case studies via collateral and meetings (2 trade allies)
- Ensure quick responses to questions (1 trade ally)
- Include carbon footprint in calculations and marketing (1 trade ally)
- Continue Focus on Energy's involvement with customers: conduct follow-up audits and provide property owners with energy modeling over time compared to the baseline (1 trade ally)
- Continue to keep libraries and information up to date (1 trade ally)

Of the four trade allies who also work outside of Wisconsin, two commented on key differences between the Focus on Energy program and programs in other states. One said that the Focus on Energy incentives are "great," and the other said that the offerings are similar in terms of motivations, objectives, and requirements, while the process often differs slightly.

Appendix K. Quadrennium IV Commission Priorities Progress

The evaluation team will complete a variety of research and analysis activities in Quadrennium IV to help Focus on Energy meet priorities established by the PSC during Quadrennium IV planning process. These activities will help Focus on Energy prepare to track revised savings targets in the upcoming Quadrennium V. In late CY 2023, the PSC approved the budget and timing for a number of research and analysis tasks for the evaluation team during Quadrennium IV.[45]

Table K-1 lists commission priorities that the evaluation team made progress toward in CY 2023.

Table K-1. CY 2023 Evaluation Activities Related to Commission Priorities

Commission Priority	CY 2023 Activity
Develop recommendations to operationalize enhanced measurement and tracking of the program's carbon emissions reduction impacts.	Progress on this priority is dependent on foundational research and analysis currently underway for certain cross-cutting priority areas. In particular, progress on this priority area will build upon efforts to adopt measure load shapes necessary to better understand time-varying emissions impacts of energy efficiency and renewable resources.
Adopt a winter peak electric period definition and begin quantifying and tracking the winter electric peak demand reductions achieved by the program.	The Focus on Energy Evaluation Work Group adopted a winter electric peak definition in CY 2023. The Focus on Energy winter electric peak definition is non-holiday weekdays December through February from 8:00 a.m. to Noon and non-holiday weekdays December through February from 5:00 p.m. to 9:00 p.m.
Adopt a winter natural gas peak period definition and begin quantifying and tracking winter natural gas demand reductions achieved by the program.	The evaluation team provided an informational presentation on these priority topics to the Focus on Energy Evaluation Work Group in CY 2023. Additional research and analysis supporting these priority areas is expected in Quadrennium IV.
Investigate and develop recommendations for estimating peak natural gas avoided costs for the Commission's consideration.	
Report annually on the program's progress toward identifying and implementing strategies to adapt the portfolio to achieve long-term market effects.	The evaluation team held discussions with PSC and program administrator staff in CY 2023 to identify measures that may be appropriate to prioritize for targeted research to quantify market effects. The evaluation team modified HVAC contractor survey instruments to gather market information that may be considered for quantifying market effects. Additional research and analysis supporting these priority areas is expected in Quadrennium IV.

[45] Public Service Commission of Wisconsin. December 21, 2023. *Quadrennial Planning Process IV– Order*. PSC Docket 5-FE-104, PSC REF#: 487366. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=487366.

Commission Priority	CY 2023 Activity
Review options and propose an approach for applying a benefits adder for programs and offerings targeting customers below 60 percent of statewide median income in Focus on Energy's primary cost-effectiveness test.	The evaluation team performed research and analysis for this priority area in CY 2023. The Evaluation Work Group developed a recommendation for the PSC's consideration. The PSC approved a 20% benefits adder for programs and offerings targeting customers earning below 60% of the statewide median income. (PSC REF#: 487366)
Develop and propose an alternative method(s) for calculating avoided electric transmission and distribution costs for the PSC's consideration.	Research and analysis are underway. A proposed alternative method or methods is anticipated for CY 2024.
Perform research and analysis on an appropriate market-based carbon value for the PSC's consideration.	The evaluation team performed research and analysis for this priority area in CY 2023. The Evaluation Work Group developed a recommendation for the PSC's consideration. The PSC approved a Quadrennium IV starting point market-based carbon value of $24.77 per ton. (PSC REF#: 487366)

Appendix L. Survey and Interview Instruments by Offering

This appendix includes the CY 2023 survey instruments and ongoing participant satisfaction survey questions for several offerings in Focus on Energy's residential and nonresidential sectors.

Customer Satisfaction Survey Questions

The administrator fielded online customer satisfaction surveys throughout CY 2023. Table L-1 lists the ratings questions asked in the surveys. All questions were based on a scale of 0 to 10, where 10 indicated the highest satisfaction or likelihood to recommend and 0 indicated the lowest satisfaction or likelihood. All surveys included four core rating questions:

- **Overall satisfaction**: "Overall, how satisfied are you with your most recent experience with Focus on Energy?"
- **Staff satisfaction**: "How satisfied are you with the [energy advisor or] Focus on Energy staff member who assisted you with your [project/application/order]?"
- **Trade ally satisfaction**: "How satisfied are you with the contractor(s) that you worked with on this project?"
- **Ease of participation**: "How satisfied are you with the ease of [submitting your rebate application/ordering your pack from Focus on Energy/shopping for products at the Online Marketplace]?"
- **Likelihood of recommending Focus on Energy**: "How likely are you to recommend Focus on Energy to others?"

Table L-1. CY 2023 Customer Satisfaction Survey Question Matrix: Ratings

Program	Program/ Offering Overall	Staff	Trade Allies	Ease of Participation	Recommend Focus on Energy	Other Ratings
Residential						
Direct to Customer[a]	✓	✓	-	✓	✓	-
Trade Ally Solutions[b]	✓	✓	✓	✓	✓	-
Multifamily	✓	✓	✓	✓	✓	-
Nonresidential						
Agribusiness	✓	✓	✓	-	✓	-
Business and Industry	✓	✓	✓	-	✓	-
Large Industrial	✓	✓	✓	-	✓	-
Schools and Government	✓	✓	✓	-	✓	-
New Construction Incentives	✓	✓	✓	-	✓	✓

[a] Direct to Customer offerings include Online Marketplace and Packs.
[b] Trade Ally Solutions offerings include Heating and Cooling, Insulation and Air Sealing, Renewable Rewards, and Retail Smart Thermostats.

Table L-2 lists the CY 2023 satisfaction survey questions not based on a rating. All surveys included five additional questions:

- **Comments and suggestions**: "Please tell us more about your experience and any suggestions for improvement."
- **Awareness of utility role:** "The Focus on Energy program you participated in is offered in partnership with your local energy utility. Before taking this survey, was this something you were aware of?"
- **Opinion of utility**: "How have these offerings affected your opinion of your utility, if at all?"
- **Opt-out of follow-up contact:** "On occasion, Focus on Energy staff may follow up with some survey respondents to learn more about their experience with the program. Please indicate below if you do not want someone from Focus on Energy to contact you about this survey."
- **Contractor comments (for programs that rate trade allies only)**: "Please tell us more about your experience with the contractor(s) you worked with on this project. Any feedback provided shall remain anonymous."

Five additional questions were specific to residential and nonresidential offerings: [46]

- **Awareness sources (nonresidential only)**: "How did you learn about this particular opportunity from Focus on Energy?"
- **Focus on Energy assistance (nonresidential only)**: "Aside from providing project incentive dollars, how can Focus on Energy best support your organization going forward?"
- **Age (residential only)**: "Which of the following categories best represents your age?"
- **Income (residential only)**: "Which category best describes your total household income before taxes?"
- **Number in household (residential only**): "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**.**"

[46] Multifamily surveys did not ask participants the demographic questions included in the residential surveys because Multifamily respondents were the property managers rather than the tenants.

Table L-2. CY 2023 Customer Satisfaction Survey Question Matrix: Non-Ratings

Program	Comments and Suggestions	Awareness of Utility Role	Opinion of Utility	Contractor Comments	Awareness Source	Focus Assistance	Age	Income	Number in Household
Residential									
Direct to Customer	✓	✓	✓	-	-	-	✓	✓	✓
Trade Ally Solutions	✓	✓	✓	✓	-	-	✓	✓	✓
Multifamily	✓	✓	✓	✓	✓	-	-	-	-
Nonresidential									
Agribusiness	✓	✓	✓	✓	✓	✓	-	-	-
Business and Industry	✓	✓	✓	✓	✓	✓	-	-	-
Large Industrial	✓	✓	✓	✓	✓	✓	-	-	-
Schools and Government	✓	✓	✓	✓	✓	✓	-	-	-
New Construction Incentives	✓	✓	✓	-	-	-	-	-	-

Survey and Interview Instruments

CY 2023 survey and interview instruments are included at the end of this appendix.

Residential Programs

- Direct to Customer Program – Focus on Comfort Pack Participant Survey
- Trade Ally Solutions Program – Heating and Cooling Participant Survey
- Trade Ally Solutions Program – Heating and Cooling Contractor Survey
- Trade Ally Solutions Program – Heating and Cooling Trade Ally Interview
- Multifamily Program – Participant Survey
- Multifamily Program – Strategic Energy Management Participant Interview

Nonresidential Programs

- Agribusiness Program – Participant Survey
- Agribusiness Program – Trade Ally Interview
- Business and Industry Program – Participant Survey
- Business and Industry Program – Trade Ally Interview
- Large Industrial Program – Participant Survey
- Large Industrial Program – Trade Ally Interview
- Schools and Government Program – Participant Survey
- Schools and Government Program – Trade Ally Interview
- Energy Design Assistance/Energy Design Review Offering – Participant Survey
- Energy Design Assistance/Energy Design Review Offering – Trade Ally Interview

Cross-Cutting Programs

- Midstream Program – Contractor Survey
- Midstream Program – Distributor Interview
- Midstream Program – CBO Interview
- Residential Renewable Program – Affordable Housing Pilot Participant Survey
- Virtual Commissioning Pilot – Participant Survey

Residential Surveys

CADMUS

Wisconsin Focus on Energy – Focus on Comfort Packs Program 2023 Participant Survey

Estimate survey launch: Fall 2023

Survey format: Online

Target Quotas

- Minimum of 70 Focus on Comfort pack respondents

General Instructions:

- Programming instructions are in red **[LIKE THIS]** (the style is "Survey: Programming").
- Core residential questions are indicated with an asterisk (*).
- All questions are single-response unless specified otherwise.
- All questions are forced response, unless specified otherwise.

Measure	Focus on Comfort Pack
LED A19 (800 lumens)	2
Dusk to Dawn LED Night Light	2
Switch Gaskets	10
Outlet Gaskets	10
Self-Adhesive Door Sweep	1
17 ft Rolls of Door Weatherstripping	2
Window Film Insulation Kit	1
Hot Water Temperature Card	1

SAMPLE Variables:
[FIRSTNAME] = CUSTOMER FIRST NAME
[LASTNAME] = CUSTOMER LAST NAME
[EMAIL] = CUSTOMER EMAIL
[MONTH] = MONTH OF PARTICIPATION (AS TEXT FOR INSERT, i.e. "June")
[MULTIFAMILY] = 1 (YES) OR 0 (NO)

INVITATION EMAIL

To: [EMAIL]
From: Focus on Energy Feedback
Subject: Are you enjoying your new free Focus on Comfort pack? Let us know and you could win $100!

Dear **[FIRSTNAME AND LASTNAME]**,

We hope you are enjoying the pack of energy-efficient products you received from Focus on Energy.

Our offerings are designed to help you and your family make smart choices to manage your energy use. That's why we invite you to share **your important feedback** on your recent experience with Focus on Energy, by taking our brief survey.

The survey will take about 10 minutes to complete. **As our thanks for completing the survey, we will enter you in a drawing to win a $100 gift card.**

Just click the link below to get started.

[SURVEY LINK]

Your input is very important to us and will be kept confidential and only used for research purposes.

If you have problems with the survey link, please contact the survey coordinator, David Ladd, via email at David.Ladd@Cadmusgroup.com. If you would like to confirm the validity of the research effort, please call Mitch Horrie at the Public Service Commission of Wisconsin at (608) 267-3206.

We hope you will take this opportunity to have your voice heard. Thank you in advance for your time and for sharing your experiences.

Reminder Invitation

To: [EMAIL]
From: Focus on Energy Feedback
Subject: There's still time to give Focus on Energy feedback and win $100!

Dear [FIRSTNAME AND LASTNAME],

We recently invited you to tell us about your experience with the free Focus on Comfort pack you received from Focus on Energy. We would still like to hear from you – **your input is very important to us**! We use the information from participants like you to continue to improve our programs.

Please take about 10 minutes to complete our survey. **As our thanks for completing the survey, we will enter you in a drawing to win a $100 gift card.**

Just click the link below to get started.

[auto-generated link]

Your input is very important to us and will be kept confidential and only used for research purposes.

If you have problems with the survey link, please contact the survey coordinator, David Ladd, via email at David.Ladd@Cadmusgroup.com. If you would like to confirm the validity of the research effort, please call Mitch Horrie at the Public Service Commission of Wisconsin at (608) 267-3206.

We hope you will take this opportunity to have your voice heard. Thank you in advance for your time and for sharing your experiences.

A. Introduction and Screening

Records from Focus on Energy show that you received a pack of energy-efficient products in **[MONTH]** 2023. Your pack contained easy-to-install-products such as LED bulbs and nightlights, switch and outlet gaskets, weatherstripping, window insulation, door sweeps, and a hot water temperature card.

The following survey will ask about how you received the pack and your satisfaction with the pack contents. At the end, you will be given the opportunity to enter to win a $100 gift card as a token of our appreciation for your time.

A1. Do you recall receiving a free pack of energy-saving products from Focus on Energy? You likely signed up to receive the pack online or by phone.

1. Yes
2. No **[THANK AND TERMINATE]**

98. Don't know **[THANK AND TERMINATE]**

TERMINATE MESSAGE: We are only surveying customers who recall receiving the pack. Thank you for your time.

B. Program Awareness

B1. * Thinking back to when you ordered your pack, what factor was the most important motivation for you to order the free Focus on Comfort pack? **[RANDOMIZE]**

1. Save energy / don't waste energy / be more energy efficient
2. Reduce energy costs / lower bill
3. Good for the environment
4. Concern about climate change
5. Recommended by a friend / relative
6. **[IF MULTIFAMILY]** Recommended by property owner or manager
7. Advertisement [newspaper, radio, online, etc.]
8. Utility sponsorship of the program
9. Receiving free items to make home upgrades
10. Trying out new items to see if I like them
11. Something else, please describe: **[SPECIFY]**

98. Don't know

B2. What was the main reason you chose the specific pack you requested? **[SINGLE RESPONSE]**

1. Wanted to try a specific product(s) that I did not already own
2. Wanted to upgrade an existing but functioning item with an energy-efficient version
3. Needed to replace a specific item(s) that no longer worked properly or at all
4. Total number of products in pack
5. Estimated dollar value based on pack contents
6. Variety of products in pack
7. Felt the pack I ordered offered the greatest overall energy savings
8. Something else, please describe: **[SPECIFY]**
98. Don't know

B3. **[IF B2 = 1 OR 2]** Which specific products motivated you to choose the pack you requested? Select all that apply. **[RANDOMIZE] [MULTIPLE RESPONSE]**

1. General service LEDs
2. LED Night Light
3. Switch and Outlet Gaskets
4. Self-Adhesive Door Sweeps
5. Door Weatherstripping
6. Window Film Insulation Kit
7. Hot Water Temperature Card
98. Don't know **[EXCLUSIVE]**

B4. * Where have you heard about Focus on Energy's free Focus on Comfort packs? Select all that apply. **[RANDOMIZE ITEMS 1-11, MULTIPLE RESPONSES ALLOWED]**

1. **[IF CUSTOMER TYPE = MULTIFAMILY]** Property owner or manager
2. Mailing (direct mail, brochure, postcard, bill insert, etc.)
   B4a. Who sent the mailing?
      1. My utility
      2. Focus on Energy
      3. Another Organization
      4. I'm not sure
3. An email
   B4b. Who sent the email?
      1. My utility
      2. Focus on Energy
      3. Another organization
      4. I'm not sure
4. A social media app (Facebook, Twitter, LinkedIn, etc.)
5. Online ad
6. Internet search
   B4c. What were you searching for? [SPECIFY]
7. A website

B4d. Which website?
1. My utility
2. Focus on Energy
3. Another organization
4. I'm not sure

8. Family / friend / word-of-mouth
9. Focus on Energy representative
10. Utility representative
11. Community or utility event
12. Installer / Contractor / Trade ally
13. Through participation in another Focus on Energy program
14. A different source – what was it? [SPECIFY]
98. Don't know **[EXCLUSIVE]**

B5. * What are the best ways for Focus on Energy to inform people about energy efficiency programs? Select all that apply. **[RANDOMIZE ITEMS 1-13] [MULTIPLE RESPONSE]**

1. Promotion through other Focus on Energy programs
2. Television
3. Radio
4. Print media, such as magazine, newspaper article or advertisement
5. Billboard / outdoor ad
6. Direct mail / brochure / postcard
7. Family / friend / word-of-mouth
8. Email from Focus on Energy
9. Focus on Energy or Utility website
10. Community or utility event
11. Other website **[SPECIFY]**
12. Social Media such as Twitter, Facebook, or Instagram
13. **[IF CUSTOMER TYPE = MULTIFAMILY]** Property owner or manager
14. A different source – which one? **[SPECIFY]**
15. Do not want to receive information **[EXCLUSIVE]**
98. Don't know **[EXCLUSIVE]**

B6. * Other than Focus on Energy's free Focus on Comfort packs, are you aware of any other Focus on Energy programs or rebates?

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

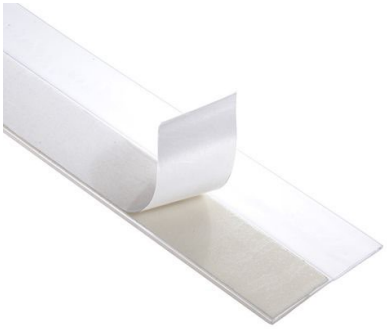
B7. * **[IF B6 = 1]** For the Focus on Energy programs listed below, please indicate which ones you are aware of and which you have participated in**. [TABLE FORMAT; EACH PROGRAM LISTED HAS A DROP DOWN MENU WITH THE THREE OPTIONS BELOW]**

1. Participated in this program
2. Aware but have not participated
3. Not aware of this program

Program	Description
Insulation and Air Sealing	Incentives for weatherizing, with extra incentives for completing an energy assessment
Heating and Cooling	Incentives for upgrading or replacing your heating and cooling equipment
New Construction	Incentives for builders to construct energy efficient homes
Online Marketplace	Online store available through the Focus on Energy website, offering a range of energy-savings products for your home
Multifamily	A program for property owners that offers incentives for improvements that will reduce energy use in units and common areas
Renewable Energy	Incentives for solar PV installations

C. Door Sweep

You received a self-adhesive door sweep in your free Focus on Comfort pack (pictured below).



C1. Is the door sweep you received currently being used?

1. Yes, in my home
2. Yes, in my business (commercial building)
3. Yes, in my business (industrial building)
4. No

98. Don't know

C2. **[IF C1 = ANY YES]** Where did you install the door sweep?

1. Exterior Door (doors between conditioned and unconditioned spaces)
2. Interior Door (doors between two conditioned spaces)
3. Somewhere else, please describe **[SPECIFY]**

C3. **[IF C1 = NO]** Did you use the door sweep you received but later remove it?

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

C4. **[IF C1 = NO]** What is your primary reason for not using, or installing but later removing, the door sweep you received? **[RANDOMIZE ITEMS 1-5]**

1. Broken/didn't work
2. Difficult/unable to set up
3. Didn't like how it looked
4. Have not installed yet/plan to install later
5. Never planned to install
6. Something else, please describe: **[SPECIFY]**
98. Don't know **[EXCLUSIVE]**

C5. **[IF C1 = NO]** What did you do with the door sweep *not currently* installed?

1. Stored for future use
2. Threw away
3. Gave to someone else
4. Something else, please describe **[SPECIFY]**
98. Don't know

C6. How satisfied are you with the door sweep you received?

1. Very satisfied **[SKIP TO D1]**
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied
98. Don't know **[SKIP TO D1]**

C7. Why are you **[INSERT RESPONSE FROM C6]**? Select all that apply. **[RANDOMIZE ITEMS 1-5]** **[MULTIPLE RESPONSE]**

1. Broken/doesn't work
2. Difficult/unable to set up
3. Didn't like how it looks
4. Have not installed yet/never planned to install

5. Something else, please describe **[SPECIFY]**
98. Don't know **[EXCLUSIVE]**

D. Window Film Insulation Kit

You also received a window film insulation kit in your free Focus on Comfort pack. This kit includes film and double-sided tape.

D1. Is the window film insulation you received *currently* installed in your home?

1. Yes **[SKIP TO D5]**
2. No
98. Don't know **[SKIP TO D5]**

D2. When do you plan to install the window film insulation?

1. In Fall/Winter 2023 **[SKIP TO D5]**
2. Sometime in 2024 **[SKIP TO D5]**
3. Never
98. Don't know

D3. What is your primary reason for not using the window film insulation you received? **[RANDOMIZE ITEMS 1-6]**

1. **[IF CUSTOMER TYPE = MULTIFAMILY]** Property owner or manager would not allow install
2. Difficult to install
3. Didn't fit properly
4. Didn't like how it looked
5. Have not installed yet/plan to install later
6. Never planned to install
7. Something else, please describe: **[SPECIFY]**
98. Don't know

D4. What did you do with the window film insulation *not currently* installed?

1. Stored for future use
2. Threw away
3. Gave to someone else
4. Something else, please describe **[SPECIFY]**
98. Don't know

D5. How satisfied are you with the window film insulation you received?

1. Very satisfied **[SKIP TO E1]**
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied

4. Somewhat dissatisfied
5. Very dissatisfied
98. Don't know **[SKIP TO E1]**

D6. Why are you **[INSERT RESPONSE FROM D5]**? Select all that apply. **[RANDOMIZE ITEMS 1-5]** **[MULTIPLE RESPONSE]**

1. Broken/doesn't work
2. Difficult/unable to install
3. Didn't fit properly
4. Didn't like how it looked
5. Have not installed yet/never planned to install
6. Something else, please describe **[SPECIFY]**
98. Don't know **[EXCLUSIVE]**

E. LED Nightlight

You received two LED nightlights in your free Focus on Comfort pack.

E1. How many of the LED nightlights you received are *currently* installed in your home or business?

1. 0
2. 1
3. 2
98. Don't know **[SKIP TO E5]**

E2. **[IF E1 NUMBER INSTALLED = 1]** When you installed the LED nightlight(s), did you replace (an) existing nightlight(s)? **[IF E1 NUMBER INSTALLED = 2 THEN ALLOW UP TO 2 RESPONSES AND ADD "Select up to two responses."]**

1. Yes, an LED nightlight
2. Yes, an incandescent nightlight
3. Yes, unsure what kind of nightlight
4. No
98. Don't know

E3. **[IF E1 NUMBER INSTALLED < 2]** What is your primary reason for not installing both of the LED nightlight(s) you received? **[RANDOMIZE ITEMS 1-5]**

1. Waiting for other nightlights to burn out
2. Too bright
3. Not bright enough
4. Have not installed yet/plan to install later
5. Did not have a place to put it/Never planned to install
6. Something else, please describe **[SPECIFY]**
98. Don't know

E4. **[IF E1 NUMBER INSTALLED < 2]** What did you do with the LED nightlight(s) *not currently* installed?

1. Stored for future use
2. Threw away
3. Gave to someone else
4. Something else, please describe **[SPECIFY]**

98. Don't know

E5. How satisfied are you with the LED nightlights you received?

1. Very satisfied **[SKIP TO F1]**
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied

98. Don't know **[SKIP TO F1]**

E6. Why are you **[INSERT RESPONSE FROM E5]**? Select all that apply. **[RANDOMIZE ITEMS 1-4]** **[MULTIPLE RESPONSE]**

1. Waiting for other nightlights to burn out
2. Too bright
3. Not bright enough
4. Have not installed yet/never planned to install
5. Something else, please describe **[SPECIFY]**

98. Don't know **[EXCLUSIVE]**

F. Weatherstripping

You received two 17-ft rolls of weatherstripping. This is a self-adhesive rubber strip about ¾" wide used for doors and windows to seal out drafts.

F1. Is the weatherstripping you received *currently* installed in your home?

1. Yes, both rolls of weather stripping are installed
2. Yes, some of the weatherstripping is installed
3. No, none of the weatherstripping is installed

98. Don't know **[SKIP TO F6]**

F2. **[IF F1=2]** What percentage of the weatherstripping is installed?

1. **[SLIDER FROM 0-100 WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]**

F3. **[IF F1=1 OR 2]** Of the weather stripping that is installed, where in the house is the majority installed?

1. Exterior Doors (doors between conditioned and unconditioned spaces)
2. Interior Doors (doors between two conditioned spaces)
3. Windows
4. Somewhere else, please describe **[SPECIFY]**

F4. **[IF F1=3]** What is your primary reason for not installing the weatherstripping you received? **[RANDOMIZE ITEMS 1-7] [MULTIPLE RESPONSE]**

1. Difficult to install
2. Didn't like how it looked
3. Didn't work/didn't stick well enough
4. Too thick/too thin
5. Did not include enough for the area we wanted to cover
6. Have not installed yet/plan to install later
7. Never planned to install
8. Something else, please describe **[SPECIFY]**

98. Don't know

F5. **[IF F1=2 OR 3]** What did you do with the weatherstripping *not currently* installed?

1. Stored for future use
2. Threw away
3. Gave to someone else
4. Something else, please describe **[SPECIFY]**

98. Don't know

F6. How satisfied are you with the weatherstripping you received?

1. Very satisfied **[SKIP TO G1]**
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied

98. Don't know **[SKIP TO G1]**

F7. Why are you **[F6]**? Select all that apply. **[RANDOMIZE ITEMS 1-6] [MULTIPLE RESPONSE]**

1. Difficult to install
2. Didn't like how it looked
3. Didn't work/didn't stick well enough
4. Too thick/too thin
5. Did not include enough for the area we wanted to cover
6. Have not installed yet/never planned to install

7. Something else, please describe **[SPECIFY]**
98. Don't know **[EXCLUSIVE]**

G. Outlet Gaskets

You received ten outlet gaskets. These are foam pads that install behind outlet plate covers to help prevent air penetration.

G1. How many of the outlet gaskets you received are *currently* installed in your home?

0. None
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10 **[SKIP TO G4]**
98. Don't know **[SKIP TO G4]**

G2. What is your primary reason for not installing the outlet gaskets you received? **[RANDOMIZE ITEMS 1-7]**

1. Difficult to install
2. Outlet plate didn't fit over them properly
3. Didn't like how they looked
4. Damaged easily
5. Didn't need them all
6. Have not installed yet/plan to install later
7. Never planned to install
8. Something else, please describe **[SPECIFY]**
98. Don't know

G3. **[IF G1<10]** What did you do with the outlet gaskets *not currently* installed? Select all that apply. **[MULTIPLE RESPONSE]**

1. Stored for future use
2. Threw away
3. Gave to someone else
4. Something else, please describe **[SPECIFY]**
98. Don't know

G4. How satisfied are you with the outlet gaskets you received?

1. Very satisfied **[SKIP TO H1]**
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied
98. Don't know **[SKIP TO H1]**

G5. Why are you **[G4]**? Select all that apply. **[RANDOMIZE ITEMS 1-6] [MULTIPLE RESPONSE]**

1. Difficult to install
2. Outlet plate didn't fit over them properly
3. Didn't like how they looked
4. Damaged easily
5. Didn't need them all
6. Have not installed yet/never planned to install
7. Something else, please describe **[SPECIFY]**
8. Don't know **[EXCLUSIVE]**

H. Switch Gaskets

You received ten switch gaskets. These are foam pads that install behind light switch covers to help prevent air penetration.

H1. How many of the switch gaskets you received are *currently* installed in your home?

0. None
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10**[SKIP TO H4]**
98. Don't know **[SKIP TO H4]**

H2. What is your primary reason for not installing the switch gaskets you received? **[RANDOMIZE ITEMS 1-7]**

1. Difficult to install
2. Outlet plate didn't fit over them properly
3. Didn't like how they looked
4. Damaged easily
5. Didn't need them all

6. Have not installed yet/plan to install later
7. Never planned to install
8. Something else, please describe **[SPECIFY]**
98. Don't know

H3. **[IF H1<10]**What did you do with the switch gaskets *not currently* installed?

1. Stored for future use
2. Threw away
3. Gave to someone else
4. Something else, please describe **[SPECIFY]**
98. Don't know

H4. How satisfied are you with the switch gaskets you received?

1. Very satisfied **[SKIP TO I1]**
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied
98. Don't know **[SKIP TO I1]**

H5. Why are you **[H4]**? Select all that apply. **[RANDOMIZE ITEMS 1-6]**

1. Difficult to install
2. Outlet plate didn't fit over them properly
3. Didn't like how they looked
4. Damaged easily
5. Didn't need them all
6. Have not installed yet/plan to install later
7. Something else, please describe **[SPECIFY]**
8. Don't know **[EXCLUSIVE]**

I. Hot Water Temperature Card

Your kit included a hot water temperature card that indicates if there is an opportunity to turn down your water heater temperature to save energy.

I1. Did you use the card to test your water temperature?

1. Yes
2. No, but I plan to use it later
3. No, and I don't plan to use it
98. Don't know

I2. **[IF I1 = YES]** Did you reduce the temperature of your water heater as a result of using the card?

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

J. Program Satisfaction

The next questions will ask about your experience with your free Focus on Comfort pack.

J1. How did you request your free Focus on Comfort pack?

1. Focus on Energy website
2. Called 1-800 number **[SKIP TO J4]**
3. Other **[SPECIFY]** **[SKIP TO J4]**
98. Don't know **[SKIP TO J4]**

J2. How easy was it to fill out the online request for your free Focus on Comfort pack?

1. Very easy **[SKIP TO J4]**
2. Somewhat easy
3. Neither easy nor difficult
4. Somewhat difficult
5. Very difficult
98. Don't know **[SKIP TO J4]**

J3. Why was it **[INSERT RESPOBSE FROM J2]**?

1. **[RECORD RESPONSE]**
98. Don't know

J4. After you submitted the request for your free Focus on Comfort pack**,** how long did it take to receive the pack in the mail?

1. Less than 2 weeks
2. Between 2 and 4 weeks
3. Between 4 and 6 weeks
4. More than 6 weeks
98. Don't know

J5. How satisfied were you with how long it took to receive your free Focus on Comfort pack?

1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied

98. Don't know

J6. How satisfied were you with the guides and educational materials enclosed in your free Focus on Comfort pack?

1. Very satisfied **[SKIP TO K1]**
2. Somewhat satisfied
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied

98. Don't know **[SKIP TO K1]**

J7. Why were you **[INSERT RESPONSE FROM J6]**?

1. Instructions were unclear/I had to consult additional sources (e.g., YouTube)
2. Instructions were missing
3. Already knew everything included in educational materials
4. Another reason, please describe: **[SPECIFY]**

98. Don't know

K. Freeridership

The next few questions ask about measures that may already have been installed in your home prior to receiving free Focus on Comfort pack from Focus on Energy and whether you had plans to purchase any of the pack items on your own.

K1. Before receiving the pack, had you already installed any of the following? **[RECORD RESPONSE FOR EACH, 1 = YES, 2 = NO, 98 = DON'T KNOW]**

a. LED nightlights
b. Outlet gaskets
c. Switch gaskets
d. Door sweeps
e. Door weatherstripping
f. Window film insulation

K2. **[DISPLAY/ASK IF K1A, K1B, K1C, K1D, K1E, K1F, OTHERWISE SKIP TO K3]** How many of each of the following pack items were already installed in your home before you received the Focus on free Focus on Comfort pack**?** **[RECORD RESPONSE FOR EACH, 98 = DON'T KNOW]**

a. **[DISPLAY/ASK IF K1A= 1]** LED nightlights **(# LIGHTS): _____**
b. **[DISPLAY/ASK IF K1B= 1]** Outlet gaskets **(# GASKETS): _____**
c. **[DISPLAY/ASK IF K1C= 1]** Switch gaskets **(# GASKETS): _____**
d. **[DISPLAY/ASK IF K1D= 1]** Door sweeps **(# DOOR SWEEPS): _____**
e. **[DISPLAY/ASK IF K1E= 1]** Door weatherstripping **(% OF WEATHERSTRIPPING): _____**

f. **[DISPLAY/ASK IF K1F= 1]** Window film insulation **(# WINDOW INSULATION): _____**

K3. If you had not received the free Focus on Comfort pack from Focus on Energy, would you have bought any of the following items for your home within 12 months? Please select a response for each item. **[RECORD RESPONSE FOR EACH]**

Measure	Response Options			
	1. Yes, at the same time	2. Yes, later but within 12 months	3. No, not within 12 months	98. Don't know
a. LED nightlights				
b. Outlet gaskets				
c. Switch gaskets				
d. Door sweeps				
e. Door weatherstripping				
f. Window film insulation				

K4. If you had not received the free Focus on Comfort pack from Focus on Energy, how many of the following items would you have bought for your home within 12 months? **[RECORD RESPONSE FOR EACH]**

Measure	Response Options	
	[RECORD #]	98. Don't know
a. **[DISPLAY/ASK IF K3A = 1, 2]** LED nightlights		
b. **[DISPLAY/ASK IF K3B = 1, 2]** Outlet gaskets		
c. **[DISPLAY/ASK IF K3C = 1, 2]** Switch gaskets		
d. **[DISPLAY/ASK IF K3D = 1, 2]** Door sweeps		
e. **[DISPLAY/ASK IF K3E = 1, 2]** Door weatherstripping		
f. **[DISPLAY/ASK IF K3F = 1, 2]** Window film insulation		

L. Energy-Saving Actions

L1. Your free Focus on Comfort 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. **[RANDOMIZE ITEMS 1-12] [MULTIPLE RESPONSE]**

1. Install ENERGY STAR® certified lightbulbs
2. Use motion-detector lights outdoors
3. Install a smart thermostat
4. Insulate your walls and attic
5. Change furnace filter
6. Upgrade to an energy efficient furnace, heat pump, or boiler
7. Open shades during the day to let in heat from the sun

8. Keep the freezer full
9. Purchase a new ENERGY STAR appliance
10. Wash laundry with cold water
11. Reduce your water heater temperature to 120 degrees
12. Install faucet aerators and water-saving showerheads
13. Did not want to take any of these actions **[EXCLUSIVE]**
14. Already took all of these actions before receiving pamphlet **[EXCLUSIVE]**
15. Did not receive pamphlet **[EXCLUSIVE]**
98. Don't know **[EXCLUSIVE]**

L2. Have you taken any other energy-saving actions since you received your free Focus on Comfort pack? Select all that apply. **[RANDOMIZE ITEMS 1-7] [MULTIPLE RESPONSE]**

1. Turn down the temperature on my furnace
2. Turn up the temperature on my air conditioner
3. Take shorter or fewer showers
4. Not leave water running
5. Turn off appliances
6. Turn off computers
7. Turn off lights
8. Other actions, please describe: **[SPECIFY]**
9. Did not take any other actions **[EXCLUSIVE]**
98. Don't know **[EXCLUSIVE]**

L3. **[IF {L1 = 1 TO 14} OR {L2 = 1 TO 8}]** In general, did receiving and installing the energy-efficient products from your pack motivate you to perform these actions?

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

M. Spillover

Now we would like to learn about any energy-saving improvements you may have made since receiving the kit of energy-efficient products from Focus on Energy.

M1. Since receiving the free Focus on Comfort pack from Focus on Energy, have you made any other energy savings improvements or high-efficiency equipment purchases for your home that you did NOT receive for free or a rebate from Focus on Energy or another organization?

1. Yes
2. No **[SKIP TO NEXT SECTION]**
98. Don't know **[SKIP TO NEXT SECTION]**

M2. What were the products that you installed without receiving for free or getting a rebate? Note: A Focus on Energy rebate is not available for every product listed **[ALLOW MULTIPLE RESPONSES]**

1. Gas boiler **[HOW MANY DID YOU INSTALL?]**
2. Gas furnace **[HOW MANY DID YOU INSTALL?]**
3. Gas tankless water heater **[HOW MANY DID YOU INSTALL?]**
4. Gas storage water heater **[HOW MANY DID YOU INSTALL?]**
5. Electric tankless water heater **[HOW MANY DID YOU INSTALL?]**
6. Electric storage water heater **[HOW MANY DID YOU INSTALL?]**
7. Insulation; attic **[HOW MANY SQUARE FEET?]**
8. Insulation; floor **[HOW MANY SQUARE FEET?]**
9. Insulation; ceiling **[HOW MANY SQUARE FEET?]**
10. Air sealing **[HOW MANY LINEAR FEET?]**
11. Duct sealing **[HOW MANY LINEAR FEET?]**
12. ENERGY STAR windows **[HOW MANY SQUARE FEET?]**
13. ENERGY STAR air purifier **[HOW MANY DID YOU INS**
14. ENERGY STAR dehumidifier **[HOW MANY DID YOU INSTALL?]**
15. ENERGY STAR clothes washer **[HOW MANY DID YOU INSTALL?]**
16. ENERGY STAR dishwasher **[HOW MANY DID YOU INSTALL?]**
17. ENERGY STAR pool pump **[HOW MANY DID YOU INSTALL?]**
18. ENERGY STAR room air conditioner **[HOW MANY DID YOU INSTALL?]**
19. ENERGY STAR refrigerator **[HOW MANY DID YOU INSTALL?]**
20. ENERGY STAR freezer **[HOW MANY DID YOU INSTALL?]**
21. Smart thermostat **[HOW MANY DID YOU INSTALL?]**
22. Heat pump water heater **[HOW MANY DID YOU INSTALL?]**
23. Central air conditioner **[HOW MANY DID YOU INSTALL?]**
24. Air source heat pump **[HOW MANY DID YOU INSTALL?]**
25. Ductless heat pump **[HOW MANY DID YOU INSTALL?]**
26. Ground source heat pump **[HOW MANY DID YOU INSTALL?]**
27. Smart power strip **[HOW MANY DID YOU INSTALL?]**
28. Other equipment, please specify items and quantity **[OPEN ENDED RESPONSE]**
98. Don't Know

M3. **[REPEAT FOR EACH ITEM MENTIONED IN M2]** How important was your experience with Focus on Energy's free Focus on Comfort pack in your decision to install **[INSERT ITEM FROM M2]**. Use a 5-point scale where 1 means "Not at All Important" and 5 means "Very Important."? **[FORCE RESPONSE]**

1. **[DROP DOWN LIST OR RADIO BUTTON SELECTION; "1 – NOT AT ALL IMPORTANT", "2", "3", "4", "5 – VERY IMPORTANT", "DON'T KNOW"]**

M4. **[REPEAT FOR EACH ITEM MENTIONED IN M2]** In what year was the **[INSERT ITEM FROM M2]** purchased and installed? **[FORCE RESPONSE]**

1. [DROP DOWN LIST SELECTION; "2023","2022", "BEFORE 2022"…, 99 FOR DON'T KNOW]

[ASK M5 FOR EACH ONE SELECTED IN M2 EXCEPT 3-6, 12-20, 22 , 27 OR 28.]

M5. Why didn't you apply for and receive a Focus on Energy rebate for **[INSERT ITEM FROM M2]**?

1. Did not know rebate was available
2. Product did not qualify
3. Other **[SPECIFY]**

98. Don't Know

N. Energy Usage Motivations

N1. * How much do you agree with each of the following statements? [FORMAT: DROP DOWN MENUS. RANDOMIZE LIST OF ITEMS; SAME 6 RESPONSE OPTIONS FOR EACH ITEM]

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Does not apply

O1a. I try to save energy to lower my energy bill
O1b. Keeping the home comfortable is more important than saving on my bill
O1c. I've tried a few things to save energy, but have not seen any real savings on my energy bill
O1d. It is important to conserve resources to be more environmentally friendly
O1e. I prefer to use the most advanced technologies available to control my energy use
O1f. I am willing to pay more for efficient products that will save me money in the long term
O1g. I am willing to pay more for efficient products that are more environmentally friendly
O1h. Energy efficient improvements increase my home's comfort
O1i. I'm not interested in improving my home's efficiency
O1j. I wish Focus on Energy would offer more options to help manage my energy usage
O1k. It is too inconvenient to be efficient at home

N2. * How informed do you feel about all the ways you can save energy, including buying and using energy efficient appliances and equipment?

1. Very informed
2. Somewhat informed

3. Neutral
4. Not too informed
5. Not at all informed
98. Don't know

N3. * How much attention do you pay to the amount of energy (gas or electric) that you use in your home?

1. Very close attention
2. A fair amount of attention
3. Some attention
4. Not much attention
5. No attention at all
98. Don't know

N4. * What other energy improvements do you plan to make to your home over the next 5 to 10 years?

[MULTIPLE RESPONSES ALLOWED; RANDOMIZE LIST]

1. Gas boiler
2. Gas furnace
3. Gas tankless water heater
4. Gas storage water heater
5. Electric tankless water heater
6. Electric storage water heater
7. Insulation; attic
8. Insulation; floor
9. Insulation; ceiling
10. Insulation; basement
11. Air sealing
12. Duct sealing
13. Low-E Storm windows
14. ENERGY STAR windows
15. ENERGY STAR air purifier
16. ENERGY STAR dehumidifier
17. ENERGY STAR clothes washer
18. ENERGY STAR dishwasher
19. ENERGY STAR pool pump
20. ENERGY STAR room air conditioner
21. ENERGY STAR refrigerator
22. ENERGY STAR freezer
23. Smart thermostat
24. Heat pump water heater
25. Central air conditioner
26. Air source heat pump
27. Ductless heat pump
28. Ground source heat pump

29. Smart power strip
30. Other equipment, please specify the items: **[TEXT ENTRY]**
98. Don't know **[SKIP TO SECTION NEXT SECTION]**

O. Customer Demographics

The last few questions are for statistical purposes only.

O1. * What type of fuel does your water heater use?

1. Natural gas
2. Electricity
3. Propane/Bottled gas
4. Wood
5. Other **[SPECIFY]**

98. Don't know

O2. * What is the main type of fuel you use to heat your home?

1. Natural Gas
2. Oil
3. Propane
4. Electricity
5. Wood
6. Other **[SPECIFY]**

98. Don't know

O3. * What type of home do you live in?

1. Mobile/manufactured home
2. Single-family home, detached house
3. Attached house townhouse, row house, or duplex
4. Multifamily apartment or condo building with 4 or more units
5. Co-op/retirement community
6. University housing (dormitory)
7. Other **[SPECIFY]**

98. Don't know

O4. * Do you or members of your household own or rent this home?

1. Own
2. Rent
3. Other **[SPECIFY]**

98. Don't know

O5. [ASK IF O4 = 2 OR 3] How is your electric utility bill paid?

1. Your utility bills you directly
2. Your maintenance fees or rent includes utility costs
3. Your bill is split evenly between units within the complex
4. Other: **SPECIFY:_____)**

98. Don't know

O6. [ASK IF O4 = 2 OR 3] How is your gas utility bill paid?

1. Your utility bills you directly
2. Your maintenance fees or rent includes utility costs
3. Your bill is split evenly between units within the complex
4. Other: **SPECIFY:_____)**

98. Don't know

O7. * What is the highest level of school that you have completed?

1. Less than 9th grade
2. 9th to 12th grade; no diploma
3. High school graduate (includes GED)
4. Some college, no degree
5. Associate's degree
6. Bachelor's degree
7. Graduate or professional degree

99. I prefer not to answer this question

P. Closing

P1. * Do you have any other comments about your experience with Focus on Energy that you would like to share?

1. **[RECORD RESPONSE]**

98. Don't know

P2. * On occasion, Focus on Energy may want to contact a customer to learn more about their participation experience. May we share your responses with a program manager, who may contact you regarding your experience?

1. Yes
2. No

98. Don't know

P3. Finally, we would like to confirm where to send your prize if you are selected as a $100 gift card winner. Please enter a name and email address below. The gift card winners will be selected and notified within two weeks after this survey closes. You may leave this blank if you do not want to be included in the drawing.

1. FIRSTNAME LASTNAME

2. EMAIL

Thank you. We appreciate your help with this survey. Have a nice day.

[IF P3 ≠ 98] You will be added into the drawing for a $100 gift card.

To learn about additional opportunities to save energy and money in your home, please visit focusonenergy.com.

CADMUS

Wisconsin Focus on Energy - Heating and Cooling 2023 Participant Survey

Estimated launch date: Fall 2023

Survey Format: Online

Target Quota:

- 350 Tier 1 Respondents
  - 70 Smart Thermostat Respondents
  - 70 Furnace Respondents
  - 70 ASHP Respondents (or as many as possible)
  - 70 GSHP Respondents (or as many as possible)
  - 70 Other HVAC Respondents
- 70 Tier 2 Respondents

General Instructions:

Programming instructions are in red ***[LIKE THIS]*** (the style is "Survey: Programming").
Responses will be required for all questions, unless indicated
Single response only, unless indicated
Core questions marked with an asterisk (*)

This survey is designed for residential customers who received an rebate for purchasing and installing equipment through the Focus on Energy Heating and Cooling Program.

SAMPLE Variables:
[FIRSTNAME] = CUSTOMER FIRST NAME
[LASTNAME] = CUSTOMER LAST NAME
[EMAIL] = CUSTOMER EMAIL
[UTILITY] = CUSTOMER UTILITY
[MEASURE] = CONCENTRATED MEASURE FOR SURVEY
[QUANTITY] = NUMBER OF MEASURE INSTALLED (NUMERIC)
[TIER2] = 1 (YES) OR 0 (NO)

A. Email Invitation

To: [EMAIL]
From: Focus on Energy Feedback
Subject: Are you enjoying your new [MEASURE]? Let us know and you could win $100!

Dear [FIRSTNAME AND LASTNAME],

We hope you are enjoying the new [MEASURE] you purchased with a rebate from Focus on Energy.

Our programs are designed to help you and your family make smart choices to manage your energy use. That's why we invite you to share **your important feedback** by taking our brief survey about your new [MEASURE] and experience with Focus on Energy.

The survey will take about 10 minutes to complete. **As our thanks for completing the survey, you may enter a drawing to win a $100 gift card.**

Just click the link below to get started.

[auto-generated link]

Your input is very important to us. It will be kept confidential and only used for research purposes.

If you have problems with the survey link, please contact the survey coordinator, David Ladd, via email at David.Ladd@Cadmusgroup.com. If you would like to confirm the validity of the research effort, please call Mitch Horrie at the Public Service Commission of Wisconsin at (608) 267-3206.

We hope you will take this opportunity to have your voice heard. Thank you in advance for your time and for sharing your experiences.

Reminder Invitation: *[SEND ONE WEEK AFTER LAUNCH]*

To: [EMAIL]
From: Focus on Energy Feedback
Subject: There's still time to give Focus on Energy feedback and win $100!

Dear [FIRSTNAME AND LASTNAME],

We recently invited you to tell us about your experience with Focus on Energy and your new [MEASURE]. We would still like to hear from you – **your input is very important to us**! We use the information from participants like you to continue to improve our programs.

Please take about 10 minutes to complete our survey. **As our thanks for completing the survey, we will enter you in a drawing to win a $100 gift card.**

Just click the link below to get started.

[auto-generated link]

Your input is very important to us. It will be kept confidential and only used for research purposes.

If you have problems with the survey link, please contact the survey coordinator, David Ladd, via email at David.Ladd@Cadmusgroup.com. If you would like to confirm the validity of the research effort, please call Mitch Horrie at the Public Service Commission of Wisconsin at (608) 267-3206.

We hope you will take this opportunity to have your voice heard. Thank you in advance for your time and for sharing your experiences.

B. Introduction

Thank you for participating in Focus on Energy's Heating and Cooling Program. For the purposes of this survey, please focus your responses on your experience purchasing and receiving a rebate for [MEASURE]. Your feedback is very important to us and will help us improve our programs for customers like you. Your responses are confidential and will be used for research purposes only. When you complete the survey, you can enter to win a $100 gift card.

Open drop-down menus by clicking on this icon ▾ within the survey.
Click on the "Next" and "Back" buttons at the bottom of each page to navigate through the survey.

C. Awareness and Motivation

C1. Our records show that you installed [MEASURE] in 2023. Do you remember having that installed in your home?

1. Yes
2. No [THANK AND TERMINATE]
99. Don't Know [THANK AND TERMINATE]

[TERMINATE LANGUAGE: Those are all the questions we have. Thank you.]

C2. * What factor was the most important motivation for you to purchase the new high efficiency [MEASURE]? [RANDOMIZE LIST EXCEPT FOR OTHER AND DON'T KNOW AT THE BOTTOM.]

1. Saving energy / reducing energy waste / being more energy efficient
2. Reducing energy costs / lowering bill
3. Good for the environment
4. Concern about climate change
5. Increase home comfort
6. Recommendation from a friend / relative
7. Recommendation from a retailer / dealer
8. Recommendation from a contractor
9. Cash / rebate / incentive payment
10. Advertisement [newspaper, radio, online, etc.]
11. Utility sponsorship of the program
12. Other [SPECIFY: _____]
99. Don't know

C3. *Where have you heard about Focus on Energy's rebates for [MEASURE]? Select all that apply. [RANDOMIZE ITEMS 1-13, MULTIPLE RESPONSES ALLOWED]

1. Mailing (direct mail, brochure, postcard, bill insert, etc.)
   C3a. Who sent the mailing?
   1. My utility
   2. Focus on Energy
   3. Another Organization

4. I'm not sure

2. An email

C3b. Who sent the email?

1. My utility
2. Focus on Energy
3. Another Organization
4. I'm not sure

3. Social media (Facebook, Twitter, LinkedIn, etc.)
4. Online ad
5. Internet search

C3c. What were you searching for? [SPECIFY]

6. A website

C3d. Which website?

1. My utility
2. Focus on Energy
3. Another Organization
4. I'm not sure

7. Family / friend / word-of-mouth
8. Focus on Energy representative
9. Utility representative
10. Community or utility event
11. Installer / Contractor / Trade ally
12. In store
13. Through participation in another Focus on Energy program
14. A different source – what was it? [SPECIFY]
99. Don't know **[EXCLUSIVE]**

C4. [ASK IF C3=11] What benefits did the contractor or installer mention that convinced you to purchase the [MEASURE]? Select all that apply. [RANDOMIZE LIST EXCEPT FOR OTHER AND DON'T KNOW; MULTIPLE RESPONSES ALLOWED]

1. Save energy / don't waste energy / be more energy efficient
2. This is a smart investment with a good payback
3. Reduce energy costs/lower bill
4. Good for the environment
5. Increase home comfort / address uneven temperatures
6. Improve indoor air quality / get rid of mold or allergens
7. Cash / rebate / incentive payment
8. Utility sponsorship of the program
9. Other [SPECIFY: _____]
99. Don't know [EXCLUSIVE]

C5. *What is the best way for Focus on Energy to inform people about energy efficiency programs? Select all that apply. [RANDOMIZE ITEMS 1-12, MULTIPLE RESPONSE]

1. Promotion through other Focus on Energy programs

2. Television
3. Radio
4. Print media, such as magazine, newspaper article or advertisement
5. Billboard / outdoor ad
6. Direct mail / brochure / postcard
7. Family / friend / word-of-mouth
8. Email from Focus on Energy
9. Focus on Energy or Utility website
10. Community or utility event
11. Other website: [SPECIFY: _____]
12. Social Media such as Twitter, Facebook, or Instagram
13. A different source – which one? [SPECIFY: _____]
14. I do not want to receive information [EXCLUSIVE]
99. Don't know [EXCLUSIVE]

C6. *Other than Focus on Energy's Heating and Cooling Program, are you aware of any other Focus on Energy programs or rebates?

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

C7. [ASK IF C6=1] *For the Focus on Energy programs listed below, please indicate which ones you are aware of and which you have participated in. [TABLE FORMAT; EACH PROGRAM LISTED HAS A DROP DOWN MENU WITH THE THREE RESPONSE OPTIONS: PARTICIPATED IN THIS PROGRAM, AWARE BUT HAVE NOT PARTICIPATED, NOT AWARE OF THIS PROGRAM]

Program	Description
Energy Saving Packs	Free packs of energy saving items such as LEDs, low-flow showerheads and weatherization products, delivered through the mail
Insulation and Air Sealing	Rebates for sealing air leaks and adding insulation in your home
New Construction	Certification of energy efficient homes built above code
Online Marketplace	Online store available through the Focus on Energy website, offering instant discounts on a range of energy-saving products for your home
Multifamily	A program for property owners that offers incentives for improvements that will reduce energy use in units and common areas
Renewable Energy	Rebates for solar PV installations

D. Trade Ally and Application Process

D1. Did you work with a contractor to install your new [MEASURE]?

1. Yes
2. No [SKIP TO D9]
99. Don't know [SKIP TO D9]

D2. How did you find the contractor who installed your new equipment? [RANDOMIZE LIST EXCEPT FOR OTHER AND DON'T KNOW]

1. Used the same contractor previously
2. Called Focus on Energy
3. Focus on Energy's website, i.e. 'Find a Trade Ally Contractor' link
4. Focus on Energy or Utility representative
5. Referral from family / friend / word of mouth
6. Retailer / store – Home Depot, Lowes, etc.
7. Focus on Energy advertising
8. Social media from Focus on Energy
9. Social media other than Focus on Energy
10. Contractor advertising
11. Personal research
12. Other [SPECIFY: _____]
99. Don't know

D3. What was the top reason in choosing your contractor who installed your [MEASURE]? [RANDOMIZE ITEMS 1-12]

1. Used the same contractor previously
2. They were the least expensive / price
3. They were close by / near my house
4. Listed on Focus on Energy website, i.e. 'Find a Trade Ally Contractor' link
5. Only program-eligible contractor available in my area
6. Referral from friend, family member, colleague
7. Influenced by an advertisement or website
8. Timing / scheduling worked out
9. Most responsive / easiest to communicate with
10. Only one available for emergency replacement
11. They appeared to provide the best quality / value; appeared to be the most trustworthy
12. [ASK IF UTILITY = XCEL ENERGY] Knowledge/familiarity with the additional rebates from Xcel
13. Other [SPECIFY: _____]
99. Don't Know

D4. [IF D3 = 4 OR D2 = 3] How easy was it to find a contractor using the Focus on Energy website?

1. Very easy [SKIP TO D6]
2. Somewhat easy [SKIP TO D6]
3. Neither easy nor difficult [SKIP TO D6]
4. Somewhat difficult
5. Very difficult

99. Don't know [SKIP TO D6]

D5. [IF D4 = 4 OR 5] Why was it difficult to find a contractor using the Focus on Energy website?
1. [OPEN-ENDED RESPONSE]

D6. Overall, how would you rate the experience of working with the contractor who installed your [MEASURE]?
1. Very satisfied [SKIP TO D8]
2. Somewhat satisfied [SKIP TO D8]
3. Neither satisfied nor unsatisfied [SKIP TO D8]
4. Somewhat unsatisfied
5. Very unsatisfied
99. Don't know [SKIP TO D8]

D7. [IF D6 = 4 OR 5] Can you tell us what made the experience of working with the contractor less than satisfactory?
1. [OPEN-ENDED RESPONSE]

For the next few questions, please think back to the application process to receive the rebate.

D8. Did you or your contractor fill out the application to receive your rebate?
1. My contractor filled out my application
2. I filled out my application
3. Both my contractor and I filled out my application
99. Don't know

D9. [IF D1=2 OR 98 OR D8 = 2 OR 3] How would you rate the ease of filling out the application?
1. Very easy
2. Somewhat easy
3. Neither easy nor difficult
4. Somewhat difficult
5. Very difficult
99. Don't know

D10. [IF D9 = 4 OR 5] Please let us know why filling out the application was not very easy. Select all that apply. [RANDOMIZE ITEMS 1-5; MULTIPLE RESPONSES ALLOWED]
1. Hard to locate required information (utility account number, equipment model/serial numbers, etc.)
2. Application form was too long
3. Application form was too confusing
4. Difficulty keeping track of receipts / invoices
5. Trouble with submitting application
6. Other [SPECIFY: _____]
99. Don't know [EXCLUSIVE]

E. Tier 2 Awareness

[ASK SECTION IF FLAG FOR TIER 2 = 1]

E1. Our records show that you received a higher rebate amount available for income-qualified customers. You may have completed an income eligibility application to qualify for this rebate level. Before today, were you aware that you received a higher rebate?

1. Yes
2. No [SKIP TO F1]
99. Don't know [SKIP TO F1]

E2. [ASK IF E1 = 1] Were you interested in the Focus on Energy rebates before you learned you were eligible for higher rebates?

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

E3. [ASK IF E1 = 1] How did you learn that you qualified for the higher rebates? [RANDOMIZE ITEMS 1-10]

1. When I participated in another Focus on Energy program
2. Installer / Contractor / Trade Ally
3. Focus on Energy website
4. Utility website
5. Focus on Energy representative
6. Utility representative
7. Utility bill insert / direct mail / brochure / postcard mail from utility
8. Focus on Energy direct mail / brochure / postcard
9. Internet advertising / online ad
10. Community or utility event
11. Other [SPECIFY: _____]
99. Don't know

F. Freeridership

[FORCED RESPONSES ACCORDING TO PROGRAMMING INSTRUCTIONS]
For the next questions, please think about how you made your decision to purchase high efficiency [MEASURE].

F1. When did you first hear about the availability of the Focus on Energy rebate for [MEASURE]?

1. Before you contacted your contractor to purchase [MEASURE] [SKIP TO F3]
2. When the contractor provided the quote for purchase and installation [SKIP TO F3]
3. After your contractor installed your [MEASURE] [ASK F2]
4. When you received your rebate check from Focus on Energy [ASK F2]
5. After you purchased your [MEASURE] [ASK F2]
6. You had not heard of Focus on Energy before this survey [ASK F2]
99. Don't know [SKIP TO F3]

F2. [ASK IF F1=3, 4, 5 OR 6] So just to be clear, you purchased your [MEASURE] before you heard anything about the Focus on Energy rebate. Is that correct?

1. Yes, that's correct [SKIP TO F4]
2. No, that's not correct [ASK F3]
99. Don't know [ASK F3]

F3. Before you heard about the Focus on Energy rebate, had you already considered installing [MEASURE]?

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

F4. [ASK IF MEASURE ≠ "smart thermostat(s)" OR "ground source heat pump(s)"] Without the rebate and information or education from Focus on Energy, would you most likely have purchased and installed [MEASURE] that were just as efficient, less efficient or more efficient than what you purchased?

1. Just as efficient
2. Less efficient
3. More efficient
99. Don't know

F5. [ASK IF MEASURE="smart thermostat(s)"] Without the rebate and information or education from Focus on Energy, what kind of thermostat would you most likely have installed?

1. A smart or learning thermostat
2. A WiFi thermostat (non-learning)
3. A programmable thermostat
4. A manual thermostat
5. Would not have installed a new thermostat
99. Don't know

F6. [ASK IF MEASURE="ground source heat pump(s)"] Without the rebate and information or education from Focus on Energy , what type of ground source heat pump would you most likely have installed?

1. A smaller, less expensive geothermal or ground source heat pump
2. The same size, same-cost geothermal or ground source heat pump
3. A larger, more expensive geothermal or ground source heat pump
4. I would not have installed a ground source heat pump
99. Don't know

F7. [ASK IF F6=1 OR 3] How much [INSERT RESPONSE FROM F6: SMALLER/LARGER] would your system have been, as a percentage? [OPEN-ENDED NUMERIC PERCENTAGE RESPONSE]

F8. [ASK IF QUANTITY >1] Would you most likely have installed the same quantity of [MEASURE] without the rebate and information or education from Focus on Energy?

1. Yes, the same quantity
2. No, would have installed fewer
3. No, would have installed more
4. No, would not have installed anything at all [SKIP TO F10]
99. Don't know

F9. Thinking about timing, without the rebate and information or education from Focus on Energy, when would you most likely have installed the [MEASURE]?

1. At the same time
2. Later, but within 12 months
3. One to two years out
4. More than two years out
5. Never
99. Don't know

F10. [ASK EVERYONE] We would like to know more about the factors that contributed to your purchase of the [MEASURE]. For the list of possible factors that could have contributed to your decision shown below, please rate how important each was in your decision. Use a scale from 1 to 5, with 1 meaning the factor was "not at all important" and 5 meaning the factor was "very important" in your decision to purchase the [MEASURE]. [1 TO 6 - RANDOMIZE LIST] [DROP DOWN LIST SELECTION; "1 – NOT AT ALL IMPORTANT", "2", "3", "4", "5 – VERY IMPORTANT", "NOT APPLICABLE" CODE AS 97]

1. [Response from C2 IF C2 ≠ 8, 7, 9 OR 99]
2. The Focus on Energy Heating and Cooling rebate or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy-efficiency offering or program

G. Spillover

[FORCED RESPONSES ACCORDING TO PROGRAMMING INSTRUCTIONS]

Now we would like to learn about any energy-saving improvements you may have made since installing the [MEASURE] and receiving a rebate from Focus on Energy.

G1. Since installing the [MEASURE] and receiving the Focus on Energy rebate, have you made any other energy saving improvements or high-efficiency equipment purchases for your home that you did NOT receive for free or a rebate from Focus on Energy or another organization?

1. Yes
2. No [SKIP TO NEXT SECTION]
99. Don't know [SKIP TO NEXT SECTION]

G2. What were the products that you installed without receiving for free or getting an rebate?

1. Gas boiler [HOW MANY DID YOU INSTALL?]
2. Gas furnace [HOW MANY DID YOU INSTALL?]
3. Gas tankless water heater [HOW MANY DID YOU INSTALL?]
4. Gas storage water heater [HOW MANY DID YOU INSTALL?]
5. Electric tankless water heater [HOW MANY DID YOU INSTALL?]

6. Electric storage water heater [HOW MANY DID YOU INSTALL?]
7. Insulation; attic [HOW MANY SQUARE FEET?]
8. Insulation; floor [HOW MANY SQUARE FEET?]
9. Insulation; ceiling [HOW MANY SQUARE FEET?]
10. Air sealing [HOW MANY LINEAR FEET?]
11. Duct sealing [HOW MANY LINEAR FEET?]
12. ENERGY STAR windows [HOW MANY SQUARE FEET?]
13. ENERGY STAR air purifier [HOW MANY DID YOU INSTALL?]
14. ENERGY STAR dehumidifier [HOW MANY DID YOU INSTALL?]
15. ENERGY STAR clothes washer [HOW MANY DID YOU INSTALL?]
16. ENERGY STAR dishwasher [HOW MANY DID YOU INSTALL?]
17. ENERGY STAR pool pump [HOW MANY DID YOU INSTALL?]
18. ENERGY STAR room air conditioner [HOW MANY DID YOU INSTALL?]
19. ENERGY STAR refrigerator [HOW MANY DID YOU INSTALL?]
20. ENERGY STAR freezer [HOW MANY DID YOU INSTALL?]
21. Smart thermostat [HOW MANY DID YOU INSTALL?]
22. Heat pump water heater [HOW MANY DID YOU INSTALL?]
23. Central air conditioner [HOW MANY DID YOU INSTALL?]
24. Air source heat pump [HOW MANY DID YOU INSTALL?]
25. Ductless heat pump [HOW MANY DID YOU INSTALL?]
26. Ground source heat pump [HOW MANY DID YOU INSTALL?]
27. Smart power strip [HOW MANY DID YOU INSTALL?]
28. Other equipment, please specify the items and quantity: [OPEN-ENDED RESPONSE]
99. Don't know [SKIP TO SECTION NEXT SECTION]

G3. [REPEAT FOR EACH ITEM MENTIONED IN G2] How important was your experience with the Focus on Energy Heating and Cooling Program in your decision to install [INSERT EACH ONE SELECTED IN G2]?

1. [DROP DOWN LIST SELECTION; "1 – NOT AT ALL IMPORTANT", "2", "3", "4", "5 – VERY IMPORTANT", "DON'T KNOW"]

G4. [REPEAT FOR EACH ITEM MENTIONED IN G2] In what year was the [INSERT EACH ONE SELECTED IN G2] purchased and installed?

1. [DROP DOWN LIST SELECTION; "2023","2022", "BEFORE 2022"…, 99 FOR DON'T KNOW]

G5. [ASK FOR EACH ONE SELECTED IN G2 EXCEPT 3 (gas tankless water heater) , 4 (gas storage water heater), 5 (electric tankless water heater), 6 (electric storage water heater), 12 (ENERGY STAR windows), 13 (ENERGY STAR air purifier), 14 (ENERGY STAR dehumidifier), 15 (ENERGY STAR clothes washer), 16 (ENERGY STAR dishwasher), 17 (ENERGY STAR pool pump), 18 (ENERGY STAR room air conditioner), 19 (ENERGY STAR refrigerator), 20 (ENERGY STAR freezer), 22 (Heat pump water heater), 27 (smart power strip) OR 28 (other equipment.)] Why didn't you apply for and receive a Focus on Energy rebate for [INSERT EACH ONE SELECTED IN G2]?

1. Did not know rebate was available
2. Product did not qualify
3. Other [SPECIFY: _____]
99. Don't know

H. Impact Questions

[ASK THIS SECTION IF MEASURE = FURNACE, WATER HEATER, ASHP, OR GSHP]

H1. [IF MEASURE ≠ WATER HEATER] Did the new [MEASURE] replace an existing heating or cooling system?

1. Yes, replaced both heating and cooling
2. Yes, replaced heating only
3. Yes, replaced cooling only
4. No, [MEASURE] did not replace an existing heating or cooling system

H2. [IF H1=1, 2, OR 3] What type of equipment did the new [MEASURE] replace? Select all that apply. [ALLOW MORE THAN 1 RESPONSE]

1. [SHOW IF H1=1 OR 3] Central Air Conditioner
2. [SHOW IF H1=1 OR 3] Room/Window Air Conditioner
3. [SHOW IF H1=1 OR 3] Air Source Heat Pump
4. [SHOW IF H1=1 OR 3] Geothermal (Ground Source) Heat Pump
5. [SHOW IF H1=1 OR 3] Ductless (Minisplit) Air Conditioner
6. [SHOW IF H1=1 OR 3] Ductless (Minisplit) Heat Pump
7. [SHOW IF H1=1 OR 2] Furnace
8. [SHOW IF H1=1 OR 2] Boiler
9. [SHOW IF H1=1 OR 2] Electric Resistance Heat (Baseboard or Electric Furnace)
10. Other [SPECIFY: _____]
99. Don't know

H3. [IF H2=FURNACE, BOILER, OTHER AND H1≠3; PROGRAM AS THREE FOLLOW UP QUESTIONS SINCE H2 IS MULIPLE RESPONSE] What type of fuel did the *old* [INSERT RESPONSE FROM H2] use?

1. Natural gas
2. Propane
3. Oil
4. Electricity
5. Other [SPECIFY: _____]
99. Don't know

H4. [IF H1=1, 2, OR 3; PROGRAM AS MULTIPLE FOLLOW UP QUESTIONS SINCE H2 IS MULIPLE RESPONSE] Approximately how many years old was the [INSERT RESPONSE FROM H2] that was replaced?

1. [NUMERIC OPEN END] Years old
99. Don't Know

H5. [IF MEASURE=FURNACE AND H2=FURNACE] Do you know the efficiency rating of your old furnace?

1. [NUMERIC OPEN END 1-99] AFUE
99. Don't know

H6. [IF MEASURE = WATER HEATER] Did your new water heater replace an existing water heater?

1. Yes

2. No

H7. [IFH6=1] What type of fuel did the *old* water heater use?
1. Natural gas
2. Propane
3. Oil
4. Electricity
5. Other [SPECIFY: _____]
99. Don't know

H8. [IF H6=1] Approximately how many years old was the water heater that was replaced?
1. [NUMERIC OPEN END] Years old
99. Don't Know

H9. [IF H6=1] Do you know the efficiency rating of your old water heater?
1. [NUMERIC OPEN END 1-99]
99. Don't know

H10. {[IF H1=1, 2, OR 3] OR [IF H6=1]} Did your contractor offer you the option to repair or tune up your system instead of replacing it?
1. Yes
2. No
99. Don't Know

H11. [IF H10=1] Why did you opt for replacing the unit instead of repairing it? Select all that apply. [MULTIPLE RESPONSES ALLOWED; RANDOMIZE LIST]
1. The repair costs were too much; was not worth it
2. I would have had to replace it soon anyway
3. The contractor convinced me that installing a high-efficiency model would save me money in the long-run
4. I wanted a more reliable/more efficient/better system
5. I wanted to take advantage of the Focus on Energy rebate
6. Focus on Energy's marketing convinced me it was a good time to replace
7. I wanted to take advantage of manufacturer or tax credit rebates while available
8. Other [OPEN-ENDED RESPONSE]
99. Don't know

H12. [IF H11=7] When purchasing your new [MEASURE] how important was the ability to receive multiple rebates in your decision to purchase a high-efficiency unit?
1. [DROP DOWN LIST SELECTION; "1 – NOT AT ALL IMPORTANT", "2", "3", "4", "5 – VERY IMPORTANT", "DON'T KNOW"]

H13. [IF MEASURE = ASHP] When purchasing your new air-source heat pump, did your contractor offer a quote for other types of equipment, such as a gas furnace and central air conditioner?
1. Yes
2. No
99. Don't know

H14. [IF H13=1] Why did you choose the air-source heat pump instead of the other equipment?
1. [OPEN-ENDED RESPONSE]

H15. [IF MEASURE = ASHP] Does your air-source heat pump use a backup heating source for really cold days?
1. Yes
2. No
99. Don't know

H16. [IF H15=1] What type of backup heat does your system use?
1. Furnace – Natural gas
2. Furnace – Propane/LP
3. Electric baseboard heat
4. Other [OPEN ENDED RESPONSE]
99. Don't know

H17. [IF H16=1 OR 2] How old is the furnace that you are using for supplemental heat?
1. New, I installed it at the same time as the air-source heat pump
2. [OPEN ENDED NUMERIC RESPONSE 1-99] Years
99. Don't know

I. Energy Usage Motivations

I1. *How much do you agree with each of the following statements? [FORMAT: DROP DOWN MENUS. RANDOMIZE LIST OF ITEMS; SAME 6 RESPONSE OPTIONS FOR EACH ITEM]
1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Does not apply

I1a. I try to save energy to lower my energy bill
I1b. Keeping the home comfortable is more important than saving on my bill
I1c. I've tried a few things to save energy, but have not seen any real savings on my energy bill
I1d. It is important to conserve resources to be more environmentally friendly
I1e. I prefer to use the most advanced technologies available to control my energy use
I1f. I am willing to pay more for efficient products that will save me money in the long term
I1g. I am willing to pay more for efficient products that are more environmentally friendly
I1h. Energy efficient improvements increase my home's comfort
I1i. I'm not interested in improving my home's efficiency
I1j. I wish Focus on Energy would offer more options to help manage my energy usage
I1k. It is too inconvenient to be efficient at home

I2. *How informed do you feel about all the ways you can save energy, including buying and using energy efficient appliances and equipment?

1. Very informed
2. Somewhat informed
3. Neutral
4. Not too informed
5. Not at all informed
99. Don't know

I3. *How much attention do you pay to the amount of energy (gas or electric) that you use in your home?

1. Very close attention
2. A fair amount of attention
3. Some attention
4. Not much attention
5. No attention at all
99. Don't know

I4. *What other energy improvements do you plan to make to your home over the next 5 to 10 years? Select all that apply.
[MULTIPLE RESPONSES ALLOWED]

1. Gas boiler
2. Gas furnace
3. Gas tankless water heater
4. Gas storage water heater
5. Electric tankless water heater
6. Electric storage water heater
7. Insulation; attic
8. Insulation; floor
9. Insulation; ceiling
10. Insulation; basement
11. Air sealing
12. Duct sealing
13. Low-E Storm windows
14. ENERGY STAR windows
15. ENERGY STAR air purifier
16. ENERGY STAR dehumidifier
17. ENERGY STAR clothes washer
18. ENERGY STAR dishwasher
19. ENERGY STAR pool pump
20. ENERGY STAR room air conditioner
21. ENERGY STAR refrigerator
22. ENERGY STAR freezer
23. Smart thermostat
24. Heat pump water heater
25. Central air conditioner
26. Air source heat pump
27. Ductless heat pump
28. Ground source heat pump

29. Smart power strip
30. Other equipment, please specify the items below: [TEXT ENTRY]
99. Don't know [SKIP TO SECTION NEXT SECTION]

I5. Is the building where the [MEASURE] was installed your primary residence?
1. Yes
2. No

I6. [IF I5=1] How many hours each week is someone typically at home? (For reference, there are 168 hours in a week, so if people are at home about half of the time, that would be 84 hours per week.)
1. [OPEN ENDED NUMERIC RESPONSE 1-168]

I7. [IF I5=2] How many months out of the year do you spend there?
1. [OPEN ENDED NUMERIC RESPONSE 1-12

I8. Are you spending more or less time at home compared to 5 years ago?
1. Significantly more
2. Slightly more
3. No change
4. Slightly less
5. Significantly less

J. Demographics and Household Information/Business Firmographics

The last few questions are for statistical purposes only.

J1. *What type of fuel does your **water heater** use?
1. Natural gas
2. Electricity
3. Propane/Bottled gas
4. Wood
5. Other [SPECIFY: _____]
99. Don't know

J2. *What is the main type of fuel you use to **heat your home**?
1. Natural Gas
2. Oil
3. Propane
4. Electricity
5. Wood
6. Other [SPECIFY: _____]
99. Don't know

J3. *What type of home do you live in?
1. Mobile / manufactured home
2. Single-family home, detached house
3. Attached house townhouse, row house, or duplex
4. Multifamily apartment or condo building with 4 or more units
5. Co-op/retirement community
6. Other [SPECIFY: _____]

99. Don't know

J4. *Do you or members of your household own or rent this home?
1. Own
2. Rent
3. Other [SPECIFY: _____]
99. Don't know

J5. [ASK IF J4 = 2 OR 3] How is your electric utility bill paid?
1. Your utility bills you directly
2. Your maintenance fees or rent includes utility costs
3. Your bill is split evenly between units within the complex
4. Other [SPECIFY: _____]
99. Don't know

J6. [ASK IF J4 = 2 OR 3] How is your gas utility bill paid?
1. Your utility bills you directly
2. Your maintenance fees or rent includes utility costs
3. Your bill is split evenly between units within the complex
4. You don't have natural gas service
5. Other [SPECIFY: _____]
99. Don't know

J7. * What is the highest level of school that you have completed?
1. Less than 9th grade
2. 9th to 12th grade; no diploma
3. High school graduate [includes GED]
4. Some college, no degree
5. Associate's degree
6. Bachelor's degree
7. Graduate or professional degree
99. Prefer not to answer

K. Closing

K1. * Do you have any other comments about your experience with Focus on Energy that you would like to share?
1. Yes: [OPEN ENDED TEXT]
2. No
99. Don't know

K2. * On occasion, Focus on Energy may want to contact a customer to learn more about their participation experience. May we share your responses with a program manager, who may contact you regarding your experience?
1. Yes
2. No
99. Don't know

K3. Finally, we would like to confirm where to send your prize if you are selected as a $100 gift card winner. Please enter a name and email address below. The gift card winners will be selected and notified within two weeks after this survey closes. You may leave this blank if you do not want to be included in the drawing.

1. FIRSTNAME LASTNAME
2. EMAIL

Thank you. We appreciate your help with this survey. Have a nice day.

[IF K3 ≠ 3] You will be added into the drawing for a $100 gift card.

To learn about additional opportunities to save energy and money in your home, please visit focusonenergy.com.

CADMUS

Focus on Energy Heating and Cooling Program
2023 Contractor Survey

Survey Overview: The primary purpose of this survey is to better understand the baseline efficiency of furnaces being offered to customers in WI by HVAC contractors. The survey will also explore Focus on Energy's influence on the furnace market and HVAC contractors' experience with heat pumps.

Target Audience: WI HVAC contractors (both Focus on Energy participants and non-participants)

Target Completions: 70 furnace respondents, naturally occurring rate of ASHP respondents

Estimated Completion Time: 15 minutes

General Instructions:

- Programming instructions are in red [LIKE THIS].
- Responses will be required for all questions, unless indicated.
- Only one response will be allowed for all questions, unless indicated.
- The sample will include a flag to indicate which contractors are participating in Focus on Energy.

Embedded panel variables for survey logic:

- FOCUSPARTICIPANT Has values of "yes" or "no" (lowercase)

Email Invitation

To: [EMAIL]
From: Focus on Energy Feedback
Subject: Focus on Energy HVAC Market Feedback Request

Dear [FIRSTNAME AND LASTNAME],

Focus on Energy is looking for your feedback on the Wisconsin residential HVAC market. We invite you to take a survey about your company's experiences in Wisconsin and general HVAC market feedback. Your input is very important to us! Your responses will be kept confidential, and your company will remain anonymous. **The survey will take about 15 minutes to complete**. As our thanks for completing the survey, we will send you a $25 Amazon gift card.

Click the link below to take the survey:
[auto-generated link]

Or you may copy and paste the URL below into your internet browser: [auto-generated url]

If you have problems with the survey link, please contact the survey coordinator, David Ladd, via email at David.Ladd@CadmusGroup.com. If you would like to confirm the validity of the research effort, please call Mitch Horrie at the Public Service Commission of Wisconsin at (608) 267-3206.

Thank you in advance for sharing your experiences and your time.

Reminder Invitation

To: [EMAIL]
From: Focus on Energy Feedback
Subject: Don't forget to give Focus on Energy your HVAC market feedback!

Dear [FIRSTNAME AND LASTNAME],

We recently invited you to provide feedback on the Wisconsin residential HVAC market. We would still like to hear from you – **your input is very important to us!** Your responses will be kept confidential, and your company will remain anonymous.

The survey will take about 15 minutes to complete. As our thanks for completing the survey, we will send you a $25 Amazon gift card.

Click the link below to take the survey:
[auto-generated link]

Or you may copy and paste the URL below into your internet browser: [auto-generated url]

If you have problems with the survey link, please contact the survey coordinator, David Ladd, via email at David.Ladd@CadmusGroup.com. If you would like to confirm the validity of the research effort, please call Mitch Horrie at the Public Service Commission of Wisconsin at (608) 267-3206.

Thank you in advance for sharing your experiences and your time.

Survey Introduction

[FOCUS ON ENERGY LOGO TO APPEAR ON START SCREEN]

Thank you for sharing your knowledge about the Wisconsin HVAC market! Your responses will remain confidential and will only be used for research purposes. Be sure to enter your name and email address at the end of the survey in order to receive your $25 Amazon gift card.

A. Contractor Questions

A1. How long has your company been installing residential HVAC equipment in Wisconsin?

1. 0-5 years
2. 6-10 years
3. 11-15 years
4. 16-20 years
5. 21+ years
6. Don't know

A2. How long have you been employed with your company?

1. Less than 1 year
2. 1-5 years
3. 6-10 years
4. 11-15 years
5. 16-20 years
6. 21+ years

A3. In the past 12 months, has your company installed equipment that received a rebate or incentive from Focus on Energy's Heating and Cooling program?

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

A4. Please tell us which types of equipment your company installs and if you are familiar with your company's sales of that equipment.

Equipment Type	Yes, my company installs this equipment	Yes, I am familiar with my company's sales of this equipment
Furnaces – Natural Gas	o	o
Furnaces – Propane/LP	o	o
Furnaces – Oil	o	o
Boilers – Natural Gas	o	o
Boilers – Propane/LP	o	o
Boilers – Oil	o	o
Central Air Conditioners	o	o
Central Air Source Heat Pumps	o	o
Ductless Air Conditioners	o	o
Ductless Heat Pumps	o	o

Ground Source Heat Pumps	o	o
Wood/Pellet Furnace or Stove	o	o
Water Heaters – Tank/Storage	o	o
Water Heaters – Tankless/Instantaneous	o	o

[IF FURNACES–NG AND CENTRAL AIR SOURCE HEAT PUMPS ≠ YES FOR INSTALLS, THANK AND TERMINATE] Thank you for your time, that is all of the questions we have for you today. Have a good day!

A5. [IF FURNACES-NG = YES FOR INSTALLS BUT IS NOT CHECKED FOR FAMILIARITY] This survey includes questions about your company's furnace sales and the Wisconsin furnace market. Is there a better person at your company that we should contact for those questions?
1. Yes [PLEASE PROVIDE NAME AND CONTACT INFORMATION, THEN THANK AND TERMINATE]
2. No, I can answer the furnace questions.

A6. [IF CENTRAL AIR SOURCE HEAT PUMPS = YES FOR INSTALLS BUT IS NOT CHECKED FOR FAMILIARITY] This survey includes questions about your company's air source heat pump sales and the Wisconsin heat pump market. Is there a better person at your company that we should contact for those questions?
1. Yes [PLEASE PROVIDE NAME AND CONTACT INFORMATION, THEN THANK AND TERMINATE]
2. No, I can answer the furnace questions.

B. Furnace Installation Questions

[ASK SECTION IF A3=YES FOR FURNACES-NG *AND* IF CONTRACTOR FAMILIARITY = YES OR A4=2]

The following questions are about natural gas furnaces that you have installed in Wisconsin homes in the past 12 months. Some questions ask about low/limited income homes and standard income homes. For low/limited income customers, please think of customers whose gross income might be 80% of the state median income levels (as found at Income-Qualified Rebates | Focus on Energy) or customers who might be financially devastated by the furnace cost. Standard income customers are anyone who does not meet the low/limited income criteria.

Please provide your best estimate for each question.

B1. About how many natural gas furnaces did your company install in Wisconsin homes in the past 12 months? [OPEN-ENDED NUMERIC ENTRY WITH VALIDATION FROM 0-9999]

B2. [IF B1 >0] About what percent of the natural gas furnaces you installed were in these home types? Please give us your best estimate. [EACH RESPONSE IS SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5. RESPONSES MUST SUM TO 100.]
1. Single-family (1-3 units), low/limited income ____%
2. Single-family (1-3 units), standard income ____%

3. Multifamily (4+ units), low/limited income ____%
4. Multifamily (4+ units), standard income ____%

B3. [IF B2.3 or B2.4 >0%] Thinking of the natural gas furnaces you installed in multifamily buildings, about what percent were installed in an individual unit of a multifamily building (as opposed to installing a central furnace that serves the entire building)? [SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

B4. [IF ANY B2>0%] Considering all of the natural gas furnaces your company installed in Wisconsin homes in the past 12 months, about what percent replaced a non-condensing unit? [EACH RESPONSE IS SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

1. [DISPLAY IF B2.1>0%] Single-family (1-3 units), low/limited income ____%
2. [DISPLAY IF B2.2>0%] Single-family (1-3 units), standard income ____%
3. [DISPLAY IF B2.3>0%] Multifamily (4+ units), low/limited income ____%
4. [DISPLAY IF B2.4>0%] Multifamily (4+ units), standard income ____%

B5. [IF ANY B4>0%] Thinking of *only the non-condensing furnaces* your company replaced in Wisconsin in the past 12 months, about what percent of non-condensing furnaces did you upgrade to a condensing unit for each of these home types? [EACH RESPONSE IS SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

1. [DISPLAY IF B4.1>0%] Single-family (1-3 units), low/limited income ____%
2. [DISPLAY IF B4.2>0%] Single-family (1-3 units), standard income ____%
3. [DISPLAY IF B4.3>0%] Multifamily (4+ units), low/limited income ____%
4. [DISPLAY IF B4.4>0%] Multifamily (4+ units), standard income ____%

B6. [IF B4.1>0% AND B5.1<100% or B4.2>0% AND B5.2<100%] What is the most common reason a customer in a single-family home does not upgrade a non-condensing unit to a condensing unit?

1. [OPEN-ENDED RESPONSE]

B7. [IF B4.3>0% AND B5.3<100% or B4.4>0% AND B5.4<100%] What is the most common reason a customer in a *multi-family* building does not upgrade a non-condensing unit to a condensing unit?

1. [OPEN-ENDED RESPONSE]

C. Furnace Efficiency Options and Promotions

[ASK SECTION IF A3=YES FOR FURNACES-NG AND CONTRACTOR FAMILIARITY OR IF A4=2]

C1. We're interested in better understanding efficiency options that are offered to Wisconsin residential natural gas furnace customers. What are the lowest and highest AFUE options you typically offer Wisconsin furnace customers for each of these *existing* home types? We understand that each customer and installation is unique, but please consider general responses.

	Lowest AFUE Option	Highest AFUE Option
[DISPLAY IF B2.1 >0%] Single-Family (1-3 units) Low or Limited Income	AFUE	AFUE
[DISPLAY IF B2.2 >0%] Single-Family (1-3 units) Standard Income	AFUE	AFUE
[DISPLAY IF B2.3 >0%] Multifamily (4+ units) Low or Limited Income	AFUE	AFUE
[DISPLAY IF B2.4 >0%] Multifamily (4+ units) Standard Income	AFUE	AFUE

C2. [IF C1 LOWEST EFFICIENCY RESPONSE >94%] Are there any cases where you offer an even lower efficiency (for example, if the standard options are out of customer's price range)?

1. Yes, sometimes I offer lower AFUE options
2. No, [INSERT LOWEST RESPONSE FROM C1]% is always the lowest AFUE that I offer customers

C3. [IF C2=YES] Please describe when you would offer lower efficiency models to customers.

1. [OPEN-ENDED RESPONSE]

C4. [IF C2=NO] Why do you never offer lower efficiency options?

1. [OPEN-ENDED RESPONSE]

C5. [IF C1 LOWEST EFFICIENCY RESPONSE = HIGHEST EFFICIENCY RESPONSE] Why do you only offer one efficiency option for [INSERT CATEGORY FROM C1, ALLOW FOR MULTIPLE CATEGORIES] customers?

1. [OPEN-ENDED RESPONSE]

C6. [IF "FOCUSPARTICIPANT" FLAG = YES] Over the past 12 months, how influential has the Focus on Energy rebate been to the furnace efficiency your company recommends to residential customers?

1. Not at all influential
2. Not too influential
3. Neutral
4. Somewhat influential
5. Very influential

C7. [IF "FOCUSPARTICIPANT" FLAG = YES AND A1 AND A2 = >5 YEARS] Over past five years, has the Focus on Energy rebate's influence on your company's residential furnace efficiency recommendations changed?

1. Yes, the Focus on Energy rebate has become more influential
2. Yes, the Focus on Energy rebate has become less influential
3. No, the level of influence has not changed over the years
4. Don't know

C8. [IF C7=1 or 2] Why has the Focus on Energy influence changed over the past five years?

1. [OPEN-ENDED RESPONSE]

C9. [IF "FOCUSPARTICIPANT" FLAG = YES] If the Focus on Energy furnace rebate had not been available in the past five years, how would your current recommendations for high-efficiency natural gas furnaces be different?

1. I would recommend fewer high-efficiency natural gas furnaces in Wisconsin
2. I would recommend more high-efficiency natural gas furnaces in Wisconsin
3. I would recommend the same number of high-efficiency natural gas furnaces in Wisconsin

C10. [ASK EVERYONE] How often do you discuss the following when presenting furnace options to customers?

	Never	Rarely	Sometimes	Often	Always
Focus on Energy [SHOW IF "FOCUSPARTICIPANT" FLAG = YES]	O	O	O	O	O
ENERGY STAR	O	O	O	O	O
High efficiency benefits	O	O	O	O	O

C11. [IF "FOCUSPARTICIPANT" FLAG = YES] Besides the incentive, what other ways does Focus on Energy or the Focus on Energy branding support your furnace sales?

1. [OPEN-ENDED RESPONSE]

C12. [ASK EVERYONE] If your company stocks a supply of natural gas furnaces, what is your typical stock assortment breakdown by AFUE? [MULTIPLE RESPONSES ALLOWED]

1. Percentage of natural gas furnace stock that is high efficiency (at least 95% AFUE): _____ % [OPEN-ENDED NUMERIC RESPONSE 0-99]
2. My company does not stock furnaces, but purchases them from distributors as needed
3. Something else, please describe: [OPEN-ENDED RESPONSE]

98. Don't know [EXCLUSIVE]

D. Furnace Sales & Market Share

[ASK SECTION IF [A3=YES FOR FURNACES-NG AND CONTRACTOR FAMILIARITY OR IF A4=2] AND "FOCUSPARTICIPANT" FLAG = YES]

Now we have a few questions about your natural gas furnace sales in Wisconsin over the past 12 months. Again, your best estimate is acceptable.

D1. In the past 12 months, about what percent of your company's Wisconsin natural gas furnace sales qualified for a Residential Focus on Energy rebate (i.e., AFUE of 95% or higher)? [SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

D2. If the Focus on Energy Residential Heating and Cooling Program (i.e., the furnace rebate and program support) had not existed in the past 12 months, what is your best estimate of how your sales of high-efficiency natural furnaces would have changed in that time?

1. I would have sold fewer high-efficiency natural gas furnaces in Wisconsin
2. I would have sold more high-efficiency natural gas furnaces in Wisconsin
3. I would have sold the same number of high-efficiency natural gas furnaces in Wisconsin

D3. In the past 12 months, did you sell any qualified residential furnaces in Wisconsin that did not receive a Focus on Energy rebate?

1. Yes, please enter quantity: [OPEN-ENDED NUMERIC RESPONSE 0-999]
2. No, all of the qualifying furnaces I sold in Wisconsin received a Focus on Energy rebate
3. Don't know, customer completes Focus on Energy application
4. Don't know

D4. [IF D3=1] Why did some of your qualified residential furnaces not receive a rebate? [MULTIPLE RESPONSE, RANDOMIZE ITEMS 1-3]

1. Customer did not qualify for Focus on Energy (for example, the customer was not serviced by a participating utility)
2. Application process was a burden
3. Didn't submit application in time
4. Other reasons: [OPEN-ENDED RESPONSE]

98. Don't know [EXCLUSIVE]

D5. Please rate how important the Focus on Energy Residential Heating and Cooling Program has been in your sales of program-qualifying equipment in Wisconsin over the past 12 months.

1. Very important
2. Somewhat important
3. Neutral
4. Not too important
5. Not at all important

D6. Thinking about all of the residential furnaces sold in Wisconsin in the past 12 months by all contractors, what is your estimate of the percentage of residential natural gas furnaces that are 95% AFUE or greater? [SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

E. Air Source Heat Pumps

[ASK SECTION IF A3 CENTRAL ASHP = YES AND CONTRACTOR FAMILIARITY = YES]

The following questions are about your company's sales of air source heat pumps. Please think about your sales over the past 12 months.

E1. About how many central air source heat pumps did your company install in the past 12 months? [OPEN-ENDED NUMERIC RESPONSE 0-999]

E2. How often did you offer air source heat pumps to customers in these situations?

	Never	Rarely	Sometimes	Often	Always
Customer upgrading existing central cooling system	O	O	O	O	O
Customer upgrading existing central heating system	O	O	O	O	O
Customer upgrading existing central cooling and heating systems	O	O	O	O	O
New central heating installation	O	O	O	O	O
New central cooling installation	O	O	O	O	O
New central cooling and heating installation	O	O	O	O	O

E3. In the past 12 months, about what percent of Wisconsin residential customers who were upgrading their heating and/or cooling system requested a quote for an air source heat pump? [SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

E4. In homes where you installed new air source heat pumps, about what percentage had each of these existing back up heating sources? [EACH RESPONSE HAS A SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

1. Natural gas furnace
2. Propane/LP furnace
3. Oil furnace
4. Electric baseboard heat

E5. [IF E4 >0% FOR NATURAL GAS FURNACE] When installing an air source heat pump with a natural gas furnace back up, about what percentage of the time did you also replace the backup furnace? [SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

E6. [IF E5 >0%] What furnace efficiency do you typically install when you install a new natural gas furnace with a new air source heat pump?

1. [OPEN-ENDED NUMERIC RESPONSE 80-99] AFUE

E7. Thinking about all of your residential heat pump and central air conditioner sales in the past 12 months, what percentage of your sales were air source heat pumps?

1. [SLIDER WITH OPTION TO CHOOSE PERCENTAGES IN INCREMENTS OF 5]

E8. Again considering all of your heat pump and central air conditioner sales, how do you think your percentage of air source heat pump sales will change in the next five years?

1. The percentage of air source heat pump sales will *increase significantly*

2. The percentage of air source heat pump sales will *increase slightly*
3. The percentage of air source heat pump sales will *stay the same*
4. The percentage of air source heat pump sales will *decrease slightly*
5. The percentage of air source heat pump sales will *decrease significantly*
6. Don't know

E9. [IF "FOCUSPARTICIPANT" FLAG = YES] Would you be willing to record and submit measurements like superheat/subcooling, airflow, and refrigerant charge, to Focus on Energy for residential central air conditioners and air source heat pumps?

1. Yes
2. Yes, only for additional incentives
3. No, I would not be willing to record and submit measurements
4. Don't know

E10. [IF "FOCUSPARTICIPANT" FLAG = YES] Do you already record any measurements for central air conditioners and air source heat pumps?

1. Yes, for both central air conditioners and air source heat pumps
2. Yes, for central air conditioners
3. Yes, for air source heat pumps
4. No, I don't record any measurements

E11. How would you define your comfort level for installing air source heat pumps?

1. Very comfortable
2. Comfortable
3. Somewhat comfortable
4. Not comfortable
5. It depends on the installation

E12. [IF E11≠1] Why do you say that? [OPEN-ENDED RESPONSE]

E13. [IF E11≠1] Would you be interested in additional training about air source heat pumps?

1. Yes, what type of training? [OPEN-ENDED RESPONSE]
2. No

F. IRA Awareness

F1. How familiar are you with Inflation Reduction Act (IRA) tax credits and rebates for HVAC equipment?

1. Very familiar
2. Somewhat familiar
3. Not very familiar
4. Not familiar at all

F2. [IF F1 = 1, 2, OR 3] What changes do you expect to see in your business as a result of the IRA? Select all that apply. [RANDOMIZE ITEMS 2-8, MULTIPLE RESPONSE]
1. I do not expect the IRA to impact our business [EXCLUSIVE]
2. An increase in overall sales
3. A decrease in overall sales
4. Expect more customers to replace functional equipment early (ahead of failure)
5. Expect more customers to delay replacing equipment (repair rather than replace)
6. A change in the mix of products we sell (specifically, how do you think it will change?) [OPEN-ENDED RESPONSE]
7. We may offer new types of equipment or services (which ones?) [OPEN-ENDED RESPONSE]
8. We may stop offering some types of equipment or services (which ones?) [OPEN-ENDED RESPONSE]
9. Other changes, please describe: [OPEN-ENDED RESPONSE]
10. I'm not sure [EXCLUSIVE]

F3. [IF F2 = ANY ITEM FROM 2 TO 9 IS CHECKED] How you plan to address these changes as a result of the IRA?
1. [OPEN-ENDED RESPONSE]

G. Closing

G1. Those are all of the questions we have for you today. Would you be willing to provide additional feedback in the future about Focus on Energy and the Wisconsin furnace market?
1. Yes
2. No

G2. Please verify the name and email address where we can send your $25 Amazon gift card.
1. Name of recipient:
2. Email address: [VALIDATE EMAIL FORMAT]
3. Please donate my gift card to this charity: [OPEN-ENDED RESPONSE]

Thank you for taking the time to complete this survey. We appreciate your feedback!

CADMUS

Focus on Energy CY 2023 Interview Guide: Trade Ally Partners – Heating and Cooling Trade Ally Solutions Program

Respondent name:

Respondent phone:

Interview date: Interviewer initials:

Introduction

Thank you for making the time to speak with me. [IF NO] We are interviewing several HVAC trade allies who participate in Focus on Energy's Heating and Cooling Program to better understand how your business is interacting with the program and capture your thoughts on the HVAC market in general. We hope to get your perspective on things that are working well and any areas where you have experienced challenges. This information will inform potential program changes in the coming year, so we encourage you to be as direct as possible and offer any suggestions you have for program improvement.

While we do not expect to ask you anything sensitive, your responses will be confidential; we will never use your name or your company's name in our reporting.

Finally, we do appreciate that you are very busy so we are offering a $100 gift card as a thank you for sharing your time and feedback today. At the end we will confirm the address of where to send the gift card.

Do you have any questions before we begin?

A. General Contractor/Company Information

First, I'd like to ask a few questions to understand your role and responsibilities within your company, as well as the markets you operate in and around Wisconsin.

A1. Please tell me your title and describe your role within your company and how long you have worked there.

A2. In what part of Wisconsin does your company generally work?

A3. Do you work in states outside of Wisconsin? Which ones? [REMINDER TO PLEASE FOCUS ON WISCONSIN FOR THIS INTERVIEW, UNLESS I SPECIFICALLY ASK ABOUT OTHER STATES.]

A4. Could you provide an estimate of the current number of employees at your company?

A5. Roughly what percentage of your company's Wisconsin residential HVAC [contractor=installations/distributor=sales] are in rural versus urban areas?

A6. Roughly what percentage of your company's Wisconsin residential HVAC [contractor=installations/distributor=sales] are in standard versus low/limited income areas?

A7. Some of my questions today will focus on residential natural gas furnaces and air-source heat pumps. Are you familiar with your company's sales of both types of equipment?
   a) If not, is there someone else I can follow up with about those questions?

B. Program Awareness and Participation (CONTRACTORS ONLY)

B1. Our records show that your company submitted [INSERT NUMBER OF APPLICATIONS IN SPECTRUM] applications to the Focus on Energy Heating and Cooling Program from the beginning of 2023 through September 2023. Does that sound about right?

B2. [IF PARTICIPATED IN 2022] According to our records, the number of projects your company completed in 2023 is [HIGHER THAN/LOWER THAN/SIMILAR TO] the number of projects it completed at this time in 2022 Does that sound correct?

B3. [IF Q6 DIFFERENT THAN PREVIOUS YEAR] What do you think accounts for the difference in project volume between this year and last year? [PROBE: UPTAKE/DOWNTAKE REASONS. I.E. ECONOMY, MARKETING, LABOR SHORTAGE, PROGRAM INFLUENCE]

B4. Are you aware that Focus on Energy offers higher incentives for income qualified customers through the Heating and Cooling Program?
   a) If yes, how familiar are you with the Income Qualified requirements?
   b) How comfortable are you offering the Income Qualified incentives to your customers?
   c) What are the main challenges to you offering the Income Qualified incentives?
   d) What are the main challenges to customers receiving the income qualified incentives?

B5. Thinking about all the residential HVAC equipment your company installs for *all* residential customers, roughly what percentage *qualifies* for the Focus on Energy Program? [IF NEEDED: JUST A BALLPARK OR ESTIMATION IS FINE]

B6. Do you install any qualified equipment that is not submitted to Focus on Energy for a rebate?
   a) If yes, what percent of qualified equipment is not submitted?
   b) Why is some equipment not submitted?

B7. Why do you participate in the Focus on Energy Heating and Cooling Program?
   a) What aspects of the Program are most valuable to you?

B8. How often do customers already know about the Focus on Energy incentive before you tell them about it?

B9. When you are selling a job, at what point do you mention the Focus on Energy incentive?

B10. After introducing the Focus on Energy incentive, do you provide the customer with any print or digital materials regarding the program or incentives?

B11. Overall, how would you describe the Program's impact on the percentage of high-efficiency equipment you sell in Wisconsin?
   a) Does the impact vary by equipment type? [probe: furnaces and ASHPs]

B12. Overall, how would you describe the Program's impact on your business? Why would you say that?

C. Feedback On Incentive Structure

C1. Are there any complications that frequently arise during the current process of Focus on Energy paying incentives directly to customers or contractors receiving incentives after discounting the Focus on Energy incentive on the customer's invoice?

C2. In your opinion, what would be the ideal incentive structure for the Heating and Cooling program: payments made directly to customers, directly to contractors, directly to distributors, or another method?

a) Should the approach vary by type of equipment? If yes, please explain.

C3. [If choose contractor or distributor] Would you have any concerns about applying discounts to customers' invoices and having to wait for payment?

a) What's the maximum amount of time you would be willing to wait for reimbursement after submitting an incentive application?

b) What's is the maximum dollar amount you would be willing to provide as a discount and wait for reimbursement after submitting an invoice application?

D. Barriers and Program Delivery [CONTRACTORS]

I'd like to ask you about customer barriers and program delivery aspects of the Program.

D1. Beyond cost, what other factors make customers hesitant to install high-efficiency heating or cooling equipment?

a) Do you notice these barriers in certain demographic groups? (regional, age, etc.)
b) Does the program address these obstacles?

D2. [IF NOT ADDRESSED] Are these non-cost obstacles different for income-qualified customers? Does the program adequately address obstacles for income-qualified customers?

D3. Approximately what percent of the time do you install equipment that is needed urgently, such as with emergency replacements? Is there a difference in the likelihood of these customers selecting high-efficiency equipment?

D4. Besides Focus on Energy, are you aware of other programs or organizations that support customers overcoming these barriers? What are they?

D5. What could Focus on Energy do to better serve customers through the standard path? Through the income-qualified path?

E. Barriers and Program Delivery [DISTRIBUTORS]

I'd like to ask you about customer barriers and program delivery aspects of the Program.

E1. Approximately what percent of the time do you sell equipment that is needed urgently, such as with emergency replacements? Is there a difference in the likelihood of these customers selecting high-efficiency equipment?

E2. Besides Focus on Energy, are you aware of other programs or organizations that support customers overcoming these barriers? What are they?

F. What could Focus on Energy do to better serve customers?

G. Furnace Market Effects

I have some questions about the residential furnace market. For our study purposes, we're primarily interested in the natural gas furnace market. For each of these questions, please think about and share any differences you've seen between the natural gas furnaces market and propane/LP or oil furnace markets.

G1. How long have you and your company been selling residential furnaces in Wisconsin?

G2. Thinking over the past three years, would you say your company is selling a higher percentage of high-efficiency furnaces than it was three years ago?
   a) What do you think is driving that trend?
   b) Do you think that trend is standard for other contractors/distributors in the state?

G3. Have you noticed other changes in the Wisconsin residential furnace market over the past three years? If yes, what are they?
   a) What do you think is driving those changes?

G4. What changes do you foresee happening in the residential furnace market over the next three to five years? Why?

G5. [IF WORKING IN OTHER STATES] Are you seeing/do you expect to see similar changes in other states where you work?
   a) If no, why do you think there's a difference between the states?

G6. What effect do you think the Focus on Energy Heating and Cooling Program has on the Wisconsin residential furnace market at large?

G7. [DISTRIBUTORS, IF NOT ALREADY ADDRESSED] Do you think the program affects nonparticipating contractors? If so, how?

G8. [EVERYONE] In your opinion, if the Focus on Energy program had not existed in the last five years, would you expect the Wisconsin market share of high-efficiency furnaces to be different than it is today? If so, how? [PROBE FOR SPECIFICS, SUCH AS % HIGHER/LOWER OR XX AFUE POINTS HIGHER/LOWER]

H. Air-Source Heat Pump Market

Now let's talk about air-source heat pumps for a few minutes.

H1. How long have you and your company been [contractor=installing/distributor=selling] residential air-source heat pumps?

H2. The air-source heat pump market is changing quickly. Thinking about the air-source heat pump market in general, what are the largest changes you've seen in the market over the past 2 years (since 2021)?
   a) What do you think has been the biggest driver of those changes?

H3. Has your company made any changes to address the changing heat pump market? [PROBE: technical training, sales training, promotions/marketing]

H4. [IF NOT ADDRESSED] Have you noticed a change in your customers' interest in or awareness of heat pumps? Please describe.

H5. What are the main questions your customers have about heat pumps?

H6. Besides cost and barriers previously mentioned, are there any barriers that prevent customers from installing heat pumps?

H7. Which types of customers are least likely to want to install heat pumps?
   a) Why are they not interested in heat pumps?

H8. Looking ahead, how do you see the air-source heat pump market changing in the next five years?
   a) What do you see driving those changes? [PROBE FOR REASONS BESIDES IRA]

H9. Thinking ahead five years,
   a) How do you think your overall sales of ASHPs will change?
   b) How do you expect your sales of high-efficiency heat pumps to compare to today?

I. Feedback on IRA

I1. How familiar are you with the Inflation Reduction Act (IRA)?

I2. What impact has the IRA had on your 2023 sales?

I3. Have you adjusted, or do you plan to adjust your business because of IRA? [PROBE: additional staff, training, stocking, etc.]

I4. Are your customers generally aware of the IRA?
   a) If so, how do they display this awareness?

J. Wrap-up

J1. On a scale from 1-5 where 1 means "not at all satisfied" and 5 means "extremely satisfied," how satisfied are you with Focus on Energy's Heating and Cooling Program overall? [RESPONSE CHOICES RANGING FROM 1-5, PLUS "DON'T KNOW"]

J2. What is one thing Focus on Energy can improve to increase your satisfaction with the Program?

J3. Is there anything we have not discussed about the Program that you would like to share?

J4. The last question I have is to confirm where we can send your $100 gift card. Could you please provide the address where we should mail it?

Those are all the questions we have for you today. Focus on Energy appreciates your time and your feedback. Have a good day.

CADMUS

Focus on Energy Nonresidential Solutions
Multifamily Offering
CY 2023 Participant Survey Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Questions**
Screening	Survey initiation, project verification	Section A
Awareness	Sources of participant awareness and project initiation	Section B
Decision Making	Key factors influencing participants' decision to participate in energy upgrades	Section C
Barriers	Obstacles to installing high-efficiency equipment	Section D
Small Business Experience	Awareness of online business portal; interest in online energy assessment	Section E
	How small businesses self-identify	
	Preferred channels of engagement	
Program Impacts	Determine net program impacts	Sections F, G, H

General Instructions

- Interviewer instructions are in green **[LIKE THIS]** (the style is "Survey: Interviewer Instructions").
- CATI programming instructions are in red **[LIKE THIS]** (the style is "Survey: Programming").
- Items that should not be read by the interviewer are in parentheses like this ( ).

Quota = 70 completes

SAMPLE Variables:
[CONTACT NAME]
[SITE ADDRESS]
[MEASURE CATEGORY1]
[MEASURE CATEGORY2]
[MEASURE CATEGORY3]
[MEASURE CATEGORY1_QUANTITY]
[MEASURE CATEGORY2_QUANTITY]
[MEASURE CATEGORY3_QUANTITY]
[SERVICE]
[ONLY_SERVICE]
[HOW_HEARD]
[CHECK_RECIPIENT]

A. Introduction

[SECTION IS FORCED RESPONSE]

A1. Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your recent energy efficiency project experience for the property at **[SITE ADDRESS]**.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who was most involved with the energy efficiency project your company recently completed with Focus on Energy?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**

99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Back-up information, not to be programmed:

[If "No – Not available," ask if Respondent would like to arrange a more convenient time for us to call them back or if you can leave a message for that person.]

[IF RESPONDENT ASKS HOW LONG, SAY: "APPROXIMATELY 10 MINUTES."]
[IF NEEDED:] This survey is for research purposes only and this is not a marketing call. Your participation in this study is important so that Focus on Energy can improve its energy efficiency programs for businesses and other organizations.

[**Only if asked** for a Focus on Energy contact to verify the survey authenticity, offer Mitch Horrie with the Public Service Commission of Wisconsin, 608.267.3206]

[**Only if respondent says they already did a survey:** Thank you for your responses to that survey. This is another Focus on Energy study that you have been selected for, that asks a few more questions about your experience with the offering and your decision-making. If you have a few more spare minutes, we would greatly appreciate your responses!]

A2. *__[IF ONLY_SERVICE=FALSE]__ Our records show that you installed energy efficient equipment or upgrades including a **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

[IF ONLY_SERVICE=TRUE] Our records show that you received services to improve your facilities energy efficiency including **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

1. (Yes)
2. (No, wrong year) **[RECORD CORRECT YEAR, IF POSSIBLE]**

3. (No, wrong address) **[RECORD CORRECT ADDRESS]**
4. (No, wrong measure) **[CORRECT BELOW]**
   - F3a. (**MEASURE CATEGORY1** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE1]**
   - F3a. (**MEASURE CATEGORY2** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE2]**
   - F3a. (**MEASURE CATEGORY3** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE3]**
5. (No, I did not install any measures) **[THANK AND TERMINATE]**

99. (Don't know) **[IS THERE SOMEONE WE COULD SPEAK WITH THAT WOULD KNOW THIS? RECORD NAME AND CONTACT INFORMATION:_____]**

88. (Refused) **[THANK AND TERMINATE]**

B. Awareness and Customer Experience

I'd like to ask you about your role in relation to the property at [SITE ADDRESS].

B1. What is the best way to describe your role at [SITE ADDRESS]? Are you the. . .? [READ LIST]

1. Property owner
2. Property manager
3. Both property owner and manager
4. Maintenance or facilities supervisor
5. On-site contact
6. Chief financial officer/controller/finance manager
7. Other [Specify:_____]

99. (Don't know)

88. (Refused)

B2. How long have you been in that role for this property?

1. [RECORD RESPONSE:_____]

99. (Don't know)

88. (Refused)

B3. What is the total number of apartment or condo units at the property [IF NEEDED, REPEAT ADDRESS]?

1. [RECORD RESPONSE:_____]

99. (Don't know)

88. (Refused)

B4. Is the property an apartment, condominium, or townhome building?

1. Apartment building
2. Condominium building
3. Townhome building
4. Other [Specify:_____]

99. (Don't know)

88. (Refused)

B5. Does the property have retail or office space within it, in addition to the residential tenant units?
1. Yes
2. No
99. (Don't know)
88. (Refused)

B6. [IF B5 = 1] If the commercial tenant wanted to upgrade the lighting, does the tenant or the building owner pay for upgrades to the interior commercial space?
1. Building owner pays
2. Tenant pays
3. Some combination of both
99. (Don't know)
88. (Refused)

B7. [IF B6 = 3] What percent of a lighting upgrade is paid by the commercial tenant?
1. [RECORD RESPONSE:_____]
99. (Don't know)
88. (Refused)

B8. What is the approximate total square footage of the property?
1. [RECORD NUMBER:_____]
99. (Don't know)
88. (Refused)

B9. Does your company own or manage other multifamily properties in Wisconsin?
1. Yes [RECORD NUMBER:_____]
2. No
99. (Don't know)
88. (Refused)

B10. [IF B9 = 1] How many of these other multifamily properties are condominium buildings [IF NEEDED: AS OPPOSED TO APARTMENT BUILDINGS]?
1. [RECORD NUMBER:_____]
99. (Don't know)
88. (Refused)

B11. [IF B9 = 1] How many of these other multifamily properties have retail or office space within them, in addition to the residential tenant units?
1. [RECORD NUMBER:_____]
99. (Don't know)
88. (Refused)

B12. [IF B9 = 1] Have you received incentives or support from Focus on Energy to make energy efficiency upgrades to any of these other multifamily properties?
1. Yes [RECORD NUMBER:_____]

2. No
99. (Don't know)
88. (Refused)

B13. *[IF B12 = 1 READ:] You said that you have received Focus on Energy incentives or support for projects at other properties, was that before this project at [SITE ADDRESS]? [IF HOW_HEARD≠"PAST PARTICIPATION" AND B12≠1 READ:] Prior to any projects completed in the last year, had you worked with Focus on Energy in previous years? [IF HOW_HEARD="PAST PARTICIPATION" AND B12≠1 READ]: our records show you had previously participated in a Focus on Energy offering. Is that correct?

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

B14. *I'm going to read you a short list. Please tell me who, if anyone, was involved in helping you initiate your energy efficiency project. [READ LIST AND MARK 1=YES, 2=NO, 99=DON'T KNOW; 88=REFUSED, -96=N/A FOR EACH] [FORSED RESPONSE]

1. Your contractor or vendor
2. Focus on Energy staff
3. Your utility account manager
4. Your internal energy or sustainability team
5. Your internal facility operations and maintenance staff

B15. *How would you describe your experience in learning about whether your project or equipment qualified for a Focus on Energy incentive? Would you say that project eligibility information was…

1. Very clear
2. Mostly clear
3. A mix of clear and not clear,
4. Mostly not clear, or
5. Not clear at all?

99. (Don't know)
88. (Refused)

B16. *[IF B15=3 OR 4 OR 5] What was not clear about whether your project or equipment qualified for a Focus on Energy incentive? [OPEN END]

B17. When looking for information on the Focus on Energy program, where do you go to find that information? [FORSED RESPONSE]

1. Focus on Energy website
2. Focus on Energy advisor
3. My utility website
4. Contractor
5. Somewhere else [SPECIFY:_____]

99. (Don't know)
88. (Refused)

B18. *[IF HOW_HEARD≠"PAST PARTICIPATION" READ:] Prior to any projects completed in 2023, had you worked with Focus on Energy in previous years? [IF HOW_HEARD="PAST PARTICIPATION" READ]: Our records show you had previously participated in a Focus on Energy offering. Is that correct? [FORSED RESPONSE]

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

B19. *[IF B18=1 AND HOW_HEARD="FOCUS STAFF/EA" OR B14.2=1] You indicated that you learned about the incentives through a Focus on Energy representative or Energy Advisor or worked with one to complete your project. For this year's project, did you work with the same contact you had worked with previously?

1. (Yes)
2. (No)
3. (Other: _____)

99. (Don't know)
88. (Refused)

B20. *[IF B18 = 1 AND (HOW_HEARD="Trade Ally/Contractor" OR B14.1=1)] You indicated that you worked with a contractor to complete your project. For this year's project, did you work with the same contractor you had worked with previously?

1. (Yes)
2. (No)
3. (Other: _____)

99. (Don't know)
88. (Refused)

B21. *[IF B18=1] Overall, how would you say your experience with Focus on Energy was this year compared to prior years? Would you say it was….

1. About the same
2. More positive, or
3. Less positive?

99. (Don't know)
88. (Refused)

B22. *[IF B21=2 OR 3] Why do you say that? [OPEN END]

B23. *Who took the lead role in completing the application for the financial incentive? Was it… [RANDOMIZE] [READ OPTIONS, ALLOW ONLY ONE RESPONSE] [FORSED RESPONSE]

1. You (i.e., respondent)
2. Someone at your organization
3. The contractor and/or vendor
4. A Focus on Energy representative
5. Someone else [SPECIFY:_____]

99. (Don't know)
88. (Refused)

B24. **[ASK IF B23=1]** *How easy would you say this paperwork was to complete? Would you say: **[READ LIST]**

1. Very easy,
2. Mostly easy,
3. A mix of easy and challenging,
4. Mostly challenging, or
5. Very challenging?

99. (Don't know)
88. (Refused)

B25. **[ASK IF B24= 3, 4, OR 5]** *Why do you say that? **[OPEN END]**

B26. **[IF B14.2=1]** *Overall, how satisfied were you with the offering or project support you received from your Focus on Energy Energy Advisor? Would you say: **[READ LIST]**

1. Very satisfied,
2. Somewhat satisfied,
3. Neither satisfied nor dissatisfied,
4. Somewhat dissatisfied, or
5. Very dissatisfied?

99. (Don't know)
88. (Refused)

B27. **[IF B26=1-5]** *Why do you say that? **[OPEN END]**

B28. *What could Focus on Energy have done to improve your overall experience, if anything? **[DO NOT READ THE LIST, RECORD ALL THAT APPLY]**

1. (Better/more communication **[SPECIFY: WHO WOULD YOU LIKE MORE COMMUNICATION FROM?_____]**)
2. (Quicker response time **[SPECIFY: WHO WOULD YOU LIKE A QUICKER RESPONSE TIME FROM?__]**)
3. (Larger selection of eligible equipment **[ASK: WHAT ENERGY-EFFICIENT EQUIPMENT SHOULD FOCUS ON ENERGY OFFER INCENTIVES FOR?_____]**)
4. (Increasing the incentive amount)
5. (Simplify the application process **[ASK: IN WHAT WAY SHOULD IT BE SIMPLIFIED?_____?]**)
6. (Allow me to fill out the applications online)
7. (Simplify the website **[ASK: IN WHAT WAY?_____]**)
8. (Provide quicker approval on applications)
9. (Send incentive check out faster)
10. (Simplify the incentive catalogue **[ASK IN WHAT WAY]**)
11. (Other **[SPECIFY:_____]**)
12. (No, nothing)

99. (Don't know)

88. (Refused)

C. Decision Making

Now I'd like to understand more about how your property made decisions about your specific energy efficiency project.

C1. *What factor was most important to your company's decision to make the energy-efficient upgrades for which you received an incentive**?** **[DO NOT READ LIST; SINGLE RESPONSE]**

1. (To save money on energy bills/ reduce energy costs)
2. (To reduce energy consumption or energy demand / be more efficient / company conservation or environmental targets)
3. (To obtain a Focus on Energy or bonus incentive)
4. (To obtain a tax credit)
5. (To replace old (but still functioning) equipment)
6. (To replace broken equipment)
7. (To enhance performance or aesthetics of our equipment/system(s))
8. (To improve comfort)
9. (Tenant satisfaction/retention)
10. (To reduce maintenance or other non-energy operating costs)
11. (Other **[SPECIFY_____]**)

99. (Don't know)
88. (Refused)

C2. *Are you aware that the federal government increased tax incentives for organizations incorporating significant energy efficiency improvements starting in 2023?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

C3. ***[IF C2=1]** How, if at all, have the federal tax incentives impacted the decisions you are making on energy efficiency upgrades? **[ALLOW MULTIPLE RESPONSES]**

1. Accelerated them
2. Delayed them
3. Made us look for more savings opportunities
4. No change
5. Other **[SPECIFY_____]**

99. (Don't know)
88. (Refused)

C4. *Have you or anyone else within your organization attended an in-person or web-based training delivered by Focus on Energy in the past two years?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

C5. *[IF C4= 1] How important was your business' participation in the training in your decision to move forward with the energy efficient upgrades for which you received an incentive Was the training… [READ LIST]

1. Very important
2. Somewhat important
3. Neutral,
4. Not too important, or
5. Not at all important?

99. (Don't know)
88. (Refused)

D. Barriers

The next questions are to understand the barriers your organization may face when implementing an energy efficiency project.

D1. *If you had to choose just one, what would you say is the largest challenge in implementing energy efficiency projects and upgrades at your organization? Would you say: [READ LIST; RECORD ONLY ONE]

1. Cost
2. Time
3. Technical questions or technical issues, or
4. Your organization's own internal decision making or budgeting process
5. Limited staffing or time to dedicate to energy efficiency efforts
6. (Other [RECORD VERBATIM ANSWER_____])

99. (Don't know)
88. (Refused)

D2. *What could be done to help your company overcome challenges with energy efficiency improvements? [DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]

1. (Nothing)
2. (Higher incentives)
3. (Provide immediate or upfront discounts/incentives)
4. (Offer low-interest loans)
5. (Simplify the paperwork) [ASK HOW:_____])
6. (Provide better/more information about the offering [SPECIFY WHAT TYPE OF INFORMATION THEY NEED:_____])
7. (Provide an energy audit)
8. (Technical support for proposed equipment)
9. (Technical support for understanding project payback period/ROI)
10. (Other [RECORD VERBATIM ANSWER_____])

99. (Don't know)
88. (Refused)

E. Income Qualified

E1. Considering the property at **[SITE ADDRESS]**, what proportion of tenants are at or below 80% of the State Median Household Income (which qualifies them as low- to moderate-income)? Please give your best approximation:

1. [NUMERIC RESPONSE 0-100:_____] %
99. (Don't know)
88. (Refused)

E2. **[ASK IF E1>49]** Are you aware that Focus on Energy offers increased incentives on heating and cooling equipment and insulation and air sealing installed at existing multifamily properties where at least half of the tenants of the property are income qualified?

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

E3. **[ASK IF E2=1]** Have you received any of these increased incentives?

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

E4. **[ASK IF E2=2 OR 99]** How likely are you to look into heating and cooling equipment or insulation and air sealing improvements, now that you know increased incentives are available for income-qualified multifamily buildings? Are you… **[READ LIST] (IF ASKED FOR MORE INFORMATION, REFER RESPONDENT TO FOCUSONENERGY.COM/SMALLBUSINESS)**

1. Very likely,
2. Somewhat likely,
3. Neither likely nor unlikely,
4. Somewhat unlikely, or
5. Very unlikely?
99. (Don't know)
88. (Refused)

F. Energy-Saving Packs

F1. Next, I'd like to discuss the Focus on Energy's Energy-Savings Packs. This program encourages homeowners to order a pack containing energy saving measures, such as light bulbs, showerheads and faucet aerators, to install themselves. Packs include installation instructions, and the program website provides videos showing proper installation of water-saving measures. Focus on Energy allows tenants of apartment buildings and condos to order and install these packs. Walking through the list of packs contents, please tell me if your company would allow tenants to install the measures themselves.

1. Light bulbs (Yes/No) *[Identify concerns]*
2. Switch and outlet gaskets (Yes/No) *[Identify concerns] (If needed: these are foam gaskets that can be place behind switch and outlet covers to reduce drafts.)*

3. Shower head (Yes/No) *[Identify concerns] [If needed: thread tape is included in the kit in order to install the high efficiency shower head]*
4. Bath faucet aerator (Yes/No) *[Identify concerns] [If needed: screw-in aerators reduce water use on standard bath faucet fixtures.*
5. Pipe insulation (Yes/No) *[Identify whether tenant has access to water pipes, and any concerns] [If needed: Pipe insulation is used on domestic cold and hot water pipes.]*
6. Water heater temperature card (Yes/No) *[Identify whether tenant has access to water heater thermostat, and any concerns] [If needed: the card measures hot water temperatures to determine whether to adjust the water heater thermostat]*
7. Door Sweep (Yes/No) *[Identify concerns] (If needed: The Self-Adhesive Door Sweep adheres to the bottom of doors to block gaps and keep out drafts, dust, and water.)*
8. Window Film Insulation Kit (Yes/No) *[Identify concerns] (If needed: The Window Film Insulation Kit includes plastic film to adhere over a window using included tape to create an interior storm window.)*
9. Door or window weatherstripping (Yes/No) *[Identify concerns] (If needed: The Door Weatherstripping is a closed cell soft PVC foam tape that seals against air and water around doors and windows.)*

99. (Don't know)
88. (Refused)

F2. *[If respondent is comfortable with tenant installing at least one measure in F1 list]* Were you aware that your tenants were eligible for these packs?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

F3. *[If F2=Yes]* Did you communicate this offering to your tenants?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

F4. *[If F3=Yes]* Do you know if any ordered a pack?

1. (Yes) [About what % of your tenants?_____]
2. (No)

99. (Don't know)
88. (Refused)

F5. Does the building owner pay for the electricity bill or do your tenants pay their own bill for in-unit electric use directly to the utility?

1. (Building owner pays)
2. (Tenant pays)
3. (Some combination of both) *[Describe]*

99. (Don't know)
88. (Refused)

F6. Does that also apply to the gas bill?
1. (Building owner pays)
2. (Tenant pays)
3. (Some combination of both) *[Describe]*
99. (Don't know)
88. (Refused)

F7. And the water bill?
1. (Building owner pays)
2. (Tenant pays)
3. (Some combination of both) *[Describe]*
99. (Don't know)
88. (Refused)

G. Freeridership

[SECTION IS FORCED RESPONSE]
[IF B14.1=1 AND B23=3 SKIP TO SECTION H HOTHERWISE ASK THIS SECTION - CONTRACTOR DID NOT PROVIDE A DISCOUNT]

[IF SERVICE=0] For the next section, please focus on the decision to purchase the new **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]**.** Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] that was purchased. **[IF SERVICE=1]** For the next section, please focus on the decision to purchase the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that was purchased.

[IF B18=1 READ] Some of these next questions will refer to information or education you have received from Focus on Energy. Please answer the questions thinking of all the information or education you have received from Focus on Energy since first participating in Focus on Energy offerings or programs.

[INTERVIEWER NOTE ABOUT THIS SECTION (DON'T READ TO RESPONDENT): THIS SECTION IS BASED ON HYPOTHETICAL BEHAVIOR SO WE ARE ASKING SIMILAR QUESTIONS TO VERIFY THAT WE ARE GATHERING THE CORRECT RESPONSES.]

G1. **[IF SERVICE=0]** Did your organization have specific plans to install the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before learning about the Focus on Energy incentive? **[IF SERVICE=1]** Did your organization have specific plans to have the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed before learning about the Focus on Energy incentive?
1. (Yes) **[ASK G2]**
2. (No) **[SKIP TO G4]**
99. (DON'T KNOW) **[SKIP TO G4]**

G2. **[IF SERVICE=0]** Prior to learning about the incentive, was the purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] included in your property's capital budget? **[IF SERVICE=1]** Prior to learning about the incentive, was the purchase of **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. (Yes)
2. (No) **[SKIP TO G4]**

99. (DON'T KNOW) **[SKIP TO G4]**

G3. **[IF SERVICE=0]** Had your property ***ALREADY*** ordered or purchased the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] ***BEFORE*** your property heard about the Focus on Energy incentive? **[IF SERVICE=1]** Had your organization ***ALREADY*** ordered or purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services ***BEFORE*** your organization heard about the Focus on Energy incentive?

1. (Yes)
2. (No)

99. (DON'T KNOW)

G4. **[IF SERVICE=0]** Would you have purchased and installed the same energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy?

1. (Yes) **[SKIP TO G7 IF SERVICE=0 / ASK G8 IF SERVICE=1]**
2. (No) **[SKIP TO G9]**

99. (DON'T KNOW) **[ASK G5]**

G5. **[IF SERVICE=0]** Would you have installed **something** without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased **some services** without the incentive and information or education from Focus on Energy? **[DO NOT READ LIST UNLESS NECESSARY]**

1. (Yes, would have installed something) **[ASK G6]**
2. (No, would NOT have installed anything) **[SKIP TO G13]**

99. (DON'T KNOW) **[SKIP TO G13]**

88.

G6. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK G7/ IF SERVICE=1 SKIP TO G8]**
2. (No) **[IF SERVICE=0 ASK G7/ IF SERVICE=1 SKIP TO G8]**

99. (DON'T KNOW) **[IF SERVICE=0 ASK G7 / IF SERVICE=1 SKIP TO G8]**

88.

G7. **[IF SERVICE=0]** And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK G8]**
2. (No, would have installed less) **[ASK G8]**
3. (No, would have installed more) **[ASK G8]**

99. (DON'T KNOW) **[ASK G8]**

G8. **[IF SERVICE=0]** Without the incentive for the **[MEASURE CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you have installed the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive for the **[MEASURE_CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you most likely have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed?

[READ LIST AND RECORD ONE RESPONSE]

1. Within the same year **[SKIP TO G13]**
2. Within one to two years **[SKIP TO G13]**
3. Within three to five years **[SKIP TO G13]**
4. In more than five years **[SKIP TO G13]**

99. (DON'T KNOW) **[SKIP TO G13]**

G9. **[ASK G9 TO G12 IF G4 =2] [IF SERVICE=0]** When you say **you would not have installed** the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have purchased** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy, would you have purchased any services at all?

1. (Yes, would have installed something) **[ASK G10]**
2. (No, would not have installed anything at all) **[SKIP TO G13]**

99. (DON'T KNOW) **[ASK G10]**

G10. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK G11 / IF SERVICE=1 SKIP TO G12]**
2. (No) **[IF SERVICE=0 ASK G11 / IF SERVICE=1 SKIP TO G12]**

99. (DON'T KNOW) **[IF SERVICE=0 ASK G11 / IF SERVICE=1 SKIP TO G12]**

G11. **[ASK IF SERVICE=0] [ASK IF MEASURECATEGORY1_QUANTITY IS GREATER THAN 1]** Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK G12]**
2. (No, would have installed less) **[ASK G12]**
3. (No, would have installed more) **[ASK G12]**

99. (DON'T KNOW) **[ASK G12]**

G12. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, when would you have installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, when would you have had the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed? **[READ LIST AND RECORD ONE RESPONSE]**

1. In the same year
2. In one to two years
3. In three to five years
4. More than five years out

99. (DON'T KNOW)

G13. **[ASK EVERYONE] [IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision.**[1 TO 6 - RANDOMIZE LIST] [ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

99. (DON'T KNOW)

H. Freeridership- Contractor

[SECTION IS FORCED RESPONSE]

[ASK EITHER SECTION E OR SECTION F- NOT BOTH]
[ASK IF B14.1=1 AND B23=3 – CONTRACTOR HELPED IN THE DECISION MAKING AND PROVIDED A DISCOUNT]

[PHONE PROMPT}:
[IF SERVICE=0] Now I'd like to talk with you about the new energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.
[IF SERVICE=1] Now I'd like to talk with you about **[MEASURE CATEGORY1 OR C_MEASURE1]** services. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.

[WEB PROMPT]:

[IF SERVICE=0] For the next section, please focus on the new energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.
[IF SERVICE=1] For the next section, please focus on the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though your contractor may have performed other services or installed energy efficient equipment, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** service.

[IF B18=1 READ] Some of these next questions will refer to information or education you have received from Focus on Energy. Please answer the questions thinking of all the information or education you have received from Focus on Energy since first participating in Focus on Energy offerings or programs.

[INTERVIEWER NOTE ABOUT THIS SECTION (DON'T READ TO RESPONDENT): THIS SECTION IS BASED ON HYPOTHETICAL BEHAVIOR SO WE ARE ASKING SIMILAR QUESTIONS TO VERIFY THAT WE ARE GATHERING THE CORRECT RESPONSES.]

H1. At the time that you first started working with your contractor on this project, had you…? **[READ LIST AND RECORD ONE FOR EACH: 1=YES OR 2=NO OR 99=DON'T KNOW OR 88=REFUSED]**

1. **[IF SERVICE=0]** Already been thinking about purchasing the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already been thinking about purchasing the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
2. **[IF SERVICE=0]** Already begun collecting information about energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already begun collecting information about **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
3. **[IF SERVICE=0]** Already selected the particular energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]** and were going to purchase it? **[IF SERVICE=1]** Already selected the particular **[MEASURE_CATEGORY1 OR C_MEASURE1]** services and were going to purchase them
4. **[IF SERVICE=0]** Already purchased the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
5. **[IF SERVICE=0]** Already installed the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already completed the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
6. Already heard about Focus on Energy?

99. (DON'T KNOW)

H2. **[IF SERVICE=0]** Just to make sure we understand, did your organization have specific plans to install the energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before you began working with your contractor? **[IF SERVICE=1]** To confirm, did your organization have specific plans to purchase **[MEASURE_CATEGORY1 OR C_MEASURE1]** services before you began working with your contractor?

1. (Yes) **[ASK H3]**
2. (No) **[SKIP TO H4]**

99. (DON'T KNOW) **[SKIP TO H4]**

H3. **[IF SERVICE=0]** Before you began working with your contractor, was the purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] included in your organization's capital budget? **[IF SERVICE=1]** Before you began working with your contractor, was the purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. (Yes)
2. (No) **[SKIP TO H5]**

99. (DON'T KNOW) **[SKIP TO H5]**

H4. **[IF SERVICE=0]** Did your contractor help your organization make the decision to include the purchase of the energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] in your property's capital budget? **[IF SERVICE=1]** Did your contractor help your organization make the decision to include the purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services in your organization's capital budget?

1. (Yes) **[ASK H5]**
2. (No) **[ASK H5]**

99. (DON'T KNOW) **[ASK H5]**

H5. **[IF SERVICE=0]** Would you have purchased and installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the assistance from your contractor and Focus on Energy?

1. (Yes) **[IF SERVICE=0 SKIP TO H8 / IF SERVICE=1 SKIP TO H7]**
2. (No) **[SKIP TO H10]**

99. (DON'T KNOW) **[ASK H6]**

H6. **[IF SERVICE=0]** Would you have installed **something** without the assistance of your contractor and Focus on Energy? **[IF SERVICE=1]** Would you have had **some services performed** without the assistance of your contractor and Focus on Energy? **[DO NOT READ LIST UNLESS NECESSARY]**

1. **[IF SERVICE=0]** (Yes, would have installed something) **[IF SERVICE=1] (**Yes, would have performed some service) **[ASK H7]**
2. **[IF SERVICE=0]** (No, would NOT have installed anything) **[IF SERVICE=1]** (No, would not performed any service) **[SKIP TO H16]**

99. (DON'T KNOW) **[SKIP TO H16]**

88.

H7. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK H8 / IF SERVICE=1 SKIP TO H9]**
2. (No) **[IF SERVICE=0 ASK H8 / IF SERVICE=1 SKIP TO H9]**

99. (DON'T KNOW) **[ASK H8 / IF SERVICE=1 SKIP TO H9]**

H8. **[ASK IF SERVICE=0 AND MEASURE CATEGORY1_QUANTITY IS GREATER THAN 1]** And without the involvement of your contractor and Focus on Energy would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK H9]**
2. (No, would have installed less) **[ASK H9]**
3. (No, would have installed more) **[ASK H9]**

99. (DON'T KNOW) **[ASK H9]**

H9. **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have installed the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, when would you have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed? **[READ LIST AND RECORD ONE RESPONSE]**

1. Within the same year **[SKIP TO H16]**
2. Within one to two years **[SKIP TO H16]**
3. Within three to five years **[SKIP TO H16]**
4. In more than five years **[SKIP TO H16]**

99. (DON'T KNOW) **[SKIP TO H16]**

H10. **[ASK H10 TO H14 IF H5=2] [IF SERVICE=0]** When you say **you would not have installed** the same **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have performed** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the assistance from your contractor and Focus on Energy, would you have had any energy-saving services performed at all?

1. (Yes) **[ASK H11]**
2. (No) **[SKIP TO H16]**

99. (DON'T KNOW) **[ASK H11]**

H11. **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, **would you have installed** something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, **would you have purchased services** that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[ASK H12]**
2. (No) **[ASK H12]**

99. (DON'T KNOW) **[ASK H12]**

H12. **[SERVICE=0 AND MEASURE CATEGORY1_QUANTITY IS GREATER THAN 1]** Without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK H13]**
2. (No, would have installed less) **[ASK H13]**
3. (No, would have installed more) **[ASK H13]**

99. (DON'T KNOW) **[ASK H13]**

H13. Without the assistance from your contractor and Focus on Energy, when would you have installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services? **[READ LIST AND RECORD ONE RESPONSE]**

1. In the same year **[ASK H14]**
2. In one to two years **[ASK H14]**
3. In three to five years **[ASK H14]**
4. More than five years out **[ASK H14]**

99. (DON'T KNOW) **[ASK H14]**

H14. If the assistance or information from your contractor had not been available, would you have done anything differently on this project?

1. (Yes) **[ASK H15]**
2. (No) **[SKIP TO H16]**

99. (DON'T KNOW) **[SKIP TO H16]**

H15. What would you have done differently? **[RECORD OPEN ENDED RESPONSE]**

H16. **[IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision. **[RANDOMIZE LIST]** **[ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3, 99]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

99. (DON'T KNOW)

I. Spillover

[ASK EVERYONE SECTION I]

I1. Since making these energy-efficiency upgrades has your company installed any other energy-efficient products in your facility that you did ***NOT*** receive a Focus on Energy incentive for or did ***NOT*** receive for free? **[IF NEEDED: BY ENERGY-EFFICIENT PRODUCTS, I MEAN HIGH EFFICIENCY HVAC EQUIPMENT, HIGH EFFICIENCY WATER HEATERS, HIGH EFFICIENCY MOTORS, OR ENERGY STAR LIGHTING SUCH AS LED LIGHTBULBS.]**

1. (Yes) **[ASK I2]**
2. (No) **[SKIP TO SECTION J]**

99. (DON'T KNOW) **[SKIP TO SECTION J]**

I2. What were the other energy-efficient products that you installed without getting an incentive? **[DO NOT READ LIST; MARK ALL THAT APPLY; 99=DON'T KNOW, 88=REFUSED, -96=N/A] [IF THE CUSTOMER SAYS THEY BOUGHT SOMETHING BUT HAVE NOT INSTALLED IT, THE EQUIPMENT HAS TO BE INSTALLED AND OPERATING FOR US TO COUNT IT TOWARDS SPILLOVER.]**

1. (LED(s))
2. (Efficient lighting controls (occupancy sensors, daylighting, timers))
3. (High efficiency motor(s))
4. (Air source heat pump(s))
5. (Ground source heat pump(s))
6. (Central AC)
7. (VSD (variable speed drive(s)))
8. (Water heating equipment)
9. (Boiler or steam system(s))
10. (Compressed air equipment)
11. (Gas furnace(s))
12. (Refrigeration equipment (refrigerators, freezers))
13. (HVAC system controls (including smart thermostats))
14. (Operational improvements **[SPECIFY:_____])**
15. (Other) **[SPECIFY:_____]**

99. (DON'T KNOW) **[SKIP TO SECTION J]**
88. (REFUSED) **[SKIP TO SECTION J]**

[ASK I2.11-I2.13 IF I2=1]

I2.11 [REPEAT FOR EACH ITEM MENTIONED IN I2**]** What is the wattage of the lighting? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

I2.12 **[REPEAT FOR EACH ITEM MENTIONED IN** I2**]** In what location was it installed (Indoors/Outdoors)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

I2.13 **[REPEAT FOR EACH ITEM MENTIONED IN** I2**]** What type of equipment was removed or replaced? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.21- I2.22 IF I2=2]

I2.21 How many lamps or fixtures are controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

I2.22 What is the average wattage of the lamps or fixtures controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.31-I2.33 IF I2=3]

I2.31 How is the high efficiency motor controlled? (Always on, manual start/stop, VSD / ECM / VFD, Other)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

I2.33 On what equipment was the high efficiency motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.33 What is the horsepower of the high efficiency motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.41 IF I2=4, 5] [ASK I2.42 IF I2=4, 5, 6] [ASK I2.43 IF I2=4, 5] [ASK I2.44 IF I2=4, 5, 6]

I2.41 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What is the heating efficiency rating (HSPF) of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 0.1 TO 20.0, 99=DON'T KNOW, 88=REFUSED]**
I2.42 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What is the cooling efficiency rating (SEER/EER) of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 0.1 TO 30.0 "SEER/EER RATING", 99=DON'T KNOW, 88=REFUSED]**
I2.43 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What is the heating output capacity in BTUs of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 1 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**
I2.44 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What is the cooling output capacity in tons of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 0 TO 100 "TONS", 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.51-I2.52 IF I2=7]

I2.51 On what type of equipment was the VSD (variable speed drive) motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.52 What is the total horsepower of the VSD (variable speed drive) motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.61-I2.64 IF I2=8]

I2.61 What type of water heating equipment was purchased and installed? **[READ LIST]**

1. Water heater with storage
2. Tankless water heater
3. Heat pump water heater with storage
4. Condensing water heater with storage
5. Boiler

99. (Don't know)
88. (Refused)

I2.62 What fuel type is used? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.63 What is the efficiency factor (EF) rating of the water heating equipment? **[RECORD NUMERIC RESPONSE: 0.00 TO 0.99 "Efficiency Factor (EF)", 99=DON'T KNOW, 88=REFUSED]**
I2.64 **[ASK IF I2.61 INDICATES WATER HEATER WITH STORAGE]** What is the capacity of the equipment in gallons? **[RECORD NUMERIC RESPONSE: 0 TO 10,000 "Capacity in gallons", 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.71-I2.73 IF I2=10]

I2.71 What is the compressed air equipment being used for? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.72 What type of compressed air equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.73 What is the total horsepower of the compressor motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.81-I2.82 IF I2=11]

I2.81 What is the annual fuel utilization efficiency (AFUE) rating of the gas furnace? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.82 What is the output capacity of the gas furnace in BTUs? **[RECORD NUMERIC RESPONSE: 0 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.91 IF I2=12]

I2.91 What type of refrigeration equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.101-I2.102 IF I2=13]

I2.101 What type of HVAC system control(s) was purchased and installed?
1. Smart thermostat
2. Building automation system
3. Other: **[RECORD RESPONSE]**

I2.102 What type(s) of HVAC equipment are controlled by the new HVAC system control(s)?
1. Heating equipment
2. Cooling equipment
99. Don't know

I2.103 **[ASK I2.103 IF I2.102.1=YES]** What is the heating output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 1,000,000 BTUs:?
1. **[RECORD RESPONSE, 98=DON'T KNOW]**

I2.104 **[ASK I2.104 IF I2.102.2=YES]** What is the cooling output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 150 tons?
1. **[RECORD NUMERIC RESPONSE: 0 TO 150 "Tons", 99=DON'T KNOW]**

[ASK I2.111 IF I2=14 OR 15]
I2.111 How do you know the **[INSERT ITEM FROM I2]** is energy efficient?

1. **[TEXT RESPONSE]**
99. Don't know

I3. **[REPEAT FOR EACH ITEM MENTIONED IN I2]** How many **[INSERT ITEM FROM I2]** did you install?
[RECORD NUMBER_____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]

I4. **[REPEAT FOR EACH ITEM MENTIONED IN I2]** In what year was/were the **[INSERT ITEM FROM I2]** purchased and installed?
[RECORD YEAR NUMBER____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]

I5. **[REPEAT FOR EACH ITEM MENTIONED IN I2]** Please tell us how important [**IF ANY B14.1=1 READ,** "assistance from your contractor and information and education from Focus on Energy" **OTHERWISE READ,** "the Focus on Energy Commercial and Industrial offering"] was in your decision to install **[ANSWER FROM I2]**" Was it…?: **[READ LIST EMPHASIZE EACH ANSWER OPTION AND PAUSE IN BETWEEN EACH OPTION.]**
1. Very important,
2. Somewhat important,
3. Neutral,
4. Not too important, or
5. Not at all important
99. (Don't know)
88. (Refused)

I6. Was **[INSERT EACH ITEM FROM I2]** installed at **[SITE ADDRESS]**?
1. Yes
2. No (**ASK:** What is the address of the location where you installed **[INSERT EACH ITEM FROM I2]**?
[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]
99. (Don't know)
88. (Refused)

J. Closing

J1. *Do you have any other comments about your experience with Focus on Energy that you would like to share?
[RECORD RESPONSE:_____; 99 FOR DON'T KNOW, 88 FOR REFUSED]

J2. *On occasion, Focus on Energy may want to contact a customer to learn more about their participation experience. May we share your responses with a program manager, who may contact you regarding your experience?
1. Yes
2. No
99. (Don't know)
88. (Refused)

Thank you. We appreciate your help with this survey. Have a nice day.

CADMUS

Focus on Energy Multifamily Program
CY 2023 SEM Interview

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Screening	Confirm record of participation	Section A
Awareness & Experience	How participants learned about the offering	Section B
	Motivations for energy efficient upgrades	
Participant Experience/Portfolio Transition topics	Impacts of participation	Section C
	Resident engagement	
Barriers to EE	Challenges to and opportunities for making energy efficient improvements.	Section D
Participant Satisfaction	How satisfied were participants with the SEM offering overall? With specific components of the offering?	Section E

Quota: 5 completes

Target Population

This research seeks to gather information from **multifamily property owners** who participated in the Strategic Energy Management offering of the Multifamily Program.

Recruitment

Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your experience participating in their Strategic Energy Management offering.

[IF NEEDED]: This was the initiative that provided guidance, learning opportunities, and things like building scans and coaching playbooks on best opportunities for building performance improvements.

Do you have about 30 minutes to answer some questions?

[If not available, seek to set an appointment]

Great, we will keep everything you tell us confidential – we won't report anything in a way that would identify individual respondents or companies.

Screening

Thank you for agreeing to talk with me today. I expect this conversation to take about 20-30 minutes. To help me capture your responses accurately, is it okay if I record this call? The recording will be used for my note-taking purposes only. It won't be shared with Focus on Energy.

A1. Our records indicate that you participated in the Multifamily Strategic Energy Management offering, which included engaging tenants in energy saving activities. Is that correct?

A2. Can you briefly explain to me your role at your organization? How long have you been in this role?

A3. Can you start off by describing your property/properties? How many units and buildings are in the facility?

1. Do your tenants pay their own utility bills or does the property pay them?

Awareness and Experience

Now we'd like to know more about your experience and involvement with Focus on Energy and the Strategic Energy Management offering.

A4. How did you learn about the Focus on Energy Strategic Energy Management offering?

A5. Why did you choose to participate in the Strategic Energy Management offering? **[Probe, as appropriate for:]**

1. Opportunities to save money
2. Opportunities to reduce utility bills
3. Opportunities to reduce operating costs
4. Opportunities to attract/retain tenants
5. Opportunities to increase tenant comfort
6. Opportunities to differentiate your property from competitors
7. Opportunities to increase value of property
8. Opportunities to learn about EE in general
9. Opportunities to learn about specific aspects of EE (probe for what specifically)
10. Opportunities to reduce environmental/climate change impacts

A6. What was most appealing about the Strategic Energy Management offering?

A7. Have you worked with any Focus on Energy programs besides the Strategic Energy Management offering?

1. **[If yes]** What other projects have you completed that received incentives from Focus on Energy?
2. What type of measures/services did you receive?
3. What was the size/scope of the project?

SEM Participant Experience

A8. At the beginning of the experience with the SEM offering, Focus on Energy staff created an opportunity register for your facility. Were you able to address all of the opportunities on that list with help from Focus on Energy?

1. Were there any other opportunities that you thought might be/were hoping would be identified? If so, what?
2. What are your opinions about the opportunity identification process? What worked well? What could be improved?
3. Could anything be done to improve how opportunities were prioritized?

A9. **[IF C1 = NO]** Which opportunities were you unable to address?

1. What prevented you from addressing them?
2. Do you have plans to address them in the future?
3. What, if anything, could Focus on Energy have done to help you to overcome those barriers and address the opportunities?

A10. The SEM offering offered workshops and opportunities for resident engagement. Were your residents interested and engaged in the opportunities? If not, do you know why?

1. How many residents participated in the workshop (total number and/or percentage)?
2. How educational were the workshops for residents?
3. Do you have any recommendations for changes to those workshops? **[If needed, prop]:** content, delivery, or materials

A11. Aside from changes identified through the Strategic Energy Management offering, has participating in the SEM offering influenced you at all to take any other steps that reduce energy use or explore additional ways of doing so?

1. Have you done anything else in the past year to reduce energy use? Such as installing equipment or participating in other offerings? Why or why not?
2. Did participating in the SEM offering influence you to implement any new procedures?

A12. Did participating in the SEM offering influence how you view energy efficiency projects or upgrades?

1. **[Probe:]** Would you say that your general perspective of them is more positive or negative than before?

A13. Does this facility have any energy saving goals? If yes, what are they?

1. When did you first identify these goals? How?
2. What motivated you to define these goals?
3. When did you begin working towards them?
4. How are you measuring them?
5. Do you expect to meet them solely based on participation in the SEM offering?
6. If not, what other actions will help you achieve your goals?

A14. Do you monitor energy use in your facility? If so, how?

1. Have energy bills gone down since participating in the SEM offering?
2. Are you satisfied with energy reductions you've seen in your facility since participating in the SEM offering?

Barriers

A15. Besides upfront cost, what other challenges do you find prevent you from installing high-efficiency equipment?

1. How difficult was it to dedicate staff time to SEM? **[Probe for impacts of staff turnover]**
2. How difficult is it to dedicate staff time to energy efficiency/building improvements in general?
3. What challenges seem to prevent tenants from making decisions or taking actions that save energy?

Participant Satisfaction

A16. How satisfied were you with the assistance provided by Focus on Energy staff? For each of the following, please say whether you were very satisfied, somewhat satisfied, not too satisfied, or not at all satisfied?

1. Initial explanation of the SEM offering and its components?
2. Communication about timelines and expectations?
3. Thoroughness of facility assessments and identification energy saving opportunities?
4. The specific energy efficiency/energy saving recommendations provided?
5. Explanations of the benefits of the energy efficiency/savings recommendations provided?
6. Explanations of any additional implications of SEM participation?
7. Assistance engaging residents?
8. Communication in general?
9. Individual coaching about energy management from Focus on Energy
10. The SEM offering overall?

A17. **[Ask for any response from E1 not too satisfied or not at all satisfied]** Why do you say that?

A18. Is there anything you think Focus on Energy could do to improve SEM offering?

Closing

A19. Thank you for speaking with us today. Do you have any other comments about your experience with Focus on Energy that you would like to share?

Thank you. We appreciate your help with this research. Have a nice day.

Nonresidential Surveys

CADMUS

Focus on Energy Nonresidential Solutions
Agribusiness Offering
CY 2023 Participant Survey Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Questions**
Screening	Survey initiation, project verification	Section A
Awareness	Sources of participant awareness and project initiation	Section B
Decision Making	Key factors influencing participants' decision to participate in energy upgrades	Section C
Barriers	Obstacles to installing high-efficiency equipment	Section D
Small Business Experience	Awareness of online business portal; interest in online energy assessment	Section E
	How small businesses self-identify	
	Preferred channels of engagement	
Program Impacts	Determine net program impacts	Sections F, G, H

General Instructions

- Interviewer instructions are in green **[LIKE THIS]** (the style is "Survey: Interviewer Instructions").
- CATI programming instructions are in red **[LIKE THIS]** (the style is "Survey: Programming").
- Items that should not be read by the interviewer are in parentheses like this ( ).

Quota = 70 completes

SAMPLE Variables:
[CONTACT NAME]
[SITE ADDRESS]
[MEASURE CATEGORY1]
[MEASURE CATEGORY2]
[MEASURE CATEGORY3]
[MEASURE CATEGORY1_QUANTITY]
[MEASURE CATEGORY2_QUANTITY]
[MEASURE CATEGORY3_QUANTITY]
[SERVICE]
[ONLY_SERVICE]
[HOW_HEARD]
[CHECK_RECIPIENT]

A. Introduction

[SECTION IS FORCED RESPONSE]

A1. Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your recent energy efficiency project experience for the property at **[SITE ADDRESS]**.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who was most involved with the energy efficiency project your company recently completed with Focus on Energy?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**

99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Back-up information, not to be programmed:

[If "No – Not available," ask if Respondent would like to arrange a more convenient time for us to call them back or if you can leave a message for that person.]

[IF RESPONDENT ASKS HOW LONG, SAY: "APPROXIMATELY 10 MINUTES."]
[IF NEEDED:] This survey is for research purposes only and this is not a marketing call. Your participation in this study is important so that Focus on Energy can improve its energy efficiency programs for businesses and other organizations.

[**Only if asked** for a Focus on Energy contact to verify the survey authenticity, offer Mitch Horrie with the Public Service Commission of Wisconsin, 608.267.3206]

[**Only if respondent says they already did a survey:** Thank you for your responses to that survey. This is another Focus on Energy study that you have been selected for, that asks a few more questions about your experience with the offering and your decision-making. If you have a few more spare minutes, we would greatly appreciate your responses!]

A2. *__[IF ONLY_SERVICE=FALSE]__ Our records show that you installed energy efficient equipment or upgrades including a **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

[IF ONLY_SERVICE=TRUE] Our records show that you received services to improve your facilities energy efficiency including **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

1. (Yes)
2. (No, wrong year) **[RECORD CORRECT YEAR, IF POSSIBLE]**
3. (No, wrong address) **[RECORD CORRECT ADDRESS]**
4. (No, wrong measure) **[CORRECT BELOW]**
   - F3a. (**MEASURE CATEGORY1** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE1]**
   - F3a. (**MEASURE CATEGORY2** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE2]**
   - F3a. (**MEASURE CATEGORY3** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE3]**
5. (No, I did not install any measures) **[THANK AND TERMINATE]**
   - 99. (Don't know) **[IS THERE SOMEONE WE COULD SPEAK WITH THAT WOULD KNOW THIS? RECORD NAME AND CONTACT INFORMATION:_____]**
   - 88. (Refused) **[THANK AND TERMINATE]**

B. Awareness and Customer Experience

B1. *I'm going to read you a short list. Please tell me who, if anyone, was involved in helping you initiate your energy efficiency project. **[READ LIST AND MARK 1=YES, 2=NO, 99=DON'T KNOW; 88=REFUSED, -96=N/A FOR EACH] [FORSED RESPONSE]**

1. Your contractor or vendor
2. Focus on Energy staff
3. Your utility account manager
4. Your internal energy or sustainability team
5. Your internal facility operations and maintenance staff

B2. *How would you describe your experience in learning about whether your project or equipment qualified for a Focus on Energy incentive? Would you say that project eligibility information was…

1. Very clear
2. Mostly clear
3. A mix of clear and not clear,
4. Mostly not clear, or
5. Not clear at all?
   - 99. (Don't know)
   - 88. (Refused)

B3. ***[IF B2=3 OR 4 OR 5]** What was not clear about whether your project or equipment qualified for a Focus on Energy incentive? **[OPEN END]**

B4. When looking for information on the Focus on Energy program, where do you go to find that information? **[FORSED RESPONSE]**

1. Focus on Energy website
2. Focus on Energy advisor
3. My utility website
4. Contractor

5. Somewhere else **[SPECIFY:_____]**
99. (Don't know)
88. (Refused)

B5. *__[IF HOW_HEARD≠"PAST PARTICIPATION" READ:]__ Prior to any projects completed in 2023, had you worked with Focus on Energy in previous years? __[IF HOW_HEARD="PAST PARTICIPATION" READ]:__ Our records show you had previously participated in a Focus on Energy offering. Is that correct? __[FORSED RESPONSE]__

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

B6. ***[IF B5=1 AND HOW_HEARD="FOCUS STAFF/EA" OR B1.2=1]** You indicated that you learned about the incentives through a Focus on Energy representative or Energy Advisor or worked with one to complete your project. For this year's project, did you work with the same contact you had worked with previously?

1. (Yes)
2. (No)
3. (Other: _____)
99. (Don't know)
88. (Refused)

B7. ***[IF B5=1 AND (HOW_HEARD="Trade Ally/Contractor" OR B1.1=1)]** You indicated that you worked with a contractor to complete your project. For this year's project, did you work with the same contractor you had worked with previously?

1. (Yes)
2. (No)
3. (Other: _____)
99. (Don't know)
88. (Refused)

B8. ***[IF B5=1]** Overall, how would you say your experience with Focus on Energy was this year compared to prior years? Would you say it was….

1. About the same
2. More positive, or
3. Less positive?
99. (Don't know)
88. (Refused)

B9. ***[IF B8=2 OR 3]** Why do you say that? **[OPEN END]**

B10. *Who took the lead role in completing the application for the financial incentive? Was it… **[RANDOMIZE]** **[READ OPTIONS, ALLOW ONLY ONE RESPONSE]** **[FORSED RESPONSE]**

1. Me (i.e., respondent)

2. Someone at your organization
3. The contractor and/or vendor
4. A Focus on Energy representative
5. Someone else **[SPECIFY:_____]**

99. (Don't know)
88. (Refused)

B11. **[ASK IF B10=1]** *How easy would you say this paperwork was to complete? Would you say: **[READ LIST]**

1. Very easy,
2. Mostly easy,
3. A mix of easy and challenging,
4. Mostly challenging, or
5. Very challenging?

99. (Don't know)
88. (Refused)

B12. **[ASK IF B11= 3, 4, OR 5]** *Why do you say that? **[OPEN END]**

B13. **[IF B1.2=1]** *Overall, how satisfied were you with the offering or project support you received from your Focus on Energy Energy Advisor? Would you say: **[READ LIST]**

1. Very satisfied,
2. Somewhat satisfied,
3. Neither satisfied nor dissatisfied,
4. Somewhat dissatisfied, or
5. Very dissatisfied?

99. (Don't know)
88. (Refused)

B14. **[IF B13=1-5]** *Why do you say that? **[OPEN END]**

B15. *What could Focus on Energy have done to improve your overall experience, if anything? **[DO NOT READ THE LIST, RECORD ALL THAT APPLY]**

1. (Better/more communication **[SPECIFY: WHO WOULD YOU LIKE MORE COMMUNICATION FROM?_____]**)
2. (Quicker response time **[SPECIFY: WHO WOULD YOU LIKE A QUICKER RESPONSE TIME FROM?__]**)
3. (Larger selection of eligible equipment **[ASK: WHAT ENERGY-EFFICIENT EQUIPMENT SHOULD FOCUS ON ENERGY OFFER INCENTIVES FOR?_____]**)
4. (Increasing the incentive amount)
5. (Simplify the application process **[ASK: IN WHAT WAY SHOULD IT BE SIMPLIFIED?_____?]**)
6. (Allow me to fill out the applications online)
7. (Simplify the website **[ASK: IN WHAT WAY?_____]**)
8. (Provide quicker approval on applications)
9. (Send incentive check out faster)

10. (Simplify the incentive catalogue **[ASK IN WHAT WAY]**)
11. (Other **[SPECIFY:_____]**)
12. (No, nothing)
    99. (Don't know)
    88. (Refused)

C. Decision-Making

Now I'd like to understand more about how your property made decisions about your specific energy efficiency project.

C1. *What factor was most important to your company's decision to make the energy-efficient upgrades for which you received an incentive**?** **[DO NOT READ LIST; SINGLE RESPONSE]**

1. (To save money on energy bills/ reduce energy costs)
2. (To reduce energy consumption or energy demand / be more efficient / company conservation or environmental targets)
3. (To obtain a Focus on Energy or bonus incentive)
4. (To obtain a tax credit)
5. (To replace old (but still functioning) equipment)
6. (To replace broken equipment)
7. (To enhance performance or aesthetics of our equipment/system(s))
8. (To improve comfort)
9. (Tenant satisfaction/retention)
10. (To reduce maintenance or other non-energy operating costs)
11. (Other **[SPECIFY_____]**)
    99. (Don't know)
    88. (Refused)

C2. Are there certain topics you would like Focus on Energy to provide in-person or online trainings for next year?

1. (Yes [Please specify which topic you're interested in]: _____)
2. (No)
99. (Not sure / don't know)
88. (Refused)

C3. Are you considering implementing other energy efficient equipment or building upgrades in the next year?

1. (Yes)
2. (No)
99. (Not sure / don't know)
88. (Refused)

C4. **[IF C3=1]** What other upgrades are you considering? [MULTIPLE ANSWERS ALLOWED; DO NOT READ LIST]

1. (Lighting, such as LED, or advanced lighting controls technologies; or equipment such as troffers, fixtures, lamps, sensors, indoor or outdoor)

2. (HVAC, such as air conditioning, heating technology or equipment such as heat pumps, furnaces, boilers, air conditioners, chillers, thermostats, pumps, variable frequency drives [VFDs], air handlers/rooftop units)
3. (Water heaters)
4. (Compressed air nozzles, variable speed drives [VSD], filters, valves)
5. (Building envelope)
6. (Horticultural lighting)
7. (Refrigeration tuneups)
8. (Grain dryer tuneups)
9. (Other [RECORD_____])
99. (Don't know)
88. (Refused)

C5. **[IF C3=2 or 99]** Why not? [MULTIPLE ANSWERS ALLOWED; DO NOT READ LIST]

1. (No more affordable energy efficiency opportunities exist)
2. (Not in the budget for next year)
3. (Not willing to commit because of uncertainty of project costs)
4. (Not willing to commit because of the economic outlook)
5. (Not willing to commit because of low crop or milk prices)
6. (Other [record verbatim response: _____])

C6. *Are you aware that the federal government increased tax incentives for organizations incorporating significant energy efficiency improvements starting in 2023?

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C7. ***[IF C6=1]** How, if at all, have the federal tax incentives impacted the decisions you are making on energy efficiency upgrades? **[ALLOW MULTIPLE RESPONSES]**

1. Accelerated them
2. Delayed them
3. Made us look for more savings opportunities
4. No change
5. Other **[SPECIFY_____]**
99. (Don't know)
88. (Refused)

D. Barriers

The next questions are to understand the barriers your organization may face when implementing an energy efficiency project.

D1. *If you had to choose just one, what would you say is the largest challenge in implementing energy efficiency projects and upgrades at your organization? Would you say: **[READ LIST; RECORD ONLY ONE]**

1. Cost

2. Time
3. Technical questions or technical issues, or
4. Your organization's own internal decision making or budgeting process
5. Limited staffing or time to dedicate to energy efficiency efforts
6. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

D2. *What could be done to help your company overcome challenges with energy efficiency improvements? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**

1. (Nothing)
2. (Higher incentives)
3. (Provide immediate or upfront discounts/incentives)
4. (Offer low-interest loans)
5. (Simplify the paperwork) **[ASK HOW:_____]**)
6. (Provide better/more information about the offering **[SPECIFY WHAT TYPE OF INFORMATION THEY NEED:_____]**)
7. (Provide an energy audit)
8. (Technical support for proposed equipment)
9. (Technical support for understanding project payback period/ROI)
10. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

E. Lighting Potential

The next questions are related to the type of lighting currently installed in your facilities.

E1. Considering the existing lighting across all of your facilities, what proportion of all of your facilities lights would you estimate are LED? **[NUMERIC RESPONSE 1-100]** percent

E2. To confirm, across all of your facilities, [**E1 RESPONSE**]% of lights are LED, and the remaining **[1 - E1 RESPONSE]**% of lights are something else?

1. (Yes, that is correct)
2. (No, that is not correct) **[ASK HOW:_____]**

E3. **[IF E1 < 100%]** Within the **next two years**, does your organization plan to upgrade any or all of the remaining **[1 - E1 RESPONSE]**% of lights to LEDs? **[READ LIST; RECORD ONLY ONE]**

1. (Yes, we plan to upgrade **all** of the lights to LEDs within the next two years)
2. (Yes, we plan to upgrade **some** of the lights to LEDs within the next two years)
3. (No, **we don't plan to upgrade any of the lights** to LEDs within the next two years)

99. (Don't know)
88. (Refused)

E4. *[IF E3=2] What is preventing your organization from upgrading all of the remaining [1 – E1 RESPONSE]% of lights to LEDs? *[IF E3=3) What is preventing your organization from upgrading any of the remaining [1 – E1 RESPONSE]% of lights to LEDs? [DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]

1. (It's too expensive)
2. (We have other projects we want to complete first)
3. (It's too time consuming)
4. (The old lights are still working)
5. (LEDs don't work well at our facilities)
6. (Other [RECORD VERBATIM ANSWER_____])

99. (Don't know)
88. (Refused)

E5. [IF E1 < 100%] What, if anything, could Focus on Energy do to assist your facility with upgrading to LED lights? [DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]

1. (Higher Incentives)
2. (Technical/Design assistance)
3. (Help find a contractor to work with)
4. (Other [RECORD VERBATIM ANSWER_____])

99. (Don't know)
88. (Refused)

F. Freeridership

[SECTION IS FORCED RESPONSE]
[IF B1.1=1 AND B10=3 SKIP TO SECTION G GOTHERWISE ASK THIS SECTION - CONTRACTOR DID NOT PROVIDE A DISCOUNT]

[IF SERVICE=0] For the next section, please focus on the decision to purchase the new **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]**.** Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] that was purchased. **[IF SERVICE=1]** For the next section, please focus on the decision to purchase the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that was purchased.

[IF B5=1 READ] Some of these next questions will refer to information or education you have received from Focus on Energy. Please answer the questions thinking of all the information or education you have received from Focus on Energy since first participating in Focus on Energy offerings or programs.

[INTERVIEWER NOTE ABOUT THIS SECTION (DON'T READ TO RESPONDENT): THIS SECTION IS BASED ON HYPOTHETICAL BEHAVIOR SO WE ARE ASKING SIMILAR QUESTIONS TO VERIFY THAT WE ARE GATHERING THE CORRECT RESPONSES.]

F1. **[IF SERVICE=0]** Did your organization have specific plans to install the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before learning about the Focus on

Energy incentive? **[IF SERVICE=1]** Did your organization have specific plans to have the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed before learning about the Focus on Energy incentive?

1. (Yes) **[ASK F2]**
2. (No) **[SKIP TO F4]**

99. (DON'T KNOW) **[SKIP TO F4]**

F2. **[IF SERVICE=0]** Prior to learning about the incentive, was the purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] included in your property's capital budget? **[IF SERVICE=1]** Prior to learning about the incentive, was the purchase of **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. (Yes)
2. (No) **[SKIP TO F4]**

99. (DON'T KNOW) **[SKIP TO F4]**

F3. **[IF SERVICE=0]** Had your property ***ALREADY*** ordered or purchased the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] ***BEFORE*** your property heard about the Focus on Energy incentive? **[IF SERVICE=1]** Had your organization ***ALREADY*** ordered or purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services ***BEFORE*** your organization heard about the Focus on Energy incentive?

1. (Yes)
2. (No)

99. (DON'T KNOW)

F4. **[IF SERVICE=0]** Would you have purchased and installed the same energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy?

1. (Yes) **[SKIP TO F7 IF SERVICE=0 / ASK F8 IF SERVICE=1]**
2. (No) **[SKIP TO F9]**

99. (DON'T KNOW) **[ASK F5]**

F5. **[IF SERVICE=0]** Would you have installed **something** without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased **some services** without the incentive and information or education from Focus on Energy? **[DO NOT READ LIST UNLESS NECESSARY]**

1. (Yes, would have installed something) **[ASK F6]**
2. (No, would NOT have installed anything) **[SKIP TO F13]**

99. (DON'T KNOW) **[SKIP TO F13]**

88.

F6. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK F7/ IF SERVICE=1 SKIP TO F8]**
2. (No) **[IF SERVICE=0 ASK F7/ IF SERVICE=1 SKIP TO F8]**

99. (DON'T KNOW) **[IF SERVICE=0 ASK F7 / IF SERVICE=1 SKIP TO F8]**

88.

F7. **[IF SERVICE=0]** And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK F8]**
2. (No, would have installed less) **[ASK F8]**
3. (No, would have installed more) **[ASK F8]**

99. (DON'T KNOW) **[ASK F8]**

F8. **[IF SERVICE=0]** Without the incentive for the **[MEASURE CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you have installed the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive for the **[MEASURE_CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you most likely have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed?

[READ LIST AND RECORD ONE RESPONSE]

1. Within the same year **[SKIP TO F13]**
2. Within one to two years **[SKIP TO F13]**
3. Within three to five years **[SKIP TO F13]**
4. In more than five years **[SKIP TO F13]**

99. (DON'T KNOW) **[SKIP TO F13]**

F9. **[ASK F9 TO F12 IF F4 =2] [IF SERVICE=0]** When you say **you would not have installed** the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have purchased** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy, would you have purchased any services at all?

1. (Yes, would have installed something) **[ASK F10]**
2. (No, would not have installed anything at all) **[SKIP TO F13]**

99. (DON'T KNOW) **[ASK F10]**

F10. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**
2. (No) **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**

99. (DON'T KNOW) **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**

F11. **[ASK IF SERVICE=0] [ASK IF MEASURECATEGORY1_QUANTITY IS GREATER THAN 1]** Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK F12]**
2. (No, would have installed less) **[ASK F12]**
3. (No, would have installed more) **[ASK F12]**

99. (DON'T KNOW) **[ASK F12]**

F12. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, when would you have installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, when would you have had the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed? **[READ LIST AND RECORD ONE RESPONSE]**

1. In the same year
2. In one to two years
3. In three to five years
4. More than five years out

99. (DON'T KNOW)

F13. **[ASK EVERYONE] [IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision.**[1 TO 6 - RANDOMIZE LIST] [ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

99. (DON'T KNOW)

G. Freeridership- Contractor

[SECTION IS FORCED RESPONSE]

[ASK EITHER SECTION E OR SECTION F- NOT BOTH]
[ASK IF B1.1=1 AND B10=3 – CONTRACTOR HELPED IN THE DECISION MAKING AND PROVIDED A DISCOUNT]

[PHONE PROMPT}:
[IF SERVICE=0] Now I'd like to talk with you about the new energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.

[IF SERVICE=1] Now I'd like to talk with you about **[MEASURE CATEGORY1 OR C_MEASURE1]** services. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.

[WEB PROMPT]:
[IF SERVICE=0] For the next section, please focus on the new energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.
[IF SERVICE=1] For the next section, please focus on the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though your contractor may have performed other services or installed energy efficient equipment, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** service.

[IF B5=1 READ] Some of these next questions will refer to information or education you have received from Focus on Energy. Please answer the questions thinking of all the information or education you have received from Focus on Energy since first participating in Focus on Energy offerings or programs.

[INTERVIEWER NOTE ABOUT THIS SECTION (DON'T READ TO RESPONDENT): THIS SECTION IS BASED ON HYPOTHETICAL BEHAVIOR SO WE ARE ASKING SIMILAR QUESTIONS TO VERIFY THAT WE ARE GATHERING THE CORRECT RESPONSES.]

G1. At the time that you first started working with your contractor on this project, had you…? **[READ LIST AND RECORD ONE FOR EACH: 1=YES OR 2=NO OR 99=DON'T KNOW OR 88=REFUSED]**

1. **[IF SERVICE=0]** Already been thinking about purchasing the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already been thinking about purchasing the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
2. **[IF SERVICE=0]** Already begun collecting information about energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already begun collecting information about **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
3. **[IF SERVICE=0]** Already selected the particular energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]** and were going to purchase it? **[IF SERVICE=1]** Already selected the particular **[MEASURE_CATEGORY1 OR C_MEASURE1]** services and were going to purchase them
4. **[IF SERVICE=0]** Already purchased the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
5. **[IF SERVICE=0]** Already installed the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already completed the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
6. Already heard about Focus on Energy?

99. (DON'T KNOW)

G2. **[IF SERVICE=0]** Just to make sure we understand, did your organization have specific plans to install the energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before you began working with your contractor? **[IF SERVICE=1]** To confirm, did your organization have

specific plans to purchase **[MEASURE_CATEGORY1 OR C_MEASURE1]** services before you began working with your contractor?

1. (Yes) **[ASK G3]**
2. (No) **[SKIP TO G4]**

99. (DON'T KNOW) **[SKIP TO G4]**

G3. **[IF SERVICE=0]** Before you began working with your contractor, was the purchase of the energy-efficient [**MEASURE CATEGORY1 OR C_MEASURE1**][s] included in your organization's capital budget? **[IF SERVICE=1]** Before you began working with your contractor, was the purchase of the [**MEASURE_CATEGORY1 OR C_MEASURE1**] services included in your organization's capital budget?

1. (Yes)
2. (No) **[SKIP TO G5]**

99. (DON'T KNOW) **[SKIP TO G5]**

G4. **[IF SERVICE=0]** Did your contractor help your organization make the decision to include the purchase of the energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] in your property's capital budget? **[IF SERVICE=1]** Did your contractor help your organization make the decision to include the purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services in your organization's capital budget?

1. (Yes) **[ASK G5]**
2. (No) **[ASK G5]**

99. (DON'T KNOW) **[ASK G5]**

G5. **[IF SERVICE=0]** Would you have purchased and installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the assistance from your contractor and Focus on Energy?

1. (Yes) **[IF SERVICE=0 SKIP TO G8 / IF SERVICE=1 SKIP TO G7]**
2. (No) **[SKIP TO G10]**

99. (DON'T KNOW) **[ASK G6]**

G6. **[IF SERVICE=0]** Would you have installed **something** without the assistance of your contractor and Focus on Energy? **[IF SERVICE=1]** Would you have had **some services performed** without the assistance of your contractor and Focus on Energy? **[DO NOT READ LIST UNLESS NECESSARY]**

1. **[IF SERVICE=0]** (Yes, would have installed something) **[IF SERVICE=1]** **(**Yes, would have performed some service) **[ASK G7]**
2. **[IF SERVICE=0]** (No, would NOT have installed anything) **[IF SERVICE=1]** (No, would not performed any service) **[SKIP TO G16]**

99. (DON'T KNOW) **[SKIP TO G16]**

88.

G7. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the [**MEASURE CATEGORY1 OR C_MEASURE1**][s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK G8 / IF SERVICE=1 SKIP TO G9]**
2. (No) **[IF SERVICE=0 ASK G8 / IF SERVICE=1 SKIP TO G9]**

99. (DON'T KNOW) **[ASK G8 / IF SERVICE=1 SKIP TO G9]**

G8. **[ASK IF SERVICE=0 AND MEASURE CATEGORY1_QUANTITY IS GREATER THAN 1]** And without the involvement of your contractor and Focus on Energy would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK G9]**
2. (No, would have installed less) **[ASK G9]**
3. (No, would have installed more) **[ASK G9]**

99. (DON'T KNOW) **[ASK G9]**

G9. **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have installed the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, when would you have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed? **[READ LIST AND RECORD ONE RESPONSE]**

1. Within the same year **[SKIP TO G16]**
2. Within one to two years **[SKIP TO G16]**
3. Within three to five years **[SKIP TO G16]**
4. In more than five years **[SKIP TO G16]**

99. (DON'T KNOW) **[SKIP TO G16]**

G10. **[ASK G10 TO G14 IF G5=2] [IF SERVICE=0]** When you say **you would not have installed** the same **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have performed** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the assistance from your contractor and Focus on Energy, would you have had any energy-saving services performed at all?

1. (Yes) **[ASK G11]**
2. (No) **[SKIP TO G16]**

99. (DON'T KNOW) **[ASK G11]**

G11. **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, **would you have installed** something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, **would you have purchased services** that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[ASK G12]**
2. (No) **[ASK G12]**

99. (DON'T KNOW) **[ASK G12]**

G12. **[SERVICE=0 AND MEASURE CATEGORY1_QUANTITY IS GREATER THAN 1]** Without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK G13]**
2. (No, would have installed less) **[ASK G13]**

3. (No, would have installed more) **[ASK G13]**
99. (DON'T KNOW) **[ASK G13]**

G13. Without the assistance from your contractor and Focus on Energy, when would you have installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services? **[READ LIST AND RECORD ONE RESPONSE]**

1. In the same year **[ASK G14]**
2. In one to two years **[ASK G14]**
3. In three to five years **[ASK G14]**
4. More than five years out **[ASK G14]**
99. (DON'T KNOW) **[ASK G14]**

G14. If the assistance or information from your contractor had not been available, would you have done anything differently on this project?

1. (Yes) **[ASK G15]**
2. (No) **[SKIP TO G16]**
99. (DON'T KNOW) **[SKIP TO G16]**

G15. What would you have done differently? **[RECORD OPEN ENDED RESPONSE]**

G16. **[IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision. **[RANDOMIZE LIST]** **[ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3, 99]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering
99. (DON'T KNOW)

H. Spillover

[ASK EVERYONE SECTION H]

H1. Since making these energy-efficiency upgrades has your company installed any other energy-efficient products in your facility that you did ***NOT*** receive a Focus on Energy incentive for or did ***NOT*** receive for free? **[IF NEEDED: BY ENERGY-EFFICIENT PRODUCTS, I MEAN HIGH EFFICIENCY HVAC EQUIPMENT, HIGH EFFICIENCY WATER HEATERS, HIGH EFFICIENCY MOTORS, OR ENERGY STAR LIGHTING SUCH AS LED LIGHTBULBS.]**

1. (Yes) **[ASK H2]**

2. (No) **[SKIP TO SECTION I]**
99. (DON'T KNOW) **[SKIP TO SECTION I]**

H2. What were the other energy-efficient products that you installed without getting an incentive? **[DO NOT READ LIST; MARK ALL THAT APPLY; 99=DON'T KNOW, 88=REFUSED, -96=N/A] [IF THE CUSTOMER SAYS THEY BOUGHT SOMETHING BUT HAVE NOT INSTALLED IT, THE EQUIPMENT HAS TO BE INSTALLED AND OPERATING FOR US TO COUNT IT TOWARDS SPILLOVER.]**

1. (LED(s))
2. (Efficient lighting controls (occupancy sensors, daylighting, timers))
3. (High efficiency motor(s))
4. (Air source heat pump(s))
5. (Ground source heat pump(s))
6. (Central AC)
7. (VSD (variable speed drive(s)))
8. (Water heating equipment)
9. (Boiler or steam system(s))
10. (Compressed air equipment)
11. (Gas furnace(s))
12. (Refrigeration equipment (refrigerators, freezers))
13. (HVAC system controls (including smart thermostats))
14. (Operational improvements **[SPECIFY:_____])**
15. (Other) **[SPECIFY:_____]**

99. (DON'T KNOW) **[SKIP TO SECTION I]**
88. (REFUSED) **[SKIP TO SECTION I]**

[ASK H2.11-H2.13 IF H2=1]

H2.11 [REPEAT FOR EACH ITEM MENTIONED IN H2**]** What is the wattage of the lighting? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.12 **[REPEAT FOR EACH ITEM MENTIONED IN** H2**]** In what location was it installed (Indoors/Outdoors)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.13 **[REPEAT FOR EACH ITEM MENTIONED IN** H2**]** What type of equipment was removed or replaced? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.21- H2.22 IF H2=2]

H2.21 How many lamps or fixtures are controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.22 What is the average wattage of the lamps or fixtures controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.31-H2.33 IF H2=3]

H2.31 How is the high efficiency motor controlled? (Always on, manual start/stop, VSD / ECM / VFD, Other)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.33 On what equipment was the high efficiency motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.33 What is the horsepower of the high efficiency motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.41 IF H2=4, 5] [ASK H2.42 IF H2=4, 5, 6] [ASK H2.43 IF H2=4, 5] [ASK H2.44 IF H2=4, 5, 6]

H2.41 [REPEAT FOR EACH ITEM MENTIONED IN H2] What is the heating efficiency rating (HSPF) of the **[INSERT ITEM FROM H2]**? **[RECORD NUMERIC RESPONSE: 0.1 TO 20.0, 99=DON'T KNOW, 88=REFUSED]**
H2.42 **[REPEAT FOR EACH ITEM MENTIONED IN H2]** What is the cooling efficiency rating (SEER/EER) of the **[INSERT ITEM FROM** H2]? **[RECORD NUMERIC RESPONSE: 0.1 TO 30.0 "SEER/EER RATING", 99=DON'T KNOW, 88=REFUSED]**
H2.43 **[REPEAT FOR EACH ITEM MENTIONED IN H2]** What is the heating output capacity in BTUs of the **[INSERT ITEM FROM H2]**? **[RECORD NUMERIC RESPONSE: 1 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**
H2.44 **[REPEAT FOR EACH ITEM MENTIONED IN H2]** What is the cooling output capacity in tons of the **[INSERT ITEM FROM H2]**? **[RECORD NUMERIC RESPONSE: 0 TO 100 "TONS", 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.51-H2.52 IF H2=7]

H2.51 On what type of equipment was the VSD (variable speed drive) motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.52 What is the total horsepower of the VSD (variable speed drive) motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.61-H2.64 IF H2=8]

H2.61 What type of water heating equipment was purchased and installed? **[READ LIST]**

1. Water heater with storage
2. Tankless water heater
3. Heat pump water heater with storage
4. Condensing water heater with storage
5. Boiler

99. (Don't know)
88. (Refused)

H2.62 What fuel type is used? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

H2.63 What is the efficiency factor (EF) rating of the water heating equipment? **[RECORD NUMERIC RESPONSE: 0.00 TO 0.99 "Efficiency Factor (EF)", 99=DON'T KNOW, 88=REFUSED]**
H2.64 **[ASK IF H2.61 INDICATES WATER HEATER WITH STORAGE]** What is the capacity of the equipment in gallons? **[RECORD NUMERIC RESPONSE: 0 TO 10,000 "Capacity in gallons", 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.71-H2.73 IF H2=10]

H2.71 What is the compressed air equipment being used for? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.72 What type of compressed air equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.73 What is the total horsepower of the compressor motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.81-H2.82 IF H2=11]

H2.81 What is the annual fuel utilization efficiency (AFUE) rating of the gas furnace? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
H2.82 What is the output capacity of the gas furnace in BTUs? **[RECORD NUMERIC RESPONSE: 0 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.91 IF H2=12]

H2.91 What type of refrigeration equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK H2.101-H2.102 IF H2=13]

H2.101 What type of HVAC system control(s) was purchased and installed?

1. Smart thermostat
2. Building automation system
3. Other: **[RECORD RESPONSE]**

H2.102 What type(s) of HVAC equipment are controlled by the new HVAC system control(s)?

1. Heating equipment
2. Cooling equipment
99. Don't know

H2.103 [ASK H2.103 IF H2.102.1=YES] What is the heating output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 1,000,000 BTUs:?

1. **[RECORD RESPONSE, 98=DON'T KNOW]**

H2.104 [ASK H2.104 IF H2.102.2=YES] What is the cooling output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 150 tons?

1. **[RECORD NUMERIC RESPONSE: 0 TO 150 "Tons", 99=DON'T KNOW]**

[ASK H2.111 IF H2=14 OR 15]

H2.111 How do you know the **[INSERT ITEM FROM H2]** is energy efficient?

1. **[TEXT RESPONSE]**
99. Don't know

H3. **[REPEAT FOR EACH ITEM MENTIONED IN H2]** How many **[INSERT ITEM FROM H2]**(s) did you install?
[RECORD NUMBER_____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]

H4. **[REPEAT FOR EACH ITEM MENTIONED IN H2]** In what year was/were the **[INSERT ITEM FROM H2]** purchased and installed?
[RECORD YEAR NUMBER____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]

H5. **[REPEAT FOR EACH ITEM MENTIONED IN H2]** Please tell us how important [**IF ANY B1.1=1 READ,** "assistance from your contractor and information and education from Focus on Energy" **OTHERWISE READ,** "the Focus on Energy Agribusiness offering"] was in your decision to install **[ANSWER FROM H2]**" Was it…?: **[READ LIST EMPHASIZE EACH ANSWER OPTION AND PAUSE IN BETWEEN EACH OPTION.]**

1. Very important,
2. Somewhat important,
3. Neutral,
4. Not too important, or
5. Not at all important

99. (Don't know)
88. (Refused)

H6. Was **[INSERT EACH ITEM FROM H2]** installed at **[SITE ADDRESS]**?

1. Yes
2. No (**ASK:** What is the address of the location where you installed **[INSERT EACH ITEM FROM H2]**? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

99. (Don't know)
88. (Refused)

I. Closing

I1. *Do you have any other comments about your experience with Focus on Energy that you would like to share?
[RECORD RESPONSE:_____; 99 FOR DON'T KNOW, 88 FOR REFUSED]

I2. *On occasion, Focus on Energy may want to contact a customer to learn more about their participation experience. May we share your responses with a program manager, who may contact you regarding your experience?

1. Yes
2. No

99. (Don't know)
88. (Refused)

Thank you. We appreciate your help with this survey. Have a nice day.

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Focus on Energy Nonresidential Programs
CY 2023 Trade Ally Interview Agribusiness Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Background	Confirm record of participation	A, B1- B4
Awareness and Participation	How trade allies learned of the program and extent of participation	B4 - B8
Program Specific	Experience working with Agribusiness customers	Section C
Promotion	Knowledge and ease finding information	D1, D2
	How they promote the program	D3 - D7, D9, D10, E4
	Satisfaction with Incentives	D5 – D8
Program Experience	Program satisfaction	Section H
	Energy Advisor	E1 - E3
	Feedback on application	C3
Comparison to Other Programs	Differences from others	Section F
IRA Tax Incentives	Awareness and experience with IRA tax incentives	Section G

A. Introduction

Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your experience participating as a Trade Ally in their Program.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who would be familiar with Focus on Energy's Programs?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**
99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Do you have about 30 minutes to answer some questions? As a thank you for your time, we're offering a $150 gift card.

[If not available, seek to set an appointment]

Great, we will keep everything you tell us confidential – we won't report anything in a way that would identify individual respondents or companies.

B. Background

B1. To begin, can you tell me a little bit about your role at your company and how long you've been there?

B2. What types of projects and work does your company do? [Probe on commercial, residential markets, new construction/retrofit, and type of work; e.g., HVAC, electrical, etc.].

B3. What geographic area does your company serve?

1. (If TA is close to a border) Do you do any work outside of Wisconsin? If yes, what percentage of your work would you estimate is *in* Wisconsin?

B4. How long has your company been a trade ally for Focus on Energy?

1. **[If less than 5 years as a Focus TA]** How did you learn about the opportunity to be a trade ally for Focus on Energy?

B5. When you learned about the opportunity to become a Focus on Energy trade ally, what was appealing about it?

1. What concerns, if any, did you have about participating?

B6. What percentage of your projects qualify for a Focus on Energy rebate or incentive?

1. How has the share of projects you do that qualify for a Focus on Energy incentive changed since you became a registered trade ally?

B7. Have you utilized any of the tools/resources provided by Focus on Energy?

1. Custom incentive workbook
2. Cooling eligibility screening tool
3. Retrocommissioning workbook
4. Comprehensive lighting solutions workbook

B8. In your opinion, what is the single best aspect of the Focus on Energy program?

C. Agribusiness Program Specifics

C1. Can you tell me about the projects you've completed with Agribusiness customers in the past three years that have qualified for rebates through Focus on Energy? Do you typically work with [if multiple, probe for percentage of each]:

1. Grain producers?
2. Livestock Businesses?
3. Dairy producers?
4. Greenhouses?
5. Something else?

C2. **[If TA works with any of: Commercial Refrigeration, HVAC/Plumbing, Lighting, or Process Systems]** Considering the type of work you do with Agribusiness customers that qualifies for incentives through the Focus on Energy program – have you completed projects including similar services for other types of customers that has qualified for a Focus on Energy incentive?

1. How have those experiences differed from your experiences Agribusiness customers?

C3. At a high level, please walk us through a typical project with Agribusiness customers that receives an incentive from Focus on Energy, beginning with customer identification/procurement, through project scoping, coordination with the Focus on Energy team, implementation, all the way through until the rebate check is delivered:

1. Typically, how does your company identify potential customers?
    - **[If less than 5 years as a Focus TA]** Have your customer recruitment practices changed since joining the Focus Trade Ally Network? If so, how?
    - Does the Focus on Energy team ever provide you with leads?
2. When scoping a project, how much influence do you have on the overall project design? On the specific equipment selected?
    - How involved is the Focus team during the project scoping phase?
3. How easy or difficult is it for you to complete the project documentation and application required for Focus incentives?
    - Why do you say that? What makes it easy/difficult?
    - What, if any challenges, come up with project documentation?
    - How do documentation requirements compare to other incentives from other sources?
4. In terms of installing measures and completing projects, do project processes differ at all between projects that receive a Focus on Energy Incentive and those that don't?
    - In terms of timing, does the equipment installation/actual work of a project change at all?
    - Are there any difficulties comparing one to the other?
    - Anything that works particularly well?
    - Anything noteworthy at all?

D. Promoting Focus on Energy Offerings

D1. In general, how well do you feel you and your team understand the Focus on Energy offerings and requirements?

1. Are there any areas of the program that you are less familiar with?

D2. Who do you typically reach out to for information about the program or get answers to any questions? Energy Advisors? Focus on Energy Website? Something/somewhere else?

1. How easy is it to find out information about the program or get answers to any questions?

D3. How do you promote the incentives to your customers?

D4. When you interact with customers, how do you typically explain the available Focus on Energy incentives?
   1. At what stage in the project do you bring up available incentives?
   2. What are some concerns or questions customers have about incentive opportunities?

D5. Generally, how effective are current incentive levels in increasing your sales and services of energy efficient products?
   1. Are incentives more effective for some product types than others?

D6. Would you recommend any changes to the incentive amounts or how the incentives are structured?

D7. Besides upfront cost, what other barriers do you find prevent customers from installing high-efficiency equipment?
   1. Does the timing of delivery of energy efficient products (longer lead times) ever lead to customers choosing less efficient products?

D8. When a single project requires multiple equipment replacements or services, how easy or difficult is it for you to stack Focus incentives?
   1. **[If relevant]** What, if anything, could make this process easier?

   2. What about coordinating with other TAs/service providers if a customer needs work done that is outside of your offerings? Are there other companies that you typically partner with? Can anything be done to help better foster those relationships and promote cross-promotion of measures/programs?

D9. In your opinion, what effect have Focus incentives had on your sales of energy efficient products and services?

D10. In your opinion, what is the single biggest thing that could be done to help you complete more projects through the Focus on Energy program?

E. Process Feedback

E1. How satisfied are you with the support provided by your Focus on Energy Energy Advisor?

   1. How satisfied have you been with communication with your Energy Advisor?
   2. What can you tell us about your experience working with the Energy Advisor?
   3. What is working well? What can be improved?

E2. Considering support that you may have received from your Focus on Energy Energy Advisor, which of the following benefits have you experienced?
   1. Help completing project documentation/application?

2. Vetting of savings or incentive calculations?
3. Information to upsell higher efficiency equipment?
4. Anything else?

E3. **[For any response identified in E2]** How, if at all, did **[E2 response]** help you to promote more high-efficiency sales?

E4. What, if any, additional resources or support from Focus on Energy would help you promote more high-efficiency sales?

F. Comparison to Other Offerings

F1. **[If TA works in other states]** Do you participate in utility incentive programs in other states?

F2. **[IF F1=Yes]**
When you compare Focus on Energy to neighboring utility incentive programs, how easy or difficult is it to participate in comparison? [probe if needed: are there more challenging aspects, e.g., the registration, communication with Focus, post-installation inspections, etc.]

F3. In your opinion, what are the key differences between Focus on Energy incentives and the other state utility incentives you can draw on?
1. What overlaps have you seen between Focus on Energy incentives, and incentives from utilities in other states?
2. Do other states offer measures or support that Focus on Energy does not?

F4. Do the varying incentive design structures among programs in multiple states impact your ability to participate in Focus on Energy?
1. [If yes] How? [probe for if they choose one or another and why]
2. [If not addressed] Beyond cost, are there other factors that affect which incentive you'll apply for? [probe if needed: documentation requirements, customer service, etc.]

G. IRA Funding

G1. Are you aware of the financial incentives available for organizations through the Inflation Reduction Act (IRA) that can improve a building's energy efficiency?

a) **For context:** The IRA expands the eligibility for incentives under Section 179D to nonprofit organizations for qualifying energy-saving investments such as energy-efficient interior lighting, HVAC, or the components that make up the building envelope (roofing, walls, etc.).

G2. How well do your standard business practices align with IRA requirements? Will you be making any changes to your standard offerings to align with the IRA?

G3. **[If G1=Yes]** Have you worked with any customers to help them meet the thresholds for savings?

G4. **[if G1 = Yes]** Have you promoted these changes to any potential customers to encourage them to adopt more energy efficiency in their buildings? Why or why not?

G5. How do you communicate multiple incentives – like combining Focus on Energy and IRA incentives – to your customers?

1. What, if anything, can be done to better facilitate awareness and understanding of multiple/combined incentives that may be available?
2. What, if anything, can be done to better facilitate access to those incentives?

H. Overall Reflection

H1. Thanks for your time so far—I'd like to wrap up with some broad questions. On a scale of 1 to 5 with 1 being very satisfied and 5 being very unsatisfied, how satisfied are you overall with the Focus on Energy Program?

1. **[If H1 < 4]** Why do you say that?

H2. Would you like to highlight any additional aspects of the Focus on Energy trade ally program that you feel are working well?

H3. In your opinion, what, if anything, are the challenges of being a Focus on Energy trade ally?

1. [If not addressed] Are there any specific obstacles in participating in the trade ally program you'd like to highlight?

H4. What, if anything, could Focus on Energy do that would help increase customer participation in Focus on Energy programs?

H5. What, if anything, could Focus on Energy do to increase the number of trade allies that promote Focus on Energy programs?

H6. Looking forward to the future, how do you anticipate your participation as a trade ally will change in the next few years?

H7. Is there anything else about the Focus on Energy program that you would like to share?

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Focus on Energy Nonresidential Solutions
Commercial and Industrial Offering
CY 2023 Participant Survey Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Questions**
Screening	Survey initiation, project verification	Section A
Awareness	Sources of participant awareness and project initiation	Section B
Decision Making	Key factors influencing participants' decision to participate in energy upgrades	Section C
Barriers	Obstacles to installing high-efficiency equipment	Section D
Small Business Experience	Awareness of online business portal; interest in online energy assessment	Section E
	How small businesses self-identify	
	Preferred channels of engagement	
Program Impacts	Determine net program impacts	Sections F, G, H

General Instructions

- Interviewer instructions are in green **[LIKE THIS]** (the style is "Survey: Interviewer Instructions").
- CATI programming instructions are in red **[LIKE THIS]** (the style is "Survey: Programming").
- Items that should not be read by the interviewer are in parentheses like this ( ).

Quota = 70 completes

SAMPLE Variables:
[CONTACT NAME]
[SITE ADDRESS]
[MEASURE CATEGORY1]
[MEASURE CATEGORY2]
[MEASURE CATEGORY3]
[MEASURE CATEGORY1_QUANTITY]
[MEASURE CATEGORY2_QUANTITY]
[MEASURE CATEGORY3_QUANTITY]
[SERVICE]
[ONLY_SERVICE]
[HOW_HEARD]
[CHECK_RECIPIENT]

A. Introduction

[SECTION IS FORCED RESPONSE]

A1. Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your recent energy efficiency project experience for the property at **[SITE ADDRESS]**.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who was most involved with the energy efficiency project your company recently completed with Focus on Energy?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**
99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Back-up information, not to be programmed:

[If "No – Not available," ask if Respondent would like to arrange a more convenient time for us to call them back or if you can leave a message for that person.]

[IF RESPONDENT ASKS HOW LONG, SAY: "APPROXIMATELY 10 MINUTES."]
[IF NEEDED:] This survey is for research purposes only and this is not a marketing call. Your participation in this study is important so that Focus on Energy can improve its energy efficiency programs for businesses and other organizations.

[**Only if asked** for a Focus on Energy contact to verify the survey authenticity, offer Mitch Horrie with the Public Service Commission of Wisconsin, 608.267.3206]

[**Only if respondent says they already did a survey:** Thank you for your responses to that survey. This is another Focus on Energy study that you have been selected for, that asks a few more questions about your experience with the offering and your decision-making. If you have a few more spare minutes, we would greatly appreciate your responses!]

A2. ***[IF ONLY_SERVICE=FALSE]** Our records show that you installed energy efficient equipment or upgrades including a **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

[IF ONLY_SERVICE=TRUE] Our records show that you received services to improve your facilities energy efficiency including **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

1. (Yes)
2. (No, wrong year) **[RECORD CORRECT YEAR, IF POSSIBLE]**
3. (No, wrong address) **[RECORD CORRECT ADDRESS]**
4. (No, wrong measure) **[CORRECT BELOW]**
   - F3a. (**MEASURE CATEGORY1** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE1]**
   - F3a. (**MEASURE CATEGORY2** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE2]**
   - F3a. (**MEASURE CATEGORY3** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE3]**
5. (No, I did not install any measures) **[THANK AND TERMINATE]**

99. (Don't know) **[IS THERE SOMEONE WE COULD SPEAK WITH THAT WOULD KNOW THIS? RECORD NAME AND CONTACT INFORMATION:_____]**

88. (Refused) **[THANK AND TERMINATE]**

B. Awareness and Customer Experience

B1. How many locations does your organization operate in Wisconsin?

1. [RECORD NUMBER:_____]

99. (Don't know)

88. (Refused)

B2. How many people does your organization employ in Wisconsin (best guess)?

1. [RECORD NUMBER:_____]

99. (Don't know)

88. (Refused)

B3. *I'm going to read you a short list. Please tell me who, if anyone, was involved in helping you initiate your energy efficiency project. **[READ LIST AND MARK 1=YES, 2=NO, 99=DON'T KNOW; 88=REFUSED, -96=N/A FOR EACH] [FORSED RESPONSE]**

1. Your contractor or vendor
2. Focus on Energy staff
3. Your utility account manager
4. Your internal energy or sustainability team
5. Your internal facility operations and maintenance staff

B4. *How would you describe your experience in learning about whether your project or equipment qualified for a Focus on Energy incentive? Would you say that project eligibility information was…

1. Very clear
2. Mostly clear
3. A mix of clear and not clear,
4. Mostly not clear, or
5. Not clear at all?

99. (Don't know)

88. (Refused)

B5. *[IF B4=3 OR 4 OR 5] What was not clear about whether your project or equipment qualified for a Focus on Energy incentive? [OPEN END]

B6. When looking for information on the Focus on Energy program, where do you go to find that information? [FORSED RESPONSE]
1. Focus on Energy website
2. Focus on Energy advisor
3. My utility website
4. Contractor
5. Somewhere else [SPECIFY:_____]
99. (Don't know)
88. (Refused)

B7. *[IF HOW_HEARD≠"PAST PARTICIPATION" READ:] Prior to any projects completed in 2023, had you worked with Focus on Energy in previous years? [IF HOW_HEARD="PAST PARTICIPATION" READ]: Our records show you had previously participated in a Focus on Energy offering. Is that correct? [FORSED RESPONSE]
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

B8. *[IF B7=1 AND HOW_HEARD="FOCUS STAFF/EA" OR B3.2=1] You indicated that you learned about the incentives through a Focus on Energy representative or Energy Advisor or worked with one to complete your project. For this year's project, did you work with the same contact you had worked with previously?
1. (Yes)
2. (No)
3. (Other: _____)
99. (Don't know)
88. (Refused)

B9. *[IF B7 = 1 AND (HOW_HEARD="Trade Ally/Contractor" OR B3.1=1)] You indicated that you worked with a contractor to complete your project. For this year's project, did you work with the same contractor you had worked with previously?
1. (Yes)
2. (No)
3. (Other: _____)
99. (Don't know)
88. (Refused)

B10. *[IF B7=1] Overall, how would you say your experience with Focus on Energy was this year compared to prior years? Would you say it was….
1. About the same
2. More positive, or

3. Less positive?
99. (Don't know)
88. (Refused)

B11. ***[IF B10=2 OR 3]** Why do you say that? **[OPEN END]**

B12. *Who took the lead role in completing the application for the financial incentive? Was it… **[RANDOMIZE] [READ OPTIONS, ALLOW ONLY ONE RESPONSE] [FORSED RESPONSE]**

1. You (i.e., respondent)
2. Someone at your organization
3. The contractor and/or vendor
4. A Focus on Energy representative
5. Someone else **[SPECIFY:_____]**
99. (Don't know)
88. (Refused)

B13. **[ASK IF B12=1]** *How easy would you say this paperwork was to complete? Would you say: **[READ LIST]**

1. Very easy,
2. Mostly easy,
3. A mix of easy and challenging,
4. Mostly challenging, or
5. Very challenging?
99. (Don't know)
88. (Refused)

B14. **[ASK IF B13= 3, 4, OR 5]** *Why do you say that? **[OPEN END]**

B15. **[IF B3.2=1]** ***Overall, how satisfied were you with the offering or project support you received from your Focus on Energy Energy Advisor? Would you say: **[READ LIST]**

1. Very satisfied,
2. Somewhat satisfied,
3. Neither satisfied nor dissatisfied,
4. Somewhat dissatisfied, or
5. Very dissatisfied?
99. (Don't know)
88. (Refused)

B16. **[IF B15=1-5]** *Why do you say that? **[OPEN END]**

B17. *What could Focus on Energy have done to improve your overall experience, if anything? **[DO NOT READ THE LIST, RECORD ALL THAT APPLY]**

1. (Better/more communication **[SPECIFY: WHO WOULD YOU LIKE MORE COMMUNICATION FROM?_____]**)

2. (Quicker response time **[SPECIFY: WHO WOULD YOU LIKE A QUICKER RESPONSE TIME FROM?__]**)
3. (Larger selection of eligible equipment **[ASK: WHAT ENERGY-EFFICIENT EQUIPMENT SHOULD FOCUS ON ENERGY OFFER INCENTIVES FOR?_____]**)
4. (Increasing the incentive amount)
5. (Simplify the application process **[ASK: IN WHAT WAY SHOULD IT BE SIMPLIFIED?_____?]**)
6. (Allow me to fill out the applications online)
7. (Simplify the website **[ASK: IN WHAT WAY?_____]**)
8. (Provide quicker approval on applications)
9. (Send incentive check out faster)
10. (Simplify the incentive catalogue **[ASK IN WHAT WAY]**)
11. (Other **[SPECIFY:_____]**)
12. (No, nothing)

99. (Don't know)
88. (Refused)

C. Decision-Making

Now I'd like to understand more about how your property made decisions about your specific energy efficiency project.

C1. *What factor was <u>most</u> important to your company's decision to make the energy-efficient upgrades for which you received an incentive**?** **[DO NOT READ LIST; SINGLE RESPONSE]**

1. (To save money on energy bills/ reduce energy costs)
2. (To reduce energy consumption or energy demand / be more efficient / company conservation or environmental targets)
3. (To obtain a Focus on Energy or bonus incentive)
4. (To obtain a tax credit)
5. (To replace old (but still functioning) equipment)
6. (To replace broken equipment)
7. (To enhance performance or aesthetics of our equipment/system(s))
8. (To improve comfort)
9. (Tenant satisfaction/retention)
10. (To reduce maintenance or other non-energy operating costs)
11. (Other **[SPECIFY_____]**)

99. (Don't know)
88. (Refused)

C2. *Are you aware that the federal government increased tax incentives for organizations incorporating significant energy efficiency improvements starting in 2023?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

C3. ***[IF C2=1]** How, if at all, have the federal tax incentives impacted the decisions you are making on energy efficiency upgrades? **[ALLOW MULTIPLE RESPONSES]**

1. Accelerated them
2. Delayed them
3. Made us look for more savings opportunities
4. No change
5. Other **[SPECIFY_____]**
99. (Don't know)
88. (Refused)

C4. *Have you or anyone else within your organization attended an in-person or web-based training delivered by Focus on Energy in the past two years?

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C5. ***[IF C4= 1]** How important was your business' participation in the training in your decision to move forward with the energy efficient upgrades for which you received an incentive Was the training… **[READ LIST]**

1. Very important
2. Somewhat important
3. Neutral,
4. Not too important, or
5. Not at all important?
99. (Don't know)
88. (Refused)

D. Barriers

The next questions are to understand the barriers your organization may face when implementing an energy efficiency project.

D1. *If you had to choose just one, what would you say is the largest challenge in implementing energy efficiency projects and upgrades at your organization? Would you say: **[READ LIST; RECORD ONLY ONE]**

1. Cost
2. Time
3. Technical questions or technical issues, or
4. Your organization's own internal decision making or budgeting process
5. Limited staffing or time to dedicate to energy efficiency efforts
6. (Other **[RECORD VERBATIM ANSWER_____]**)
99. (Don't know)
88. (Refused)

D2. *What could be done to help your company overcome challenges with energy efficiency improvements? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**

1. (Nothing)
2. (Higher incentives)
3. (Provide immediate or upfront discounts/incentives)
4. (Offer low-interest loans)
5. (Simplify the paperwork) **[ASK HOW:_____]**)
6. (Provide better/more information about the offering **[SPECIFY WHAT TYPE OF INFORMATION THEY NEED:_____]**)
7. (Provide an energy audit)
8. (Technical support for proposed equipment)
9. (Technical support for understanding project payback period/ROI)
10. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

E. Online Energy Assessment

E0. Do you consider your organization to be a small business?

1. Yes
2. No

99. (Don't know)
88. (Refused)

E1. **[ASK IF E0=1]** What do you base your understanding of what a small business is on? Is it: **[ALLOW MULTIPLE RESPONSES]**

1. Employee count
2. Energy consumption of the business
3. Membership/participation in a small business support network
4. Revenue/Sales
5. Ownership structure
6. Other **[SPECIFY_____]**

99. Don't know
88. Refused

E2. Are you aware that Focus on Energy offers businesses an online portal to create a customized energy assessment of your facility and provide access to energy-saving products at no charge? **(IF ASKED FOR MORE INFORMATION, REFER RESPONDENT TO HTTPS://FOCUSONENERGY.FOCUS-ASSESSMENTS.COM/)**

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

E3. **[ASK IF E2=1]** Have you completed the online energy assessment?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

E4. **[ASK IF E3=1]** Upon completion of the online energy assessment, you were provided with an online energy assessment action plan. Thinking about that action plan, did your business use the information in the action plan to make decisions about the project we're discussing today?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

E5. **[ASK IF E3=1]** Overall, how informative was the online energy assessment? Would you say that it was:
1. Very informative
2. Somewhat informative
3. Not very informative, or
4. Not at all informative?
99. (Don't know)
88. (Refused)

E6. **[ASK IF E2=2 OR 3]** How likely are you to look into using the online portal to create an energy assessment, now that you know it is available? Are you… **[READ LIST] (IF ASKED FOR MORE INFORMATION, REFER RESPONDENT TO FOCUSONENERGY.COM/SMALLBUSINESS)**
1. Very likely,
2. Somewhat likely,
3. Neither likely nor unlikely,
4. Somewhat unlikely, or
5. Very unlikely?
99. (Don't know)
88. (Refused)

E7. What's the best way for Focus on Energy to help businesses like yours learn more about energy savings opportunities within your building or facility? **[DO NOT READ LIST, MARK ALL THAT APPLY]**
1. (In person visits or calls from an Energy Advisor/Focus Rep)
2. (Information from my contractor/Trade Ally)
3. (Free physical assessment of my space/facility (not online))
4. (I know all/don't need help identifying the opportunities)
5. (Other [RECORD VERBATIM ANSWER_____])
99. (Don't know)
88. (Refused)

F. Lighting Potential

The next questions are related to the type of lighting currently installed in your facilities.

F1. Considering the existing lighting across all of your facilities, what proportion of all of your facilities lights would you estimate are LED? **[NUMERIC RESPONSE 1-100]** percent

F2. To confirm, across all of your facilities, [**F1 RESPONSE**]% of lights are LED, and the remaining **[1 - F1 RESPONSE]**% of lights are something else?
1. (Yes, that is correct)
2. (No, that is not correct) **[ASK HOW:_____]**

F3. **[IF F1 < 100%]** Within the **next two years**, does your organization plan to upgrade any or all of the remaining **[1 - F1 RESPONSE]**% of lights to LEDs? **[READ LIST; RECORD ONLY ONE]**
1. (Yes, we plan to upgrade **all** of the lights to LEDs within the next two years)
2. (Yes, we plan to upgrade **some** of the lights to LEDs within the next two years)
3. (No, **we don't plan to upgrade any of the lights** to LEDs within the next two years)
99. (Don't know)
88. (Refused)

F4. *__[IF F3=2]__ What is preventing your organization from upgrading all of the remaining **[1 – F1 RESPONSE]**% of lights to LEDs? *__[IF F3=3)__ What is preventing your organization from upgrading any of the remaining **[1 – F1 RESPONSE]**% of lights to LEDs? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**
1. (It's too expensive)
2. (We have other projects we want to complete first)
3. (It's too time consuming)
4. (The old lights are still working)
5. (LEDs don't work well at our facilities)
6. (Other **[RECORD VERBATIM ANSWER_____]**)
99. (Don't know)
88. (Refused)

F5. **[IF F1 < 100%]** What, if anything, could Focus on Energy do to assist your facility with upgrading to LED lights? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**
1. (Higher Incentives)
2. (Technical/Design assistance)
3. (Help find a contractor to work with)
4. (Other **[RECORD VERBATIM ANSWER_____]**)
99. (Don't know)
88. (Refused)

F6. Next, we'd like to ask about any advanced lighting control systems at your facilities. While standard lighting controls may include occupancy sensors, dimming, or daylighting controls, *advanced* lighting controls take this a step further by using software to allow you to automate, control, and monitor your lighting systems throughout a facility or even at the fixture level. Prior to this survey, were you at all familiar with advanced lighting controls? **[READ LIST; RECORD ONLY ONE]**
1. (Yes, I am familiar with advanced lighting controls)
2. (No, I am not familiar with advanced lighting controls)
99. (Don't know)
88. (Refused)

F7. *[IF F6=1] Considering the existing lighting across all of your facilities, what proportion of the lighting in all of your facilities lights would you estimate are controlled by an advanced lighting control system? [NUMERIC RESPONSE 0-100] percent

F8. To confirm, across all of your facilities, [F7 RESPONSE]% of lights are controlled by an advanced lighting control system, and the remaining [1 – F7 RESPONSE]% of lights are not controlled by an advanced lighting control system?

1. (Yes, that is correct)
2. (No, that is not correct) [ASK HOW:_____]

F9. [IF F8 < 100%] Within the **next two years**, does your organization plan to upgrade any or all of the remaining [1 – F8 RESPONSE]% of lights to be controlled by an advanced lighting control system? [READ LIST; RECORD ONLY ONE]

1. (Yes, we plan to upgrade **all** of the lights to be controlled by an advanced lighting control system)
2. (Yes, we plan to upgrade **some** of the lights to be controlled by an advanced lighting control system)
3. (No, **we don't plan to upgrade any of the lights** to be controlled by an advanced lighting control system)

99. (Don't know)
88. (Refused)

F10. *[IF F9=2] What is preventing your organization from upgrading all of the remaining [1 – F7 RESPONSE]% of lights to be controlled by an advanced lighting control system? *[IF F9=3) What is preventing your organization from upgrading any of the remaining [1 - F7 RESPONSE]% of lights to be controlled by an advanced lighting control system? [DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]

1. (It's too expensive)
2. (We have other projects we want to complete first)
3. (It's too time consuming)
4. (We don't know enough about the technology)
5. (Lighting control systems don't work well at our facilities)
6. (Other [RECORD VERBATIM ANSWER_____])

99. (Don't know)
88. (Refused)

F11. [IF F8 < 100%] What, if anything, could Focus on Energy do to assist your facility with upgrading to utilize an advanced lighting control system? [DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]

1. (Higher Incentives)
2. (Technical/Design assistance)
3. (Help find a contractor to work with)
4. (Other [RECORD VERBATIM ANSWER_____])

99. (Don't know)
88. (Refused)

G. Freeridership

[SECTION IS FORCED RESPONSE]
[IF B3.1=1 AND B12=3 SKIP TO SECTION H OTHERWISE ASK THIS SECTION - CONTRACTOR DID NOT PROVIDE A DISCOUNT]

[IF SERVICE=0] For the next section, please focus on the decision to purchase the new **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]**.** Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] that was purchased. **[IF SERVICE=1]** For the next section, please focus on the decision to purchase the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that was purchased.

[IF B7=1 READ] Some

[INTERVIEWER NOTE ABOUT THIS SECTION (DON'T READ TO RESPONDENT): THIS SECTION IS BASED ON HYPOTHETICAL BEHAVIOR SO WE ARE ASKING SIMILAR QUESTIONS TO VERIFY THAT WE ARE GATHERING THE CORRECT RESPONSES.]

G1. **[IF SERVICE=0]** Did your organization have specific plans to install the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before learning about the Focus on Energy incentive? **[IF SERVICE=1]** Did your organization have specific plans to have the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed before learning about the Focus on Energy incentive?

1. (Yes) **[ASK G2]**
2. (No) **[SKIP TO G4]**
99. (DON'T KNOW) **[SKIP TO G4]**

G2. **[IF SERVICE=0]** Prior to learning about the incentive, was the purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] included in your property's capital budget? **[IF SERVICE=1]** Prior to learning about the incentive, was the purchase of **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. (Yes)
2. (No) **[SKIP TO G4]**
99. (DON'T KNOW) **[SKIP TO G4]**

G3. **[IF SERVICE=0]** Had your property ***ALREADY*** ordered or purchased the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] ***BEFORE*** your property heard about the Focus on Energy incentive? **[IF SERVICE=1]** Had your organization ***ALREADY*** ordered or purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services ***BEFORE*** your organization heard about the Focus on Energy incentive?

1. (Yes)
2. (No)
99. (DON'T KNOW)

G4. **[IF SERVICE=0]** Would you have purchased and installed the same energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information

or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy?

1. (Yes) **[SKIP TO G7 IF SERVICE=0 / ASK F8 IF SERVICE=1]**
2. (No) **[SKIP TO G9]**
99. (DON'T KNOW) **[ASK G5]**

G5. **[IF SERVICE=0]** Would you have installed **something** without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased **some services** without the incentive and information or education from Focus on Energy? **[DO NOT READ LIST UNLESS NECESSARY]**

1. (Yes, would have installed something) **[ASK G6]**
2. (No, would NOT have installed anything) **[SKIP TO G13]**
99. (DON'T KNOW) **[SKIP TO G13]**
88.

G6. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK G7/ IF SERVICE=1 SKIP TO G8]**
2. (No) **[IF SERVICE=0 ASK G7/ IF SERVICE=1 SKIP TO G8]**
99. (DON'T KNOW) **[IF SERVICE=0 ASK G7 / IF SERVICE=1 SKIP TO G8]**
88.

G7. **[IF SERVICE=0]** And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK G8]**
2. (No, would have installed less) **[ASK G8]**
3. (No, would have installed more) **[ASK G8]**
99. (DON'T KNOW) **[ASK G8]**

G8. **[IF SERVICE=0]** Without the incentive for the **[MEASURE CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you have installed the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive for the **[MEASURE_CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you most likely have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed?

[READ LIST AND RECORD ONE RESPONSE]

1. Within the same year **[SKIP TO G13]**
2. Within one to two years **[SKIP TO G13]**
3. Within three to five years **[SKIP TO G13]**
4. In more than five years **[SKIP TO G13]**
99. (DON'T KNOW) **[SKIP TO G13]**

G9. **[ASK G9 TO G12 IF G4 =2] [IF SERVICE=0]** When you say **you would not have installed** the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have purchased** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy, would you have purchased any services at all?

1. (Yes, would have installed something) **[ASK G10]**
2. (No, would not have installed anything at all) **[SKIP TO G13]**
99. (DON'T KNOW) **[ASK G10]**

G10. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK G11 / IF SERVICE=1 SKIP TO G12]**
2. (No) **[IF SERVICE=0 ASK G11 / IF SERVICE=1 SKIP TO G12]**
99. (DON'T KNOW) **[IF SERVICE=0 ASK G11 / IF SERVICE=1 SKIP TO G12]**

G11. **[ASK IF SERVICE=0] [ASK IF MEASURECATEGORY1_QUANTITY IS GREATER THAN 1]** Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK G12]**
2. (No, would have installed less) **[ASK G12]**
3. (No, would have installed more) **[ASK G12]**
99. (DON'T KNOW) **[ASK G12]**

G12. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, when would you have installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, when would you have had the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed? **[READ LIST AND RECORD ONE RESPONSE]**

1. In the same year
2. In one to two years
3. In three to five years
4. More than five years out
99. (DON'T KNOW)

G13. **[ASK EVERYONE] [IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision.**[1 TO 6 - RANDOMIZE LIST] [ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3]**
2. The Focus on Energy incentive or discount

3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

99. (DON'T KNOW)

H. Freeridership- Contractor

[SECTION IS FORCED RESPONSE]

[ASK EITHER SECTION E OR SECTION F- NOT BOTH]
[ASK IF B3.1=1 AND B12=3 – CONTRACTOR HELPED IN THE DECISION MAKING AND PROVIDED A DISCOUNT]

[PHONE PROMPT}:
[IF SERVICE=0] Now I'd like to talk with you about the new energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.
[IF SERVICE=1] Now I'd like to talk with you about **[MEASURE CATEGORY1 OR C_MEASURE1]** services. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.

[WEB PROMPT]:
[IF SERVICE=0] For the next section, please focus on the new energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**.
[IF SERVICE=1] For the next section, please focus on the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though your contractor may have performed other services or installed energy efficient equipment, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** service.

[IF B7=1 READ] Some of these next questions will refer to information or education you have received from Focus on Energy. Please answer the questions thinking of all the information or education you have received from Focus on Energy since first participating in Focus on Energy offerings or programs.

[INTERVIEWER NOTE ABOUT THIS SECTION (DON'T READ TO RESPONDENT): THIS SECTION IS BASED ON HYPOTHETICAL BEHAVIOR SO WE ARE ASKING SIMILAR QUESTIONS TO VERIFY THAT WE ARE GATHERING THE CORRECT RESPONSES.]

H1. At the time that you first started working with your contractor on this project, had you…? **[READ LIST AND RECORD ONE FOR EACH: 1=YES OR 2=NO OR 99=DON'T KNOW OR 88=REFUSED]**

1. **[IF SERVICE=0]** Already been thinking about purchasing the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already been <u>thinking about</u> purchasing the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services

2. **[IF SERVICE=0]** Already begun collecting information about energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already begun collecting information about **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
3. **[IF SERVICE=0]** Already selected the particular energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]** and were going to purchase it? **[IF SERVICE=1]** Already selected the particular **[MEASURE_CATEGORY1 OR C_MEASURE1]** services and were going to purchase them
4. **[IF SERVICE=0]** Already purchased the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
5. **[IF SERVICE=0]** Already installed the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**? **[IF SERVICE=1]** Already completed the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
6. Already heard about Focus on Energy?

99. (DON'T KNOW)

H2. **[IF SERVICE=0]** Just to make sure we understand, did your organization have specific plans to install the energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before you began working with your contractor? **[IF SERVICE=1]** To confirm, did your organization have specific plans to purchase **[MEASURE_CATEGORY1 OR C_MEASURE1]** services before you began working with your contractor?

1. (Yes) **[ASK H3]**
2. (No) **[SKIP TO H4]**

99. (DON'T KNOW) **[SKIP TO H4]**

H3. **[IF SERVICE=0]** Before you began working with your contractor, was the purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] included in your organization's capital budget? **[IF SERVICE=1]** Before you began working with your contractor, was the purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. (Yes)
2. (No) **[SKIP TO H5]**

99. (DON'T KNOW) **[SKIP TO H5]**

H4. **[IF SERVICE=0]** Did your contractor help your organization make the decision to include the purchase of the energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] in your property's capital budget? **[IF SERVICE=1]** Did your contractor help your organization make the decision to include the purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services in your organization's capital budget?

1. (Yes) **[ASK H5]**
2. (No) **[ASK H5]**

99. (DON'T KNOW) **[ASK H5]**

H5. **[IF SERVICE=0]** Would you have purchased and installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the assistance from your contractor and Focus on Energy?

1. (Yes) **[IF SERVICE=0 SKIP TO H8 / IF SERVICE=1 SKIP TO H7]**
2. (No) **[SKIP TO H10]**

99. (DON'T KNOW) **[ASK H6]**

H6. **[IF SERVICE=0]** Would you have installed **something** without the assistance of your contractor and Focus on Energy? **[IF SERVICE=1]** Would you have had **some services performed** without the assistance of your contractor and Focus on Energy? **[DO NOT READ LIST UNLESS NECESSARY]**

1. **[IF SERVICE=0]** (Yes, would have installed something) **[IF SERVICE=1] (**Yes, would have performed some service) **[ASK H7]**
2. **[IF SERVICE=0]** (No, would NOT have installed anything) **[IF SERVICE=1]** (No, would not performed any service) **[SKIP TO H16]**

99. (DON'T KNOW) **[SKIP TO H16]**

88.

H7. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the [**MEASURE CATEGORY1 OR C_MEASURE1**][s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK H8 / IF SERVICE=1 SKIP TO H9]**
2. (No) **[IF SERVICE=0 ASK H8 / IF SERVICE=1 SKIP TO H9]**

99. (DON'T KNOW) **[ASK H8 / IF SERVICE=1 SKIP TO H9]**

H8. **[ASK IF SERVICE=0 AND MEASURE CATEGORY1_QUANTITY IS GREATER THAN 1]** And without the involvement of your contractor and Focus on Energy would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK H9]**
2. (No, would have installed less) **[ASK H9]**
3. (No, would have installed more) **[ASK H9]**

99. (DON'T KNOW) **[ASK H9]**

H9. **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have installed the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, when would you have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed? **[READ LIST AND RECORD ONE RESPONSE]**

1. Within the same year **[SKIP TO H16]**
2. Within one to two years **[SKIP TO H16]**
3. Within three to five years **[SKIP TO H16]**
4. In more than five years **[SKIP TO H16]**

99. (DON'T KNOW) **[SKIP TO H16]**

H10. **[ASK H10 TO H14 IF H5=2] [IF SERVICE=0]** When you say **you would not have installed** the same **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have performed** the same **[MEASURE_CATEGORY1 OR**

C_MEASURE1] services without the assistance from your contractor and Focus on Energy, would you have had any energy-saving services performed at all?

1. (Yes) **[ASK H11]**
2. (No) **[SKIP TO H16]**

99. (DON'T KNOW) **[ASK H11]**

H11. **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, **would you have installed** something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, **would you have purchased services** that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[ASK H12]**
2. (No) **[ASK H12]**

99. (DON'T KNOW) **[ASK H12]**

H12. **[SERVICE=0 AND MEASURE CATEGORY1_QUANTITY IS GREATER THAN 1]** Without the assistance from your contractor and Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK H13]**
2. (No, would have installed less) **[ASK H13]**
3. (No, would have installed more) **[ASK H13]**

99. (DON'T KNOW) **[ASK H13]**

H13. Without the assistance from your contractor and Focus on Energy, when would you have installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services? **[READ LIST AND RECORD ONE RESPONSE]**

1. In the same year **[ASK H14]**
2. In one to two years **[ASK H14]**
3. In three to five years **[ASK H14]**
4. More than five years out **[ASK H14]**

99. (DON'T KNOW) **[ASK H14]**

H14. If the assistance or information from your contractor had not been available, would you have done anything differently on this project?

1. (Yes) **[ASK H15]**
2. (No) **[SKIP TO H16]**

99. (DON'T KNOW) **[SKIP TO H16]**

H15. What would you have done differently? **[RECORD OPEN ENDED RESPONSE]**

H16. **[IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your

decision. **[RANDOMIZE LIST]** **[ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3, 99]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

99. (DON'T KNOW)

I. Spillover

[ASK EVERYONE SECTION I]

I1. Since making these energy-efficiency upgrades has your company installed any other energy-efficient products in your facility that you did ***NOT*** receive a Focus on Energy incentive for or did ***NOT*** receive for free? **[IF NEEDED: BY ENERGY-EFFICIENT PRODUCTS, I MEAN HIGH EFFICIENCY HVAC EQUIPMENT, HIGH EFFICIENCY WATER HEATERS, HIGH EFFICIENCY MOTORS, OR ENERGY STAR LIGHTING SUCH AS LED LIGHTBULBS.]**

1. (Yes) **[ASK I2]**
2. (No) **[SKIP TO SECTION J]**

99. (DON'T KNOW) **[SKIP TO SECTION J]**

I2. What were the other energy-efficient products that you installed without getting an incentive? **[DO NOT READ LIST; MARK ALL THAT APPLY; 99=DON'T KNOW, 88=REFUSED, -96=N/A] [IF THE CUSTOMER SAYS THEY BOUGHT SOMETHING BUT HAVE NOT INSTALLED IT, THE EQUIPMENT HAS TO BE INSTALLED AND OPERATING FOR US TO COUNT IT TOWARDS SPILLOVER.]**

1. (LED(s))
2. (Efficient lighting controls (occupancy sensors, daylighting, timers))
3. (High efficiency motor(s))
4. (Air source heat pump(s))
5. (Ground source heat pump(s))
6. (Central AC)
7. (VSD (variable speed drive(s)))
8. (Water heating equipment)
9. (Boiler or steam system(s))
10. (Compressed air equipment)
11. (Gas furnace(s))
12. (Refrigeration equipment (refrigerators, freezers))
13. (
14. (Operational improvements **[SPECIFY:_____])**
15. (Other) **[SPECIFY:_____]**

99. (DON'T KNOW) **[SKIP TO SECTION J]**
88. (REFUSED) **[SKIP TO SECTION J]**

[ASK I2.11-I2.13 IF I2=1]

I2.11 [REPEAT FOR EACH ITEM MENTIONED IN I2] What is the wattage of the lighting? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.12 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** In what location was it installed (Indoors/Outdoors)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.13 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What type of equipment was removed or replaced? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.21- I2.22 IF I2=2]

I2.21 How many lamps or fixtures are controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.22 What is the average wattage of the lamps or fixtures controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.31-I2.33 IF I2=3]

I2.31 How is the high efficiency motor controlled? (Always on, manual start/stop, VSD / ECM / VFD, Other)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.33 On what equipment was the high efficiency motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.33 What is the horsepower of the high efficiency motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.41 IF I2=4, 5] [ASK I2.42 IF I2=4, 5, 6] [ASK I2.43 IF I2=4, 5] [ASK I2.44 IF I2=4, 5, 6]

I2.41 [REPEAT FOR EACH ITEM MENTIONED IN I2] What is the heating efficiency rating (HSPF) of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 0.1 TO 20.0, 99=DON'T KNOW, 88=REFUSED]**
I2.42 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What is the cooling efficiency rating (SEER/EER) of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 0.1 TO 30.0 "SEER/EER RATING", 99=DON'T KNOW, 88=REFUSED]**
I2.43 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What is the heating output capacity in BTUs of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 1 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**
I2.44 **[REPEAT FOR EACH ITEM MENTIONED IN I2]** What is the cooling output capacity in tons of the **[INSERT ITEM FROM I2]**? **[RECORD NUMERIC RESPONSE: 0 TO 100 "TONS", 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.51-I2.52 IF I2=7]

I2.51 On what type of equipment was the VSD (variable speed drive) motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

I2.52 What is the total horsepower of the VSD (variable speed drive) motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.61-I2.64 IF I2=8]

I2.61 What type of water heating equipment was purchased and installed? **[READ LIST]**

1. Water heater with storage
2. Tankless water heater
3. Heat pump water heater with storage
4. Condensing water heater with storage
5. Boiler

99. (Don't know)
88. (Refused)

I2.62 What fuel type is used? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.63 What is the efficiency factor (EF) rating of the water heating equipment? **[RECORD NUMERIC RESPONSE: 0.00 TO 0.99 "Efficiency Factor (EF)", 99=DON'T KNOW, 88=REFUSED]**
I2.64 **[ASK IF I2.61 INDICATES WATER HEATER WITH STORAGE]** What is the capacity of the equipment in gallons? **[RECORD NUMERIC RESPONSE: 0 TO 10,000 "Capacity in gallons", 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.71-I2.73 IF I2=10]

I2.71 What is the compressed air equipment being used for? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.72 What type of compressed air equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.73 What is the total horsepower of the compressor motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.81-I2.82 IF I2=11]

I2.81 What is the annual fuel utilization efficiency (AFUE) rating of the gas furnace? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
I2.82 What is the output capacity of the gas furnace in BTUs? **[RECORD NUMERIC RESPONSE: 0 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.91 IF I2=12]

I2.91 What type of refrigeration equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK I2.101-I2.102 IF I2=13]

I2.101 What type of HVAC system control(s) was purchased and installed?

1. Smart thermostat
2. Building automation system
3. Other: **[RECORD RESPONSE]**

I2.102 What type(s) of HVAC equipment are controlled by the new HVAC system control(s)?

1. Heating equipment
2. Cooling equipment
99. Don't know

I2.103 [ASK I2.103 IF I2.102.1=YES] What is the heating output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 1,000,000 BTUs:?

1. **[RECORD RESPONSE, 98=DON'T KNOW]**

I2.104 [ASK I2.104 IF I2.102.2=YES] What is the cooling output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 150 tons?

1. **[RECORD NUMERIC RESPONSE: 0 TO 150 "Tons", 99=DON'T KNOW]**

[ASK I2.111 IF I2=14 OR 15]

I2.111 How do you know the **[INSERT ITEM FROM I2]** is energy efficient?

1. **[TEXT RESPONSE]**
99. Don't know

I3. **[REPEAT FOR EACH ITEM MENTIONED IN I2]** How many **[INSERT ITEM FROM I2]** did you install? **[RECORD NUMBER_____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]**

I4. **[REPEAT FOR EACH ITEM MENTIONED IN I2]** In what year was/were the **[INSERT ITEM FROM I2]** purchased and installed?
[RECORD YEAR NUMBER____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]

I5. **[REPEAT FOR EACH ITEM MENTIONED IN I2]** Please tell us how important [**IF ANY B3.1=1 READ,** "assistance from your contractor and information and education from Focus on Energy" **OTHERWISE READ,** "the Focus on Energy Commercial and Industrial offering"] was in your decision to install **[ANSWER FROM I2]**" Was it…?: **[READ LIST EMPHASIZE EACH ANSWER OPTION AND PAUSE IN BETWEEN EACH OPTION.]**

1. Very important,
2. Somewhat important,
3. Neutral,
4. Not too important, or
5. Not at all important
99. (Don't know)
88. (Refused)

I6. Was **[INSERT EACH ITEM FROM I2]** installed at **[SITE ADDRESS]**?

1. Yes
2. No (**ASK:** What is the address of the location where you installed **[INSERT EACH ITEM FROM I2]**? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

99. (Don't know)
88. (Refused)

J. Closing

J1. *Do you have any other comments about your experience with Focus on Energy that you would like to share?
[RECORD RESPONSE:_____; 99 FOR DON'T KNOW, 88 FOR REFUSED]

J2. *On occasion, Focus on Energy may want to contact a customer to learn more about their participation experience. May we share your responses with a program manager, who may contact you regarding your experience?

1. Yes
2. No

99. (Don't know)
88. (Refused)

Thank you. We appreciate your help with this survey. Have a nice day.

CADMUS

Focus on Energy Nonresidential Programs
CY 2023 Trade Ally Interview Business & Industry Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Background	Confirm record of participation	A, B1- B4
Awareness and Participation	How trade allies learned of the program and extent of participation	B4 - B8
Program Specific	Experience working with Business and Industrial customers	Section C
Promotion	Knowledge and ease finding information	D1, D2
	How they promote the program	D3 - D7, D9, D10, E4
	Satisfaction with Incentives	D5 – D8
Program Experience	Program satisfaction	Section H
	Energy Advisor	E1 - E3
	Feedback on application	C3
Comparison to Other Programs	Differences from others	Section F
IRA Tax Incentives	Awareness and experience with IRA tax incentives	Section G

A. Introduction

Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your experience participating as a Trade Ally in their Program.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who would be familiar with Focus on Energy's Programs?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**
99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Do you have about 30 minutes to answer some questions? As a thank you for your time, we're offering a $150 gift card.

[If not available, seek to set an appointment]

Great, we will keep everything you tell us confidential – we won't report anything in a way that would identify individual respondents or companies.

B. Background

B1. To begin, can you tell me a little bit about your role at your company and how long you've been there?

B2. What types of projects and work does your company do? [Probe on commercial, residential markets, new construction/retrofit, and type of work; e.g., HVAC, electrical, etc.].

B3. What geographic area does your company serve?

1. (If TA is close to a border) Do you do any work outside of Wisconsin? If yes, what percentage of your work would you estimate is *in* Wisconsin?

B4. How long has your company been a trade ally for Focus on Energy?

1. **[If less than 5 years as a Focus TA]** How did you learn about the opportunity to be a trade ally for Focus on Energy?

B5. When you learned about the opportunity to become a Focus on Energy trade ally, what was appealing about it?

1. What concerns, if any, did you have about participating?

B6. What percentage of your projects qualify for a Focus on Energy rebate or incentive?

1. How has the share of projects you do that qualify for a Focus on Energy incentive changed since you became a registered trade ally?

B7. Have you utilized any of the tools/resources provided by Focus on Energy?

1. Custom incentive workbook
2. Cooling eligibility screening tool
3. Retrocommissioning workbook
4. Comprehensive lighting solutions workbook

B8. In your opinion, what is the single best aspect of the Focus on Energy program?

C. Business and Industry Program Specifics

C1. Can you tell me about the projects you've completed with Business & Industrial customers in the past three years that have qualified for rebates through Focus on Energy? Do you typically work with [if multiple, probe for percentage of each]:

1. Hotels?
2. Restaurants?

3. Retail?
4. Religious organizations?
5. Healthcare?
6. Food and beverage manufacturers?
7. Other materials producers?
8. Other materials processors?
9. Something else?

C2. **[If TA works with any of: Commercial Refrigeration, HVAC/Plumbing, Lighting, or Process Systems]** Considering the type of work you do with Business & Industrial customers that qualifies for incentives through the Focus on Energy program – have you completed projects including similar services for other types of customers that has qualified for a Focus on Energy incentive?

1. How have those experiences differed from your experiences Business and Industrial customers?

C3. At a high level, please walk us through a typical project with Business & Industrial customers that receives an incentive from Focus on Energy, beginning with customer identification/procurement, through project scoping, coordination with the Focus on Energy team, implementation, all the way through until the rebate check is delivered:

1. Typically, how does your company identify potential customers?

   - **[If less than 5 years as a Focus TA]** Have your customer recruitment practices changed since joining the Focus Trade Ally Network? If so, how?
   - Does the Focus on Energy team ever provide you with leads?

2. When scoping a project, how much influence do you have on the overall project design? On the specific equipment selected?
   - How involved is the Focus team during the project scoping phase?

3. How easy or difficult is it for you to complete the project documentation and application required for Focus incentives?

   - Why do you say that? What makes it easy/difficult?
   - What, if any challenges, come up with project documentation?
   - How do documentation requirements compare to other incentives from other sources?

4. In terms of installing measures and completing projects, do project processes differ at all between projects that receive a Focus on Energy Incentive and those that don't?
   - In terms of timing, does the equipment installation/actual work of a project change at all?
   - Are there any difficulties comparing one to the other?
   - Anything that works particularly well?
   - Anything noteworthy at all?

D. Promoting Focus on Energy Offerings

D1. In general, how well do you feel you and your team understand the Focus on Energy offerings and requirements?

1. Are there any areas of the program that you are less familiar with?

D2. Who do you typically reach out to for information about the program or get answers to any questions? Energy Advisors? Focus on Energy Website? Something/somewhere else?

1. How easy is it to find out information about the program or get answers to any questions?

D3. How do you promote the incentives to your customers?

D4. When you interact with customers, how do you typically explain the available Focus on Energy incentives?

1. At what stage in the project do you bring up available incentives?
2. What are some concerns or questions customers have about incentive opportunities?

D5. Generally, how effective are current incentive levels in increasing your sales and services of energy efficient products?

1. Are incentives more effective for some product types than others?

D6. Would you recommend any changes to the incentive amounts or how the incentives are structured?

D7. Besides upfront cost, what other barriers do you find prevent customers from installing high-efficiency equipment?

1. Does the timing of delivery of energy efficient products (longer lead times) ever lead to customers choosing less efficient products?

D8. When a single project requires multiple equipment replacements or services, how easy or difficult is it for you to stack Focus incentives?

1. **[If relevant]** What, if anything, could make this process easier?

2. What about coordinating with other TAs/service providers if a customer needs work done that is outside of your offerings? Are there other companies that you typically partner with? Can anything be done to help better foster those relationships and promote cross-promotion of measures/programs?

D9. In your opinion, what effect have Focus incentives had on your sales of energy efficient products and services?

D10. In your opinion, what is the single biggest thing that could be done to help you complete more projects through the Focus on Energy program?

E. Process Feedback

E1. How satisfied are you with the support provided by your Focus on Energy Energy Advisor?

1. How satisfied have you been with communication with your Energy Advisor?
2. What can you tell us about your experience working with the Energy Advisor?
3. What is working well? What can be improved?

E2. Considering support that you may have received from your Focus on Energy Energy Advisor, which of the following benefits have you experienced?

1. Help completing project documentation/application?
2. Vetting of savings or incentive calculations?
3. Information to upsell higher efficiency equipment?
4. Anything else?

E3. **[For any response identified in E2]** How, if at all, did **[E2 response]** help you to promote more high-efficiency sales?

E4. What, if any, additional resources or support from Focus on Energy would help you promote more high-efficiency sales?

F. Comparison to Other Offerings

F1. **[If TA works in other states]** Do you participate in utility incentive programs in other states?

F2. **[IF F1=Yes]**
When you compare Focus on Energy to neighboring utility incentive programs, how easy or difficult is it to participate in comparison? [probe if needed: are there more challenging aspects, e.g., the registration, communication with Focus, post-installation inspections, etc.]

F3. In your opinion, what are the key differences between Focus on Energy incentives and the other state utility incentives you can draw on?

1. What overlaps have you seen between Focus on Energy incentives, and incentives from utilities in other states?
2. Do other states offer measures or support that Focus on Energy does not?

F4. Do the varying incentive design structures among programs in multiple states impact your ability to participate in Focus on Energy?

1. [If yes] How? [probe for if they choose one or another and why]
2. [If not addressed] Beyond cost, are there other factors that affect which incentive you'll apply for? [probe if needed: documentation requirements, customer service, etc.]

G. IRA Funding

G1. Are you aware of the financial incentives available for organizations through the Inflation Reduction Act (IRA) that can improve a building's energy efficiency?

a) **For context:** The IRA expands the eligibility for incentives under Section 179D to nonprofit organizations for qualifying energy-saving investments such as energy-efficient interior lighting, HVAC, or the components that make up the building envelope (roofing, walls, etc.).

G2. How well do your standard business practices align with IRA requirements? Will you be making any changes to your standard offerings to align with the IRA?

G3. **[If G1=Yes]** Have you worked with any customers to help them meet the thresholds for savings?

G4. **[if G1 = Yes]** Have you promoted these changes to any potential customers to encourage them to adopt more energy efficiency in their buildings? Why or why not?

G5. How do you communicate multiple incentives – like combining Focus on Energy and IRA incentives – to your customers?

1. What, if anything, can be done to better facilitate awareness and understanding of multiple/combined incentives that may be available?
2. What, if anything, can be done to better facilitate access to those incentives?

H. Overall Reflection

H1. Thanks for your time so far—I'd like to wrap up with some broad questions. On a scale of 1 to 5 with 1 being very satisfied and 5 being very unsatisfied, how satisfied are you overall with the Focus on Energy Program?

1. **[If H1 < 4]** Why do you say that?

H2. Would you like to highlight any additional aspects of the Focus on Energy trade ally program that you feel are working well?

H3. In your opinion, what, if anything, are the challenges of being a Focus on Energy trade ally?

1. [If not addressed] Are there any specific obstacles in participating in the trade ally program you'd like to highlight?

H4. What, if anything, could Focus on Energy do that would help increase customer participation in Focus on Energy programs?

H5. What, if anything, could Focus on Energy do to increase the number of trade allies that promote Focus on Energy programs?

H6. Looking forward to the future, how do you anticipate your participation as a trade ally will change in the next few years?

H7. Is there anything else about the Focus on Energy program that you would like to share?

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Focus on Energy Nonresidential Solutions
CY 2023 Large Industrial Participant Survey

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Screening	Confirm record of participation	Section A
Awareness and influential persons	How participants learned about the incentive	B1-B7
Participant Experience/Portfolio Transition topics	Comparison to historical experience (if applicable); energy advisor support; identify opportunities for improvement	B7-B11; B16-B18
	Application ease	B12-B14
Participant Decision-making	Motivations for energy efficient upgrades	B15, B19, Section C
Barriers to EE	Top challenges for making energy efficient improvements and how Focus on Energy can help overcome those challenges	Section D
Lighting Potential	What opportunities might remain related to efficient lighting upgrades	Section E
Program Influence/NTG	Freeridership	Sections F&G
	Spillover	Section H

Quota= 70 completes

Program survey to allow backward navigation between questions and the ability to pause and come back to the survey.

SAMPLE Variables:
[CONTACT NAME]
[SITE ADDRESS]
[MEASURE CATEGORY1]
[MEASURE CATEGORY2]
[MEASURE CATEGORY3]
[MEASURE CATEGORY1_QUANTITY]
[MEASURE CATEGORY2_QUANTITY]
[MEASURE CATEGORY3_QUANTITY]
[SERVICE] ('1' OR '0')
[ONLY_SERVICE] ('TRUE' OR 'FALSE')
[HOW_HEARD]
[CHECK_RECIPIENT]

A. Introduction

[ALL QUESTIONS IN THIS SECTION FORCED RESPONSE]

A1. Are you the person who was most involved with the energy efficiency project your company recently completed with Focus on Energy at **[SITE ADDRESS]**?

1. Yes
2. No, it was another person at my company
3. No, that person is no longer with the company **[THANK AND TERMINATE]**
99. Don't know **[THANK AND TERMINATE]**

A2. ***[IF A1=2]** Who is the person at your company most familiar with the project?

1. Name **[OPEN RESPONSE]**
2. Email **[OPEN RESPONSE]**
99. Don't know
[THANK AND TERMINATE]

A3. ***[IF ONLY_SERVICE=FALSE]** Our records show that you installed energy efficient equipment or upgrades including **[MEASURE CATEGORY1]**, **[MEASURE CATEGORY2]**, and **[MEASURE CATEGORY3]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

[IF ONLY_SERVICE=TRUE] Our records show that you received services to improve your facilities energy efficiency including **[MEASURE CATEGORY1]**, **[MEASURE CATEGORY2]**, and **[MEASURE CATEGORY3]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

To ensure our records are correct, can you confirm this information?

1. Yes
2. No, wrong year, correct year: **[CORRECT:_____]**
3. No, wrong address, correct address: **[CORRECT:_____]**
4. No, wrong measure
   - F3a. **MEASURE CATEGORY1** IS INCORRECT **[CORRECT:_____] [CALL THIS VARIABLE C_MEASURE1]**
   - F3a. **MEASURE CATEGORY2** IS INCORRECT **[CORRECT:_____] [CALL THIS VARIABLE C_MEASURE2]**
   - F3a. **MEASURE CATEGORY3** IS INCORRECT **[CORRECT:_____] [CALL THIS VARIABLE C_MEASURE3]**
5. No, I did not install any measures **[THANK AND TERMINATE]**
99. Don't know **[THANK AND TERMINATE]**

[THANK AND TERMINATE TEXT: Those are all our questions. Thanks for your help.]

B. Awareness and Customer Experience

[ALL QUESTIONS IN THIS SECTION ARE SKIPPABLE UNLESS OTHERWISE NOTED]

B1. How many locations does your organization operate in Wisconsin?

1. [OPEN END RECORD NUMBER:_____]
99. Don't know

B2. How many people does your organization employ in Wisconsin (best guess)?

1. [OPEN END RECORD NUMBER:_____]
99. Don't know

B3. *Were any of these people involved in helping you initiate your energy efficiency project. **[1=YES, 2=NO, 99=DON'T KNOW; -96=N/A FOR EACH] [FORCED RESPONSE]**

1. Your contractor or vendor
2. A Focus on Energy "Energy Advisor" or representative
3. Your utility account manager
4. Your internal energy or sustainability team
5. Your internal facility operations and maintenance staff

B4. *How would you describe your experience in learning about whether your project or equipment qualified for a Focus on Energy incentive? Would you say that project eligibility information was:

1. Very clear
2. Mostly clear
3. A mix of clear and not clear
4. Mostly not clear, or
5. Not clear at all
99. Don't know

B5. ***[IF B4=3 OR 4 OR 5]** What was not clear about whether your project or equipment qualified for a Focus on Energy incentive? **[OPEN END]**

B6. *When looking to find information on the Focus on Energy program, where do you go to find that information? Select all that apply. **[MULTIPLE RESPONSES ALLOWED]**

1. Focus on Energy website
2. Focus on Energy advisor
3. My utility website
4. Contractor
5. Somewhere else **[SPECIFY:_____]**

B7. ***[IF HOW_HEARD≠"PAST PARTICIPATION":]** Prior to any projects completed in 2023, had you worked with Focus on Energy in previous years? **[IF HOW_HEARD="PAST PARTICIPATION"]:** Our records show you had previously participated in a Focus on Energy offering. Is that correct? **[FORCED RESPONSE]**

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

B8. ***[IF B7=1 AND (HOW HEARD="Focus Staff/EA" OR B3.2.2=1)]** You indicated that you learned about the incentives through a Focus on Energy representative or Energy Advisor or worked with one to complete your project. For this year's project, did you work with the same contact you had worked with previously? **[FORCED RESPONSE]**

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

B9. ***[IF B7=1 AND (HOW_HEARD="Trade Ally/Contractor" OR B3.1=1)]** You indicated that you worked with a contractor to complete your project. For this year's project, did you work with the same contractor you had worked with previously? **[FORCED RESPONSE]**

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

B10. ***[IF B7=1]** Overall, how would you say your experience with Focus on Energy was this year compared to prior years?

1. About the same,
2. More positive, or
3. Less positive?
99. Don't know

B11. ***** **[IF B9=2 OR 3]** Why do you say that? **[OPEN END]**

B12. *Who took the lead role in completing the application for the financial incentive? **[RANDOMIZE] [ALLOW ONLY ONE RESPONSE] [FORCED RESPONSE]**

1. Me
2. Someone at my organization
3. The contractor and/or vendor
4. A Focus on Energy Advisor
5. Someone else **[SPECIFY:_____]**
99. Don't know

B13. **[ASK IF B12=1]** *How easy would you say this paperwork was to complete?

1. Very easy,
2. Mostly easy,
3. A mix of easy and challenging,
4. Mostly challenging, or
5. Very challenging

B14. **[ASK IF B13= 3, 4, OR 5]** *Why do you say that? **[OPEN END]**

B15. What service or offering provided by Focus on Energy do you value the most? **[RANDOMIZE] [ALLOW ONLY ONE RESPONSE]**

1. Project incentives
2. Unbiased advice on energy projects

3. Facilitation of energy management activities
4. Other **[SPECIFY___]**
99. Don't know

B16. **[IF B3.2=1]** *Overall, how satisfied were you with the offering or project support you received from your Focus on Energy Advisor?

1. Very satisfied,
2. Somewhat satisfied,
3. Neither satisfied nor dissatisfied
4. Somewhat dissatisfied, or
5. Very dissatisfied
99. Don't know

B17. **[IF B15=1-5]** *Why do you say that? **[OPEN END]**

B18. *What could Focus on Energy have done to improve your overall experience, if anything? **[RANDOMIZE, ALLOW MULTIPLE RESPONSES]**

1. Better/more communication **[SPECIFY: WHAT WOULD YOU LIKE MORE COMMUNICATION ABOUT?_____]**
2. Quicker response time **[SPECIFY: WHO WOULD YOU LIKE A QUICKER RESPONSE TIME FROM?__]**
3. Larger selection of eligible equipment **[ASK: WHAT ADDITIONAL EQUIPMENT OPTIONS SHOULD BE ELIGIBLE?_____]**
4. Increasing the incentive amount **[ASK: WHAT REBATE AMOUNT DO YOU FEEL WOULD BE APPROPRIATE FOR THE WORK THAT YOU COMPLETED?_____]**
5. Simplify the application process **[ASK: IN WHAT WAY SHOULD IT BE SIMPLIFIED?_____?]**)
6. Allow me to fill out the applications online
7. Simplify the website **[ASK: IN WHAT WAY?_____]**
8. Provide quicker approval on applications
9. Send incentive check out faster
10. Simplify the incentive catalogue **[ASK IN WHAT WAY]**)
11. More direct support with opportunity identification/project)
12. Other **[SPECIFY:_____]**
13. Nothing
99. Don't know

B19. A program incentive to fund the salary of an "Energy Champion" within a customer's facility is one solution to help customers advance energy efficiency projects; is this something that your organization would be interested in?

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

C. Decision-Making

[ALL QUESTIONS IN THIS SECTION ARE SKIPPABLE UNLESS OTHERWISE NOTED]

C1. *What factor was most important to your company's decision to make the energy-efficient upgrades for which you received an incentive? **[RANDOMIZE; SINGLE RESPONSE]**

1. To save money on energy bills / reduce energy costs)
2. To reduce energy consumption or energy demand / be more efficient / company conservation or environmental targets
3. To obtain a program offering or bonus incentive
4. To obtain a tax credit or tax deduction
5. To replace old (but still functioning) equipment
6. To replace broken equipment
7. To enhance performance or aesthetics of our equipment/system(s)
8. To improve comfort
9. Tenant satisfaction/retention
10. To reduce maintenance or other non-energy operating costs
11. Other **[SPECIFY_____]**

99. Don't know

C2. *Are you aware that the federal government increased tax incentives for businesses incorporating significant energy efficiency improvements starting in 2023?

1. Yes
2. No

C3. ***[C2 =1]** How, if at all, has the federal tax incentives impacted the decisions you are making on energy efficiency upgrades? **[SINGLE RESPONSE]**

1. Accelerated them
2. Delayed them
3. Made us look for more savings opportunities
4. No change
5. Other **[SPECIFY_____]**

99. Don't know

C4. *Have you or anyone else within your organization attended an in-person or web-based training delivered by Focus on Energy in the past two years?

1. Yes
2. No

99. Don't know

C5. ***[IF C4= 1]** How important was your business' participation in the training in your decision to move forward with the energy efficient upgrades for which you received an incentive?

1. Very important,
2. Somewhat important,
3. Neutral,
4. Not too important, or
5. Not at all important?

99. Don't know

C6. Focus on Energy offers free on-demand recordings of trainings on its website. Are there any training topics you or your company would find useful in reducing energy use?
1. Yes **[PLEASE SPECIFY____]**
2. No
99. Don't know

C7. How important is energy efficiency to your organization when making capital upgrades or improvements?
1. Very important,
2. Somewhat important,
3. Neutral,
4. Slightly important, or
5. Not at all important?
99. Don't know

C8. Does your company have goals related to energy use reduction?
1. Yes **[SPECIFY IF KNOWN_____]**
2. No
99. Don't know

C9. Do you have an internal payback threshold that projects must meet in order for a project to be approved?
1. Yes [SPECIFY_____]
2. No
99. Don't know

C10. Is there a specific person responsible for managing energy at your facility?
1. Yes **[SPECIFY___]**
2. No
99. Don't Know

C11. Does your organization have an energy team?
1. Yes
2. No
99. Don't Know

C12. **[If C11=2]** Would your company be interested in putting an energy team together?
1. Yes
2. No
99. Don't Know

C13. Has your company created a list of projects that it plans to conduct to increase the energy efficiency of your facility?
1. Yes
2. No
99. Don't know

C14. **[If C13= 1]** Who are you currently working with on your list of energy projects?

1. Energy Advisor
2. Utility Representative
3. Trade Ally
4. Other **[SPECIFY____]**
5. No one

99. Don't Know

D. Barriers

[ALL QUESTIONS IN THIS SECTION ARE SKIPPABLE UNLESS OTHERWISE NOTED]

D1. *If you had to choose just one, what would you say is the largest challenge in implementing energy efficiency projects and upgrades at your organization?

1. Cost
2. Time
3. Technical questions or technical issues
4. Your organization's own internal decision making or budgeting process
5. Limited staffing/time to dedicate to energy efficiency efforts
6. Lack of understanding of energy savings implications
7. Other **[RECORD ANSWER_____]**

99. Don't know

D2. *What could be done to help your company overcome challenges with energy efficiency improvements? **[ALLOW MULTIPLE RESPONSES]**

1. Nothing
2. Higher incentives
3. Provide upfront rewards
4. Offer low-interest loans
5. Simplify the paperwork
6. Provide better/more information about the offering
7. Provide an energy audit
8. Technical support for proposed equipment/projects
9. Technical support for understanding project payback period/ROI
10. Other **[RECORD ANSWER_____]**

99. Don't know

E. Lighting Potential

The next questions are related to the type of lighting currently installed in your facilities.

E1. Considering the existing lighting across all of your facilities, what proportion of all of your facilities lights would you estimate are LED?

1. **[NUMBERIC RESPONSE: 0-100]** percent

E2. To confirm, across all of your facilities, [**E1 RESPONSE**]% of lights are LED, and the remaining **[1 - E1 RESPONSE]**% of lights are something else?
1. Yes, that is correct
2. No, that is not correct **[ASK HOW:_____]**

E3. **[IF E1 < 100%]** Within the **next two years**, does your organization plan to upgrade any or all of the remaining **[1 - E1 RESPONSE]**% of lights to LEDs? **[SINGLE RESPONSE]**
1. Yes, we plan to upgrade **all** of the lights to LEDs within the next two years
2. Yes, we plan to upgrade **some** of the lights to LEDs within the next two years
3. No, **we don't plan to upgrade any of the lights** to LEDs within the next two years
99. Don't know

E4. ***[IF E3=2]** What is preventing your organization from upgrading all of the remaining **[1 – E1 RESPONSE]**% of lights to LEDs? ***[IF E3=3)** What is preventing your organization from upgrading any of the remaining **[1 – E1 RESPONSE]**% of lights to LEDs? **[RANDOMIZE 1-5, ALLOW MULTIPLE RESPONSES]**
1. It's too expensive
2. We have other projects we want to complete first
3. It's too time consuming
4. The old lights are still working
5. LEDs don't work well at our facilities
6. Other **[SPECIFY_____]**
99. Don't know

E5. What, if anything, could Focus on Energy do to assist your facility with upgrading to LED lights? **[RANDOMIZE 1-3, ALLOW MULTIPLE RESPONSES]**
1. Higher Incentives
2. Technical/Design assistance
3. Help find a contractor to work with
4. Other **[SPECIFY: _____]**
99. Don't know

E6. Next, we'd like to ask about any advanced lighting control systems at your facilities. While standard lighting controls may include occupancy sensors, dimming, or daylighting controls, *advanced* lighting controls take this a step further by using software to allow you to automate, control, and monitor your lighting systems throughout a facility or even at the fixture level.

Prior to this survey were you at all familiar with advanced lighting controls? **[SINGLE RESPONSE]**
1. Yes, I am familiar with advanced lighting controls
2. No, I am not familiar with advanced lighting controls
99. Don't know

E7. ***[IF E6=1]** Considering the existing lighting across all of your facilities, what proportion of the lighting in all of your facilities lights would you estimate are controlled by an advanced lighting control system?

1. **[NUMBERIC RESPONSE: 0-100]** percent

E8. To confirm, across all of your facilities, [**E7 RESPONSE**]% of lights are controlled by an advanced lighting control system, and the remaining **[1 – E7 RESPONSE]**% of lights are not controlled by an advanced lighting control system?

1. Yes, that is correct
2. No, that is not correct **[ASK HOW:_____]**

E9. **[IF E7 < 100%]** Within the **next two years**, does your organization plan to upgrade any or all of the remaining **[1 – E7 RESPONSE]**% of lights to be controlled by an advanced lighting control system? **[SINGLE RESPONSE]**

1. Yes, we plan to upgrade **all** of the lights to be controlled by an advanced lighting control system
2. Yes, we plan to upgrade **some** of the lights to be controlled by an advanced lighting control system
3. No, **we don't plan to upgrade any of the lights** to be controlled by an advanced lighting control system

99. Don't know

E10. ***[IF E9=2]** What is preventing your organization from upgrading all of the remaining **[1 – E7 RESPONSE]**% of lights to be controlled by an advanced lighting control system? ***[IF E9=3)** What is preventing your organization from upgrading any of the remaining **[1 - E7 RESPONSE]**% of lights to be controlled by an advanced lighting control system? **[RANDOMIZE 1-5, ALLOW MULTIPLE RESPONSES]**

1. It's too expensive
2. We have other projects we want to complete first
3. It's too time consuming
4. We don't know enough about the technology
5. Lighting control systems don't work well at our facilities
6. Other **[SPECIFY_____]**

99. Don't know

E11. What, if anything, could Focus on Energy do to assist your facility with upgrading to utilize an advanced lighting control system? **[RANDOMIZE 1-3, ALLOW MULTIPLE RESPONSES]**

1. Higher Incentives
2. Technical/Design assistance
3. Help find a contractor to work with
4. Other **[RECORD VERBATIM ANSWER_____]**

99. Don't know

F. Freeridership

[IF B12=3 AND B3.1=1 THEN SKIP TO SECTION G, OTHERWISE ASK THIS SECTION - CONTRACTOR DID NOT PROVIDE A DISCOUNT]
[ALL QUESTIONS IN THIS SECTION FORCED RESPONSE UNLESS OTHERWISE NOTED]

[IF SERVICE=0] For the next section, please focus on the decision to purchase the new **[MEASURE_CATEGORY1 OR C_MEASURE1].** Even though you may have received incentives for other

energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that was purchased. **[IF SERVICE=1]** For the next section, please focus on the decision to purchase the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that was purchased.

[IF B7=1 READ] Some of these next questions will refer to the information or education you have received from Focus on Energy. Please answer the questions considering all the information or education you have received since first participating in Focus on Energy programs.

F1. **[IF SERVICE=0]** Did your organization have specific plans to install the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before learning about the Focus on Energy incentive? **[IF SERVICE=1]** Did your organization have specific plans to have the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed before learning about the Focus on Energy incentive?

1. Yes **[ASK F2]**
2. No **[SKIP TO F4]**
99. DON'T KNOW **[SKIP TO F4]**

F2. **[IF SERVICE=0]** Prior to learning about the incentive, was the purchase of the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] included in your organization's capital budget? **[IF SERVICE=1]** Prior to learning about the incentive, was the purchase of **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. Yes
2. No **[SKIP TO F4]**
99. DON'T KNOW **[SKIP TO F4]**

F3. **[IF SERVICE=0]** Had your organization ***ALREADY*** ordered or purchased the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] ***BEFORE*** your organization heard about the Focus on Energy incentive? **[IF SERVICE=1]** Had your organization ***ALREADY*** ordered or purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services ***BEFORE*** your organization heard about the Focus on Energy incentive?

1. Yes
2. No
99. DON'T KNOW

F4. **[IF SERVICE=0]** Would you have purchased and installed the same energy efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy?

1. Yes **[SKIP TO F7 IF SERVICE=0 / ASK F8 IF SERVICE=1]**
2. No **[SKIP TO F9]**
99. DON'T KNOW **[ASK F5]**

F5. **[IF SERVICE=0]** Would you have installed **something** without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased **some services** without the incentive and information or education from Focus on Energy?

1. Yes, would have installed something / purchase some service **[ASK F6]**
2. No, would NOT have installed anything / not purchased any services) **[SKIP TO F13]**
99. DON'T KNOW **[SKIP TO F13]**

F6. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. Yes **[IF SERVICE=0 ASK F7 / IF SERVICE=1 SKIP TO F8]**
2. No **[IF SERVICE=0 ASK F7 / IF SERVICE=1 SKIP TO F8]**
99. DON'T KNOW **[IF SERVICE=0 ASK F7 / IF SERVICE=1 SKIP TO F8]**

F7. **[ASK IF SERVICE=0]** And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]?

1. Yes, the same number **[ASK F8]**
2. No, would have installed less **[ASK F8]**
3. No, would have installed more **[ASK F8]**
99. DON'T KNOW **[ASK F8]**

F8. **[IF SERVICE=0]** Without the incentive for the **[MEASURE_CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you most likely have installed the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive for the **[MEASURE_CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you most likely have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed?

1. Within the same year **[SKIP TOF13]**
2. Within one to two years **[SKIP TO F13]**
3. Within three to five years **[SKIP TO F13]**
4. In more than five years **[SKIP TO F13]**
99. DON'T KNOW **[SKIP TO F13]**

F9. **[ASK F9 TO F12 IF F4 =2]** **[IF SERVICE=0]** When you say **you would not have installed** the same energy-efficient**[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have purchased** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy, would you have purchased any services at all?

1. Yes, would have installed something / purchased some service **[ASK F10]**
2. No, would not have installed anything at all / not purchased any services **[SKIP TO F13]**
99. DON'T KNOW **[ASK F10]**

F10. **[ASK F9 TO F12 IF F4 =2] [IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy efficient as the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. Yes **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**
2. No **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**
99. DON'T KNOW **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**

F11. **[ASK IF SERVICE=0] [ASK F9 TO F12 IF F4 =2/ ASK FOR MEASURE_CATEGORY1 WITH QUANTITY GREATER THAN 1]** Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]?

1. Yes, the same number **[ASK F12]**
2. No, would have installed less **[ASK F12]**
3. No, would have installed more **[ASK F12]**
99. DON'T KNOW **[ASK F12]**

F12. **[ASK F9 TO F12 IF F4 =2[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, when would you have installed the same energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, when would you have had the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed?

1. In the same year
2. In one to two years
3. In three to five years
4. More than five years out
99. DON'T KNOW

F13. **[ASK EVERYONE] [IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision. **[1 TO 6 - RANDOMIZE LIST] [ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3, 99]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

G. Freeridership- Contractor

[ASK EITHER SECTION E OR SECTION F- NOT BOTH]

[ASK IF B12= 3 AND B3.1=1 – CONTRACTOR HELPED IN THE DECISION MAKING AND PROVIDED A DISCOUNT]
[ALL QUESTIONS IN THIS SECTION FORCED RESPONSE UNLESS OTHERWISE NOTED]

[IF SERVICE=0] For the next section, please focus on the new energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**. Even though your contractor may have performed other services or installed other energy efficient equipment, these questions are just about the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**.
[IF SERVICE=1] For the next section, please focus on the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though your contractor may have performed other services or installed energy efficient equipment, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** service.

[IF B7=1 READ] Some of these next questions will refer to the information or education you have received from Focus on Energy. When we refer to the information or education you have received from Focus on Energy, we are referring to **all the information or education** you have received from Focus on Energy **since first starting participation in Focus on Energy offerings or programs**. We would like you to answer the questions with this context in mind when information or education from Focus on Energy is mentioned.

G1. At the time that you first started working with your contractor on this project, had you…? **[HAVE OPTIONS OF ONE FOR EACH: 1=YES OR 2=NO OR 99=DON'T KNOW]**

1. **[IF SERVICE=0,]** Already been thinking about purchasing the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1] [IF SERVICE=1]** Already been thinking about purchasing the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
2. **[IF SERVICE=0]** Already begun collecting information about energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1] [IF SERVICE=1]** Already begun collecting information about **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
3. **[IF SERVICE=0]** Already selected the particular energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]** and were going to purchase it **[IF SERVICE=1]** Already selected the particular **[MEASURE_CATEGORY1 OR C_MEASURE1]** services and were going to purchase them
4. **[IF SERVICE=0]** Already purchased the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1] [IF SERVICE=1]** Already purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
5. **[IF SERVICE=0]** Already installed the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1] [IF SERVICE=1]** Already completed the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services
6. **[ASK ALL]** Already heard about Focus on Energy

99. DON'T KNOW

G2. **[IF SERVICE=0]** to confirm, did your organization have specific plans to install the energy efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before you began working with your contractor? **[IF SERVICE=1]** To confirm, did your organization have specific plans to purchase **[MEASURE_CATEGORY1 OR C_MEASURE1]** services before you began working with your contractor?

1. Yes **[ASK G3]**
2. No **[SKIP TO G4]**
99. DON'T KNOW **[SKIP TO G4]**

G3. **[IF SERVICE=0]** Before you began working with your contractor, was the purchase of the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] included in your organization's capital budget? **[IF SERVICE=1]** Before you began working with your contractor, was the purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. Yes
2. No **[SKIP TO G5]**
99. DON'T KNOW **[SKIP TO G5]**

G4. **[IF SERVICE=0]** Did your contractor help your organization make the decision to include the purchase of the energy efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] in your property's capital budget? **[IF SERVICE=1]** Did your contractor help your organization make the decision to include the purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services in your organization's capital budget?

1. Yes **[ASK G5]**
2. No **[ASK G5]**
99. DON'T KNOW **[ASK G5]**

G5. **[IF SERVICE=0]** Would you have purchased and installed the same energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the assistance from your contractor and Focus on Energy?

1. Yes **[IF SERVICE=0 SKIP TO G8 / IF SERVICE=1 SKIP TO G9]**
2. No **[SKIP TO G10]**
99. DON'T KNOW **[ASK G6]**

G6. **[IF SERVICE=0]** Would you have installed **something** without the assistance of your contractor and Focus on Energy? **[IF SERVICE=1]** Would you had **some services performed** without the assistance of your contractor and Focus on Energy?

1. **[IF SERVICE=0]** (Yes, would have installed something **[IF SERVICE=1] (**Yes, would have performed some service) **[ASK G7]**
2. **[IF SERVICE=0]** (No, would not have installed anything / **[IF SERVICE=1]** (No, would not performed any service) **[SKIP TO G16]**
99. DON'T KNOW **[SKIP TO G16]**

G7. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. Yes **[IF SERVICE=0 ASK G8 / IF SERVICE=1 SKIP TO G9]**
2. No **[IF SERVICE=0 ASK G8 / IF SERVICE=1 SKIP TO G9]**
99. DON'T KNOW **[IF SERVICE=0 ASK G8 / IF SERVICE=1 SKIP TO G9]**

G8. **[IF SERVICE=0 FOR MEASURE_CATEGORY1 WITH QUANTITY GREATER THAN 1]** Without the involvement of your contractor and Focus on Energy would you have installed the same number of energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]?

1. Yes, the same number **[ASK G9]**
2. No, would have installed less **[ASK G9]**
3. No, would have installed more **[ASK G9]**
99. DON'T KNOW **[ASK G9]**

G9. **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have installed the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, when would you have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed?

1. Within the same year **[SKIP TO G16]**
2. Within one to two years **[SKIP TO G16]**
3. Within three to five years **[SKIP TO G16]**
4. In more than five years **[SKIP TO G16]**
99. DON'T KNOW **[SKIP TO G16]**

G10. **[ASK G10 TO G14 IF G5=2] [IF SERVICE=0]** When you say **you would not have installed** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the assistance from your contractor and Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have performed** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the assistance from your contractor and Focus on Energy, would you have had any energy-saving services performed at all?

1. Yes **[ASK G11]**
2. No **[SKIP TO G16]**
99. DON'T KNOW **[ASK G11]**

G11. **[ASK G10 TO G14 IF G5=2] [IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, **would you have installed** something that was just as energy efficient as the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the assistance from your contractor and Focus on Energy, **would you have purchased services** that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. Yes **[IF SERVICE=0 ASK G12 / IF SERVICE=1 SKIP TO G13]**
2. No **[IF SERVICE=0 ASK G12 / IF SERVICE=1 SKIP TO G13]**
99. DON'T KNOW **[IF SERVICE=0 ASK G12 / IF SERVICE=1 SKIP TO G13]**

G12. **[ASK G10 TO G14 IF G5=2 AND SERVICE=0]** Without the assistance from your contractor and Focus on Energy, would you have installed the same amount of energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]?

1. Yes, the same number **[ASK G13]**
2. No, would have installed less **[ASK G13]**
3. No, would have installed more **[ASK G13]**
99. DON'T KNOW **[ASK G13]**

G13. **[ASK G10 TO G14 IF G5=2] [IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have installed the same energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=0]** Without the assistance from your contractor and Focus on Energy, when would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services?

1. In the same year **[ASK G14]**
2. In one to two years **[ASK G14]**
3. In three to five years **[ASK G14]**
4. More than five years out **[ASK G14]**

99. DON'T KNOW **[ASK G14]**

G14. **[ASK G10 TO G14 IF G5=2]** If the assistance or information from your contractor had not been available, would you have done anything differently on this project?

1. Yes **[ASK G15]**
2. No **[SKIP TO G16]**

99. DON'T KNOW **[SKIP TO G16]**

G15. What would you have done differently? **[OPEN END]**

G16. **[IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision. **[RANDOMIZE LIST]** **[ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3, 99]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

H. Spillover

[ASK EVERYONE SECTION H]
[ALL QUESTIONS IN THIS SECTION FORCED RESPONSE UNLESS OTHERWISE NOTED]

H1. Since making these energy-efficiency upgrades has your company installed any other energy-efficient products in your facility that you did ***NOT*** receive a Focus on Energy incentive for?

1. Yes **[ASK H2]**
2. No **[SKIP TO SECTION 0]**

99. DON'T KNOW **[SKIP TO SECTION 0]**

H2. What were the other energy-efficient products that you installed without getting an incentive? **[RANDOMIZE 1-13]**

1. LEDs

2. Efficient lighting controls (occupancy sensors, daylighting, timers)
3. High efficiency motors
4. Air source heat pumps
5. Ground source heat pumps
6. High efficiency cooling system
7. VSD (variable speed drive)
8. Water heating equipment
9. Boiler or steam system
10. Compressed air equipment
11. Gas furnaces
12. Refrigeration equipment (refrigerators, freezers)
13. HVAC system controls (including smart thermostats)
14. Operational improvements **[SPECIFY:_____]**
15. Other **[SPECIFY:_____]**
99. Don't know **[SKIP TO SECTION 0]**

[ASK H2.11-H2.13 IF H2=1]

H2.11 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the total wattage of the lighting?

1. **[TEXT RESPONSE]**
99. Don't know

H2.12 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** In what location was it installed (Indoor/Outdoors)?

1. **[TEXT RESPONSE]**
99. Don't know

H2.13 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What type of equipment was removed or replaced?

1. **[TEXT RESPONSE]**
99. Don't know

[ASK H2.21- H2.22 IF H2=2]

H2.2.1 How many lamps are controlled by the efficient lighting controls installed?

1. **[NUMERIC RESPONSE]**
99. Don't know

H2.2.2 What is the average wattage of the lamps controlled by the efficient lighting controls installed?

1. **[TEXT RESPONSE]**
99. Don't know

[ASK H2.31-H2.33 IF H2=3]

H2.31 How is the high efficiency motor controlled? (Always on, manual start/stop, VSD / ECM / VFD, Other)?

1. **[TEXT RESPONSE]**
99. Don't know

H2.33 On what equipment was the high efficiency motor installed?

1. **[TEXT RESPONSE]**
99. Don't know

H2.33 What is the horsepower of the high efficiency motor?

1. **[TEXT RESPONSE]**
99. Don't know

[ASK H2.41 IF H2=4, 5] [ASK H2.42 IF H2=4, 5, 6] [ASK H2.43 IF H2=4, 5] [ASK H2.44 IF H2=4, 5, 6]

H2.41 [REPEAT FOR EACH ITEM MENTIONED IN G2] What is the heating efficiency rating (HSPF) of the **[INSERT ITEM FROM G2]**?

1. HSPF Rating (BTU/watt-hr): **[NUMERIC RESPONSE: 0.1 TO 20.0]**
99. Don't know

H2.42 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the cooling efficiency rating (SEER/EER) of the **[INSERT ITEM FROM G2]**? **[RECORD NUMERIC RESPONSE: 0.1 TO 30.0 "SEER/EER Rating", 99=DON'T KNOW]**

1. SEER/EER Rating: **[NUMERIC RESPONSE: 0.1 TO 30.0]**
99. Don't know

H2.43 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the heating output capacity of the **[INSERT ITEM FROM G2]**? **[RECORD NUMERIC RESPONSE: 0 TO 1,000,000 "BTUs", 99=DON'T KNOW]**

1. BTU: **[NUMERIC RESPONSE: 0 TO 1,000,000]**
99. Don't know

H2.44 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the cooling output capacity of the **[INSERT ITEM FROM G2]**? **[RECORD NUMERIC RESPONSE: 0 TO 150 "Tons", 99=DON'T KNOW]**

1. Tons: **[NUMERIC RESPONSE: 0 TO 150]**
99. Don't know

[ASK H2.51-H2.52 IF H2=7]

H2.51 On what type of equipment was the VSD (variable speed drive) motor installed?

2. **[TEXT RESPONSE]**
99. Don't know

H2.52 What is the horsepower of the VSD (variable speed drive) motor?

1. **[TEXT RESPONSE]**
99. Don't know

[ASK H2.61-H2.64 IF H2=8]

H2.61 What type of water heating equipment was purchased and installed?
1. Water heater with storage
2. Tankless water heater
3. Heat pump water heater
4. Condensing water heater
5. Boiler
10. Don't know

H2.62 What Fuel type is used?
1. Gas
2. Electric
3. Other: [TEXT ENTRY]

99. Don't know

H2.63 What is the efficiency factor (EF) rating of the water heating equipment? **[**
2. EF: **[NUMERIC RESPONSE: 0.00 TO 0.99]**
99. Don't know

H2.64 **[ASK IF H2.61 NOT EQUAL TO "TANKLESS WATER HEATER"]** What is the capacity of the equipment in gallons?
1. Capacity in gallons: **[NUMERIC RESPONSE: 0 TO 10,000]**
99. Don't know

[ASK H2.71-H2.73 IF H2=10]

H2.71 What is the compressed air equipment being used for?
2. **[TEXT RESPONSE]**
99. Don't know

H2.72 What type of compressed air equipment was purchased and installed?
3. **[TEXT RESPONSE]**
99. Don't know

H2.73 What is the horsepower of the compressor motor?
1. **[TEXT RESPONSE]**
99. Don't know

[ASK H2.81-H2.82 IF H2=11]

H2.81 What is the annual fuel utilization efficiency (AFUE) rating of the gas furnace?

1. **[TEXT RESPONSE]**
99. Don't know

H2.82 What is the output capacity in BTUs of the gas furnace?

1. **[TEXT RESPONSE]**
99. Don't know

[ASK H2.91 IF H2=12]

H2.91 What type of refrigeration equipment was purchased and installed?

1. **[TEXT RESPONSE]**
99. Don't know

[ASK H2.101-H2.102 IF H2=13]

H2.101 What type of HVAC system control(s) was purchased and installed?

1. Smart thermostat
2. Building automation system
3. Other: **[RECORD RESPONSE]**

H2.102 What type(s) of HVAC equipment are controlled by the new HVAC system control(s)?

1. Heating equipment
2. Cooling equipment
99. Don't know

H2.103 **[ASK H2.103 IF H2.102.1=YES]** What is the heating output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 1,000,000 BTUs:?

1. **[RECORD RESPONSE, 98=DON'T KNOW]**

H2.104 **[ASK H2.104 IF H2.102.2=YES]** What is the cooling output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 1,000,000 BTUs:?

1. **[RECORD NUMERIC RESPONSE: 0 TO 150 "Tons", 99=DON'T KNOW]**

[ASK H2.111 IF H2=14 OR 15]

H2.111 How do you know the **[INSERT ITEM FROM H2]** is energy efficient?

2. **[TEXT RESPONSE]**
99. Don't know

H3. **[REPEAT FOR EACH ITEM MENTIONED IN H2]** How many **[INSERT ITEM FROM H2]** did you install?

1. **[NUMBERIC RESPONSE]**
99. Don't know

H4. **[REPEAT FOR EACH ITEM MENTIONED IN H2]** In what year was the **[INSERT ITEM FROM H2]** purchased and installed?

1. [NUMBERIC RESPONSE]
99. Don't know

H5. **[REPEAT FOR EACH ITEM MENTIONED IN H2]** How important was [**IF B3.1=1,** "assistance from your contractor and information and education from Focus on Energy" **OTHERWISE,** "Focus on Energy incentives and technical support"] in your decision to install **[ANSWER FROM H2]**"?

1. Very important,
2. Somewhat important,
3. Neutral,
4. Slightly important, or
5. Not at all important
99. Don't know

H6. Was **[INSERT EACH ITEM FROM H2]** installed at **[SITE ADDRESS]**?

1. Yes
2. No (**ASK:** What is the address of the location where you installed **[INSERT EACH ITEM FROM H2]**? **[TEXT RESPONSE, 99=DON'T KNOW]**
99. Don't know

I. Closing

[ALL QUESTIONS IN THIS SECTION SKIPPABLE]

I1. *Do you have any other comments about your experience with Focus on Energy that you would like to share?
[OPEN END]

I2. *On occasion, Focus on Energy may want to contact a customer to learn more about their participation experience. May we share your responses with a program manager, who may contact you regarding your experience?

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

Thank you. We appreciate your help with this survey.

CADMUS

Focus on Energy Nonresidential Programs
CY 2023 Trade Ally Interview LG Industrial Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Background	Confirm record of participation	A, B1- B4
Awareness and Participation	How trade allies learned of the program and extent of participation	B4 - B8
Program Specific	Experience working with Large Industrial customers	Section C
Promotion	Knowledge and ease finding information	D1, D2
	How they promote the program	D3 - D7, D9, D10, E4
	Satisfaction with Incentives	D5 – D8
Program Experience	Program satisfaction	Section H
	Energy Advisor	E1 - E3
	Feedback on application	C3
Comparison to Other Programs	Differences from others	Section F
IRA Tax Incentives	Awareness and experience with IRA tax incentives	Section G

A. Introduction

Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your experience participating as a Trade Ally in their Program.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who would be familiar with Focus on Energy's Programs?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**
99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Do you have about 30 minutes to answer some questions? As a thank you for your time, we're offering a $150 gift card.

[If not available, seek to set an appointment]

Great, we will keep everything you tell us confidential – we won't report anything in a way that would identify individual respondents or companies.

B. Background

B1. To begin, can you tell me a little bit about your role at your company and how long you've been there?

B2. What types of projects and work does your company do? [Probe on commercial, residential markets, new construction/retrofit, and type of work; e.g., HVAC, electrical, etc.].

B3. What geographic area does your company serve?

1. (If TA is close to a border) Do you do any work outside of Wisconsin? If yes, what percentage of your work would you estimate is *in* Wisconsin?

B4. How long has your company been a trade ally for Focus on Energy?

1. **[If less than 5 years as a Focus TA]** How did you learn about the opportunity to be a trade ally for Focus on Energy?

B5. When you learned about the opportunity to become a Focus on Energy trade ally, what was appealing about it?

1. What concerns, if any, did you have about participating?

B6. What percentage of your projects qualify for a Focus on Energy rebate or incentive?

1. How has the share of projects you do that qualify for a Focus on Energy incentive changed since you became a registered trade ally?

B7. Have you utilized any of the tools/resources provided by Focus on Energy?

1. Custom incentive workbook
2. Cooling eligibility screening tool
3. Retrocommissioning workbook
4. Comprehensive lighting solutions workbook

B8. In your opinion, what is the single best aspect of the Focus on Energy program?

C. Large Industrial Program Specifics

C1. Can you tell me about the projects you've completed with Large Industrial customers in the past three years that have qualified for rebates through Focus on Energy? Do you typically work with [if multiple, probe for percentage of each]:

1. Manufacturers?
2. Industrial materials processors?
3. Something else?

C2. **[If TA works with any of: Commercial Refrigeration, HVAC/Plumbing, Lighting, or Process Systems]** Considering the type of work you do with Large Industrial customers that qualifies for incentives through the Focus on Energy program – have you completed projects including similar services for other types of customers that has qualified for a Focus on Energy incentive?

1. How have those experiences differed from your experiences Large Industrial customers?

C3. At a high level, please walk us through a typical project with Large Industrial customers that receives an incentive from Focus on Energy, beginning with customer identification/procurement, through project scoping, coordination with the Focus on Energy team, implementation, all the way through until the rebate check is delivered:

1. Typically, how does your company identify potential customers?
    - **[If less than 5 years as a Focus TA]** Have your customer recruitment practices changed since joining the Focus Trade Ally Network? If so, how?
    - Does the Focus on Energy team ever provide you with leads?
2. When scoping a project, how much influence do you have on the overall project design? On the specific equipment selected?
    - How involved is the Focus team during the project scoping phase?
3. How easy or difficult is it for you to complete the project documentation and application required for Focus incentives?
    - Why do you say that? What makes it easy/difficult?
    - What, if any challenges, come up with project documentation?
    - How do documentation requirements compare to other incentives from other sources?
4. In terms of installing measures and completing projects, do project processes differ at all between projects that receive a Focus on Energy Incentive and those that don't?
    - In terms of timing, does the equipment installation/actual work of a project change at all?
    - Are there any difficulties comparing one to the other?
    - Anything that works particularly well?
    - Anything noteworthy at all?

D. Promoting Focus on Energy Offerings

D1. In general, how well do you feel you and your team understand the Focus on Energy offerings and requirements?

1. Are there any areas of the program that you are less familiar with?

D2. Who do you typically reach out to for information about the program or get answers to any questions? Energy Advisors? Focus on Energy Website? Something/somewhere else?

1. How easy is it to find out information about the program or get answers to any questions?

D3. How do you promote the incentives to your customers?

D4. When you interact with customers, how do you typically explain the available Focus on Energy incentives?
   1. At what stage in the project do you bring up available incentives?
   2. What are some concerns or questions customers have about incentive opportunities?

D5. Generally, how effective are current incentive levels in increasing your sales and services of energy efficient products?
   1. Are incentives more effective for some product types than others?

D6. Would you recommend any changes to the incentive amounts or how the incentives are structured?

D7. Besides upfront cost, what other barriers do you find prevent customers from installing high-efficiency equipment?
   1. Does the timing of delivery of energy efficient products (longer lead times) ever lead to customers choosing less efficient products?

D8. When a single project requires multiple equipment replacements or services, how easy or difficult is it for you to stack Focus incentives?
   1. **[If relevant]** What, if anything, could make this process easier?

   2. What about coordinating with other TAs/service providers if a customer needs work done that is outside of your offerings? Are there other companies that you typically partner with? Can anything be done to help better foster those relationships and promote cross-promotion of measures/programs?

D9. In your opinion, what effect have Focus incentives had on your sales of energy efficient products and services?

D10. In your opinion, what is the single biggest thing that could be done to help you complete more projects through the Focus on Energy program?

E. Process Feedback

E1. How satisfied are you with the support provided by your Focus on Energy Energy Advisor?

   1. How satisfied have you been with communication with your Energy Advisor?
   2. What can you tell us about your experience working with the Energy Advisor?
   3. What is working well? What can be improved?

E2. Considering support that you may have received from your Focus on Energy Energy Advisor, which of the following benefits have you experienced?
   1. Help completing project documentation/application?

2. Vetting of savings or incentive calculations?
3. Information to upsell higher efficiency equipment?
4. Anything else?

E3. **[For any response identified in E2]** How, if at all, did **[E2 response]** help you to promote more high-efficiency sales?

E4. What, if any, additional resources or support from Focus on Energy would help you promote more high-efficiency sales?

F. Comparison to Other Offerings

F1. **[If TA works in other states]** Do you participate in utility incentive programs in other states?

F2. **[IF F1=Yes]**
When you compare Focus on Energy to neighboring utility incentive programs, how easy or difficult is it to participate in comparison? [probe if needed: are there more challenging aspects, e.g., the registration, communication with Focus, post-installation inspections, etc.]

F3. In your opinion, what are the key differences between Focus on Energy incentives and the other state utility incentives you can draw on?
1. What overlaps have you seen between Focus on Energy incentives, and incentives from utilities in other states?
2. Do other states offer measures or support that Focus on Energy does not?

F4. Do the varying incentive design structures among programs in multiple states impact your ability to participate in Focus on Energy?
1. [If yes] How? [probe for if they choose one or another and why]
2. [If not addressed] Beyond cost, are there other factors that affect which incentive you'll apply for? [probe if needed: documentation requirements, customer service, etc.]

G. IRA Funding

G1. Are you aware of the financial incentives available for organizations through the Inflation Reduction Act (IRA) that can improve a building's energy efficiency?

a) **For context:** The IRA expands the eligibility for incentives under Section 179D to nonprofit organizations for qualifying energy-saving investments such as energy-efficient interior lighting, HVAC, or the components that make up the building envelope (roofing, walls, etc.).

G2. How well do your standard business practices align with IRA requirements? Will you be making any changes to your standard offerings to align with the IRA?

G3. **[If G1=Yes]** Have you worked with any customers to help them meet the thresholds for savings?

G4. **[if G1 = Yes]** Have you promoted these changes to any potential customers to encourage them to adopt more energy efficiency in their buildings? Why or why not?

G5. How do you communicate multiple incentives – like combining Focus on Energy and IRA incentives – to your customers?

1. What, if anything, can be done to better facilitate awareness and understanding of multiple/combined incentives that may be available?
2. What, if anything, can be done to better facilitate access to those incentives?

H. Overall Reflection

H1. Thanks for your time so far—I'd like to wrap up with some broad questions. On a scale of 1 to 5 with 1 being very satisfied and 5 being very unsatisfied, how satisfied are you overall with the Focus on Energy Program?

1. **[If H1 < 4]** Why do you say that?

H2. Would you like to highlight any additional aspects of the Focus on Energy trade ally program that you feel are working well?

H3. In your opinion, what, if anything, are the challenges of being a Focus on Energy trade ally?

1. [If not addressed] Are there any specific obstacles in participating in the trade ally program you'd like to highlight?

H4. What, if anything, could Focus on Energy do that would help increase customer participation in Focus on Energy programs?

H5. What, if anything, could Focus on Energy do to increase the number of trade allies that promote Focus on Energy programs?

H6. Looking forward to the future, how do you anticipate your participation as a trade ally will change in the next few years?

H7. Is there anything else about the Focus on Energy program that you would like to share?

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Focus on Energy Nonresidential Solutions
Schools and Government Offering
CY 2023 Participant Survey Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Questions**
Screening	Survey initiation, project verification	Section A
Awareness	Sources of participant awareness and project initiation	Section B
Decision Making	Key factors influencing participants' decision to participate in energy upgrades	Section C
Barriers	Obstacles to installing high-efficiency equipment	Section D
Lighting Potential	Remaining Potential for Lighting Improvements	Section E
Program Impacts	Determine net program impacts	Sections F, G, H

General Instructions

- Interviewer instructions are in green **[LIKE THIS]** (the style is "Survey: Interviewer Instructions").
- CATI programming instructions are in red **[LIKE THIS]** (the style is "Survey: Programming").
- Items that should not be read by the interviewer are in parentheses like this ( ).

Quota = 70 completes

SAMPLE Variables:
[CONTACT NAME]
[SITE ADDRESS]
[MEASURE CATEGORY1]
[MEASURE CATEGORY2]
[MEASURE CATEGORY3]
[MEASURE CATEGORY1_QUANTITY]
[MEASURE CATEGORY2_QUANTITY]
[MEASURE CATEGORY3_QUANTITY]
[SERVICE]
[ONLY_SERVICE]
[HOW_HEARD]
[CHECK_RECIPIENT]

A. Introduction

[SECTION IS FORCED RESPONSE]

A1. Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your recent energy efficiency project experience for the property at **[SITE ADDRESS]**.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who was most involved with the energy efficiency project your company recently completed with Focus on Energy?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**

99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Back-up information, not to be programmed:

[If "No – Not available," ask if Respondent would like to arrange a more convenient time for us to call them back or if you can leave a message for that person.]

[IF RESPONDENT ASKS HOW LONG, SAY: "APPROXIMATELY 10 MINUTES."]
[IF NEEDED:] This survey is for research purposes only and this is not a marketing call. Your participation in this study is important so that Focus on Energy can improve its energy efficiency programs for businesses and other organizations.

[**Only if asked** for a Focus on Energy contact to verify the survey authenticity, offer Mitch Horrie with the Public Service Commission of Wisconsin, 608.267.3206]

[**Only if respondent says they already did a survey:** Thank you for your responses to that survey. This is another Focus on Energy study that you have been selected for, that asks a few more questions about your experience with the offering and your decision-making. If you have a few more spare minutes, we would greatly appreciate your responses!]

A2. *__[IF ONLY_SERVICE=FALSE]__ Our records show that you installed energy efficient equipment or upgrades including a **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

[IF ONLY_SERVICE=TRUE] Our records show that you received services to improve your facility's energy efficiency including **[MEASURE CATEGORY1][s]**, **[MEASURE CATEGORY2][s]**, and **[MEASURE CATEGORY3][s]** at **[SITE ADDRESS]** and received an incentive from Focus on Energy for this project in 2023.

1. (Yes)
2. (No, wrong year) **[RECORD CORRECT YEAR, IF POSSIBLE]**

3. (No, wrong address) **[RECORD CORRECT ADDRESS]**
4. (No, wrong measure) **[CORRECT BELOW]**
   - F3a. (**MEASURE CATEGORY1** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE1]**
   - F3a. (**MEASURE CATEGORY2** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE2]**
   - F3a. (**MEASURE CATEGORY3** IS INCORRECT **[CORRECT:_____]**) **[CALL THIS VARIABLE C_MEASURE3]**
5. (No, I did not install any measures) **[THANK AND TERMINATE]**

   99. (Don't know) **[IS THERE SOMEONE WE COULD SPEAK WITH THAT WOULD KNOW THIS? RECORD NAME AND CONTACT INFORMATION:_____]**

   88. (Refused) **[THANK AND TERMINATE]**

B. Awareness and Customer Experience

B1. *I'm going to read you a short list. Please tell me who, if anyone, was involved in helping you initiate your energy efficiency project. **[READ LIST AND MARK 1=YES, 2=NO, 99=DON'T KNOW; 88=REFUSED, -96=N/A FOR EACH]** **[FORSED RESPONSE]**

1. Your contractor or vendor
2. Focus on Energy staff
3. Your utility account manager
4. Your internal energy or sustainability team
5. Your internal facility operations and maintenance staff

B2. *How would you describe your experience in learning about whether your project or equipment qualified for a Focus on Energy incentive? Would you say that project eligibility information was…

1. Very clear
2. Mostly clear
3. A mix of clear and not clear,
4. Mostly not clear, or
5. Not clear at all?

   99. (Don't know)

   88. (Refused)

B3. ***[IF B2=3 OR 4 OR 5]** What was not clear about whether your project or equipment qualified for a Focus on Energy incentive? **[OPEN END]**

B4. When looking for information on the Focus on Energy program, where do you go to find that information? **[FORCED RESPONSE]**

1. Focus on Energy website
2. Focus on Energy advisor
3. My utility website
4. Contractor
5. Somewhere else **[SPECIFY:_____]**

99. (Don't know)
88. (Refused)

B5. *[IF HOW_HEARD≠"PAST PARTICIPATION" READ:] Prior to any projects completed in 2023, had you worked with Focus on Energy in previous years? [IF HOW_HEARD="PAST PARTICIPATION" READ]: Our records show you had previously participated in a Focus on Energy offering. Is that correct? [FORSED RESPONSE]

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

B6. *[IF B5=1 AND HOW_HEARD="FOCUS STAFF/EA" OR B1.2=1] You indicated that you learned about the incentives through a Focus on Energy representative or Energy Advisor or worked with one to complete your project. For this year's project, did you work with the same contact you had worked with previously?

1. (Yes)
2. (No)
3. (Other: _____)
99. (Don't know)
88. (Refused)

B7. *[IF B5 = 1 AND (HOW_HEARD="Trade Ally/Contractor" OR B1.1=1)] You indicated that you worked with a contractor to complete your project. For this year's project, did you work with the same contractor you had worked with previously?

1. (Yes)
2. (No)
3. (Other: _____)
99. (Don't know)
88. (Refused)

B8. *[IF B5=1] Overall, how would you say your experience with Focus on Energy was this year compared to prior years? Would you say it was….

1. About the same
2. More positive, or
3. Less positive?
99. (Don't know)
88. (Refused)

B9. *[IF B8=2 OR 3] Why do you say that? [OPEN END]

B10. [IF B5=1 AND TYPE=K-12] Since 2018, has your school participated in the School Energy Benchmarking offering through Focus on Energy? [IF NEEDED] This program provided your school with ENERGY STAR scores for all its buildings, comparison with other schools, and a score that compares usage to energy code.

1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

B11. **[IF B10=1]** How helpful was benchmarking in giving you a new or better understanding of energy use in your facilities?
1. Very helpful
2. Mostly helpful
3. A mix of helpful and unhelpful
4. Mostly unhelpful
5. Very unhelpful
99. (Don't know)
88. (Refused)

B12. **[ASK IF B11= 3 OR 4 OR 5]** *Why do you say that? **[OPEN END]**

B13. **[IF B10=1]** Did you reference or consider the benchmarking results when deciding to implement the project for which you received an incentive?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

B14. *Who took the lead role in completing the application for the financial incentive? Was it… **[RANDOMIZE] [READ OPTIONS, ALLOW ONLY ONE RESPONSE] [FORSED RESPONSE]**
1. You (i.e., respondent)
2. Someone at your organization
3. The contractor and/or vendor
4. A Focus on Energy representative
5. Someone else **[SPECIFY:_____]**
99. (Don't know)
88. (Refused)

B15. **[ASK IF B14=1]** *How easy would you say this paperwork was to complete? Would you say: **[READ LIST]**
1. Very easy,
2. Mostly easy,
3. A mix of easy and challenging,
4. Mostly challenging, or
5. Very challenging?
99. (Don't know)
88. (Refused)

B16. **[ASK IF B15= 3, 4, OR 5]** *Why do you say that? **[OPEN END]**

B17. **[IF B1.2=1]** *Overall, how satisfied were you with the offering or project support you received from your Focus on Energy Energy Advisor? Would you say: **[READ LIST]**

1. Very satisfied,
2. Somewhat satisfied,
3. Neither satisfied nor dissatisfied,
4. Somewhat dissatisfied, or
5. Very dissatisfied?

99. (Don't know)
88. (Refused)

B18. **[IF B17=1-5]** *Why do you say that? **[OPEN END]**

B19. *What could Focus on Energy have done to improve your overall experience, if anything? **[DO NOT READ THE LIST, RECORD ALL THAT APPLY]**

1. (Better/more communication **[SPECIFY: WHO WOULD YOU LIKE MORE COMMUNICATION FROM?_____]**)
2. (Quicker response time **[SPECIFY: WHO WOULD YOU LIKE A QUICKER RESPONSE TIME FROM?__]**)
3. (Larger selection of eligible equipment **[ASK: WHAT ENERGY-EFFICIENT EQUIPMENT SHOULD FOCUS ON ENERGY OFFER INCENTIVES FOR?_____]**)
4. (Increasing the incentive amount)
5. (Simplify the application process **[ASK: IN WHAT WAY SHOULD IT BE SIMPLIFIED?_____?]**)
6. (Allow me to fill out the applications online)
7. (Simplify the website **[ASK: IN WHAT WAY?_____]**)
8. (Provide quicker approval on applications)
9. (Send incentive check out faster)
10. (Simplify the incentive catalogue **[ASK IN WHAT WAY]**)
11. (Other **[SPECIFY:_____]**)
12. (No, nothing)

99. (Don't know)
88. (Refused)

C. Decision Making

Now I'd like to understand more about how your organization made decisions about your specific energy efficiency project.

C1. *What factor was <u>most</u> important to your organization decision to make the energy-efficient upgrades for which you received an incentive**?** **[DO NOT READ LIST; SINGLE RESPONSE]**

1. (To save money on energy bills/ reduce energy costs)
2. (To reduce energy consumption or energy demand / be more efficient / organization conservation or environmental targets)
3. (To obtain a Focus on Energy or bonus incentive)
4. (To obtain a tax credit)
5. (To replace old (but still functioning) equipment)
6. (To replace broken equipment)
7. (To enhance performance or aesthetics of our equipment/system(s))

8. (To improve comfort)
9. (Staff satisfaction/retention)
10. (To reduce maintenance or other non-energy operating costs)
11. (Other **[SPECIFY_____]**)
99. (Don't know)
88. (Refused)

C2. Do you have a service contract that covers maintenance for your facility or HVAC system?
1. (Yes **[SPECIFY FOR WHAT_____]**)
2. (No)
99. (Don't know)
88. (Refused)

C3. **[IF C2=1]** Does your service contract extend beyond preventative maintenance to include energy efficiency strategies?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C4. Has your organization used any funding from the CARES Act for energy efficiency projects?
1. (Yes, used funding from CARES Act)
2. (No, did not use this funding)
99. (Don't know)
88. (Refused)

C5. **[IF TYPE=K-12]** Has your organization used any funding from the Elementary and Secondary School Emergency Relief Fund for energy efficiency projects?
1. (Yes, used funding from the Elementary and Secondary School Emergency Relief Fund)
2. (No, did not use this funding)
99. (Don't know)
88. (Refused)

C6. *Are you aware that the federal government increased tax incentives for organizations incorporating significant energy efficiency improvements starting in 2023?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C7. ***[IF C6=1]** How, if at all, have the federal tax incentives impacted the decisions you are making on energy efficiency upgrades? **[ALLOW MULTIPLE RESPONSES]**
1. Accelerated them
2. Delayed them
3. Made us look for more savings opportunities
4. No change
5. Other **[SPECIFY_____]**

99. (Don't know)
88. (Refused)

C8. *Have you or anyone else within your organization attended an in-person or web-based training delivered by Focus on Energy in the past two years?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C9. *[IF C8= 1] How important was your business' participation in the training in your decision to move forward with the energy efficient upgrades for which you received an incentive Was the training… [READ LIST]
1. Very important
2. Somewhat important
3. Neutral,
4. Not too important, or
5. Not at all important?
99. (Don't know)
88. (Refused)

C10. How likely would you or someone in your organization be to participate in a Focus on Energy training on practical energy management for facilities? Would you be …
1. Very likely
2. Somewhat likely
3. Neither likely nor unlikely
4. Somewhat unlikely
5. Very unlikely
99. (Don't know)
88. (Refused)

C11. Was your project part of a larger renovation or equipment replacement project?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C12. Did you receive other financial assistance for this project, such as a grant from the State Energy Office or other organization?
1. (Yes [SPECIFY])
2. (No)
99. (Don't know)
88. (Refused)

C13. Thinking just about the upgrades for which you received a Focus on Energy incentive, how would you characterize the cost of this project relative to typical building or equipment upgrade projects? Was it …

1. Very large, and among the highest building or equipment costs in the past five years
2. Large, and among the highest building or equipment costs in 2022 or 2023
3. Moderate relative to other 2022-2023 building or equipment costs, or
4. Minor relative to other 2022-2023 building or equipment costs
5. Other [SPECIFY]

99. (Don't know)
88. (Refused)

C14. Does your organization have energy conservation or climate change targets, such as reducing energy usage by a specific amount?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

C15. **[IF C14=1]** What is your organization's energy conservation target?

1. **[OPEN END]**

C16. **[IF C14=1]** Did this project assist your organization to meet energy conservation or climate change targets?

1. (Yes)
2. (No)

99. (Don't know)
88. (Refused)

D. Barriers

The next questions are to understand the barriers your organization may face when implementing an energy efficiency project.

D1. *If you had to choose just one, what would you say is the largest challenge in implementing energy efficiency projects and upgrades at your organization? Would you say: **[READ LIST; RECORD ONLY ONE]**

1. Cost
2. Time
3. Technical questions or technical issues, or
4. Your organization's own internal decision making or budgeting process
5. Limited staffing or time to dedicate to energy efficiency efforts
6. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

D2. *What could be done to help your company overcome challenges with energy efficiency improvements? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**

1. (Higher incentives)

2. (Provide immediate or upfront discounts/incentives)
3. (Offer low-interest loans)
4. (Simplify the paperwork) **[ASK HOW:_____]**)
5. (Provide better/more information about the offering **[SPECIFY WHAT TYPE OF INFORMATION THEY NEED:_____]**)
6. (Provide an energy audit)
7. (Technical support for proposed equipment)
8. (Technical support for understanding project payback period/ROI)
9. (Other **[RECORD VERBATIM ANSWER_____]**)
10. (Nothing)

99. (Don't know)
88. (Refused)

E. Lighting Potential

The next questions are related to the type of lighting currently installed in your facilities.

E1. Considering the existing lighting across all of your facilities, what proportion of all of your facilities lights would you estimate are LED? **[NUMERIC RESPONSE 1-100]** percent

E2. To confirm, across all of your facilities, [**E1 RESPONSE**]% of lights are LED, and the remaining **[1 - E1 RESPONSE]**% of lights are something else?

1. (Yes, that is correct)
2. (No, that is not correct) **[ASK HOW:_____]**

E3. **[IF E1 < 100%]** Within the **next two years**, does your organization plan to upgrade any or all of the remaining **[1 - E1 RESPONSE]**% of lights to LEDs? **[READ LIST; RECORD ONLY ONE]**

1. (Yes, we plan to upgrade **all** of the lights to LEDs within the next two years)
2. (Yes, we plan to upgrade **some** of the lights to LEDs within the next two years)
3. (No, **we don't plan to upgrade any of the lights** to LEDs within the next two years)

99. (Don't know)
88. (Refused)

E4. ***[IF E3=2]** What is preventing your organization from upgrading all of the remaining **[1 – E1 RESPONSE]**% of lights to LEDs? ***[IF E3=3)** What is preventing your organization from upgrading any of the remaining **[1 – E1 RESPONSE]**% of lights to LEDs? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**

1. (It's too expensive)
2. (We have other projects we want to complete first)
3. (It's too time consuming)
4. (The old lights are still working)
5. (LEDs don't work well at our facilities)
6. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

E5. **[IF E1 < 100%]** What, if anything, could Focus on Energy do to assist your facility with upgrading to LED lights? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**

1. (Higher Incentives)
2. (Technical/Design assistance)
3. (Help find a contractor to work with)
4. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

E6. Next, we'd like to ask about any advanced lighting control systems at your facilities. While standard lighting controls may include occupancy sensors, dimming, or daylighting controls, *advanced* lighting controls take this a step further by using software to allow you to automate, control, and monitor your lighting systems throughout a facility or even at the fixture level. Prior to this survey, were you at all familiar with advanced lighting controls? **[READ LIST; RECORD ONLY ONE]**

1. (Yes, I am familiar with advanced lighting controls)
2. (No, I am not familiar with advanced lighting controls)

99. (Don't know)
88. (Refused)

E7. ***[IF E6=1]** Considering the existing lighting across all of your facilities, what proportion of the lighting in all of your facilities lights would you estimate are controlled by an advanced lighting control system? **[NUMERIC RESPONSE 0-100]** percent

E8. To confirm, across all of your facilities, [**E7 RESPONSE**]% of lights are controlled by an advanced lighting control system, and the remaining **[1 – E7 RESPONSE]**% of lights are not controlled by an advanced lighting control system?

1. (Yes, that is correct)
2. (No, that is not correct) **[ASK HOW:_____]**

E9. **[IF E8 < 100%]** Within the **next two years**, does your organization plan to upgrade any or all of the remaining **[1 – E8 RESPONSE]**% of lights to be controlled by an advanced lighting control system? **[READ LIST; RECORD ONLY ONE]**

1. (Yes, we plan to upgrade **all** of the lights to be controlled by an advanced lighting control system)
2. (Yes, we plan to upgrade **some** of the lights to be controlled by an advanced lighting control system)
3. (No, **we don't plan to upgrade any of the lights** to be controlled by an advanced lighting control system)

99. (Don't know)
88. (Refused)

E10. ***[IF E9=2]** What is preventing your organization from upgrading all of the remaining **[1 – E7 RESPONSE]**% of lights to be controlled by an advanced lighting control system? ***[IF E9=3)** What is preventing your organization from upgrading any of the remaining **[1 - E7 RESPONSE]**% of lights to

be controlled by an advanced lighting control system? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**

1. (It's too expensive)
2. (We have other projects we want to complete first)
3. (It's too time consuming)
4. (We don't know enough about the technology)
5. (Lighting control systems don't work well at our facilities)
6. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

E11. **[IF E8 < 100%]** What, if anything, could Focus on Energy do to assist your facility with upgrading to utilize an advanced lighting control system? **[DO NOT READ LIST, ALLOW MULTIPLE RESPONSES]**

1. (Higher Incentives)
2. (Technical/Design assistance)
3. (Help find a contractor to work with)
4. (Other **[RECORD VERBATIM ANSWER_____]**)

99. (Don't know)
88. (Refused)

F. Freeridership

[SECTION IS FORCED RESPONSE]

[IF SERVICE=0] For the next section, please focus on the decision to purchase the new **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s]**.** Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]**[s] that was purchased. **[IF SERVICE=1]** For the next section, please focus on the decision to purchase the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. Even though you may have received incentives for other energy saving equipment and services, these questions are just about the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that was purchased.

[IF B5=1] Some of these next questions will refer to information or education you have received from Focus on Energy. Please answer the questions thinking of all the information or education you have received from Focus on Energy since first participating in Focus on Energy offerings or programs.

[INTERVIEWER NOTE ABOUT THIS SECTION (DON'T READ TO RESPONDENT): THIS SECTION IS BASED ON HYPOTHETICAL BEHAVIOR SO WE ARE ASKING SIMILAR QUESTIONS TO VERIFY THAT WE ARE GATHERING THE CORRECT RESPONSES.]

F1. **[IF SERVICE=0]** Did your organization have specific plans to install the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option before learning about the Focus on Energy incentive? **[IF SERVICE=1]** Did your organization have specific plans to have the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed before learning about the Focus on Energy incentive?

1. (Yes) **[ASK F2]**
2. (No) **[SKIP TO F4]**

99. (DON'T KNOW) **[SKIP TO F4]**

F2. **[IF SERVICE=0]** Prior to learning about the incentive, was the purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] included in your property's capital budget? **[IF SERVICE=1]** Prior to learning about the incentive, was the purchase of **[MEASURE_CATEGORY1 OR C_MEASURE1]** services included in your organization's capital budget?

1. (Yes)
2. (No) **[SKIP TO F4]**

99. (DON'T KNOW) **[SKIP TO F4]**

F3. **[IF SERVICE=0]** Had your property ***ALREADY*** ordered or purchased the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] ***BEFORE*** your property heard about the Focus on Energy incentive? **[IF SERVICE=1]** Had your organization ***ALREADY*** ordered or purchased the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services ***BEFORE*** your organization heard about the Focus on Energy incentive?

1. (Yes)
2. (No)

99. (DON'T KNOW)

F4. **[IF SERVICE=0]** Would you have purchased and installed the same energy efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy?

1. (Yes) **[SKIP TO F7 IF SERVICE=0 / ASK F8 IF SERVICE=1]**
2. (No) **[SKIP TO F9]**

99. (DON'T KNOW) **[ASK F5]**

F5. **[IF SERVICE=0]** Would you have installed **something** without the incentive and information or education from Focus on Energy? **[IF SERVICE=1]** Would you have purchased **some services** without the incentive and information or education from Focus on Energy? **[DO NOT READ LIST UNLESS NECESSARY]**

1. (Yes, would have installed something) **[ASK F6]**
2. (No, would NOT have installed anything) **[SKIP TO F13]**

99. (DON'T KNOW) **[SKIP TO F13]**

88.

F6. **[IF SERVICE=0]** When you say you **would have installed** something, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** When you say you **would have had services performed**, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK F7/ IF SERVICE=1 SKIP TO F8]**
2. (No) **[IF SERVICE=0 ASK F7/ IF SERVICE=1 SKIP TO F8]**

99. (DON'T KNOW) **[IF SERVICE=0 ASK F7 / IF SERVICE=1 SKIP TO F8]**

88.

F7. **[IF SERVICE=0 AND IF MEASURECATEGORY1_QUANTITY IS GREATER THAN 1]** And without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK F8]**
2. (No, would have installed less) **[ASK F8]**
3. (No, would have installed more) **[ASK F8]**

99. (DON'T KNOW) **[ASK F8]**

F8. **[IF SERVICE=0]** Without the incentive for the **[MEASURE CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you have installed the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive for the **[MEASURE_CATEGORY1 OR C_MEASURE1]** and information or education from Focus on Energy, when would you most likely have had the **[MEASURE_CATEGORY1 OR C_MEASURE1]** performed?

[READ LIST AND RECORD ONE RESPONSE]

1. Within the same year **[SKIP TO F13]**
2. Within one to two years **[SKIP TO F13]**
3. Within three to five years **[SKIP TO F13]**
4. In more than five years **[SKIP TO F13]**

99. (DON'T KNOW) **[SKIP TO F13]**

F9. **[ASK F9 TO F12 IF F4 =2] [IF SERVICE=0]** When you say **you would not have installed** the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] over a less efficient option without the incentive and information or education from Focus on Energy, would you have installed anything at all? **[IF SERVICE=1]** When you say **you would not have purchased** the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services without the incentive and information or education from Focus on Energy, would you have purchased any services at all?

1. (Yes, would have installed something) **[ASK F10]**
2. (No, would not have installed anything at all) **[SKIP TO F13]**

99. (DON'T KNOW) **[ASK F10]**

F10. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, would you have installed something that was just as energy efficient as the **[MEASURE CATEGORY1 OR C_MEASURE1]**[s] you installed? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, would you have purchased services that produced as much energy efficiency as the **[MEASURE_CATEGORY1 OR C_MEASURE1]** that you did purchase?

1. (Yes) **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**
2. (No) **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**

99. (DON'T KNOW) **[IF SERVICE=0 ASK F11 / IF SERVICE=1 SKIP TO F12]**

F11. **[ASK IF SERVICE=0] AND IF MEASURECATEGORY1_QUANTITY IS GREATER THAN 1]** Without the incentive and information or education from Focus on Energy, would you have installed the same number of energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]?

1. (Yes, the same number) **[ASK F12]**
2. (No, would have installed less) **[ASK F12]**
3. (No, would have installed more) **[ASK F12]**

99. (DON'T KNOW) **[ASK F12]**

F12. **[IF SERVICE=0]** Without the incentive and information or education from Focus on Energy, when would you have installed the same energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]? **[IF SERVICE=1]** Without the incentive and information or education from Focus on Energy, when would you have had the same **[MEASURE_CATEGORY1 OR C_MEASURE1]** services performed? **[READ LIST AND RECORD ONE RESPONSE]**

1. In the same year
2. In one to two years
3. In three to five years
4. More than five years out

99. (DON'T KNOW)

F13. **[ASK EVERYONE] [IF SERVICE=0]** We would like to know more about the factors that contributed to your purchase of the energy-efficient **[MEASURE CATEGORY1 OR C_MEASURE1]**[s]. For each of the factors listed, please rate how important it was in your decision. **[IF SERVICE=1]** We would like to know more about the factors that contributed to your purchase of the **[MEASURE_CATEGORY1 OR C_MEASURE1]** services. For each of the factors listed, please rate how important it was in your decision.**[1 TO 6 - RANDOMIZE LIST] [ANSWER OPTIONS FOR EACH: 1 - NOT AT ALL IMPORTANT, 2, 3, 4, 5 - VERY IMPORTANT, DON'T KNOW]**

1. **[RESPONSE FROM C1 IF C1≠3 OR 99]**
2. The Focus on Energy incentive or discount
3. Recommendation from Focus on Energy Staff
4. Information provided by Focus on Energy on energy savings opportunities
5. Recommendation from a contractor or vendor
6. Previous participation in a Focus on Energy energy efficiency program or offering

99. (DON'T KNOW)

G. Spillover

[ASK EVERYONE SECTION G]

G1. Since making these energy-efficiency upgrades has your company installed any other energy-efficient products in your facility that you did ***NOT*** receive a Focus on Energy incentive for or did ***NOT*** receive for free? **[IF NEEDED: BY ENERGY-EFFICIENT PRODUCTS, I MEAN HIGH EFFICIENCY HVAC EQUIPMENT, HIGH EFFICIENCY WATER HEATERS, HIGH EFFICIENCY MOTORS, OR ENERGY STAR LIGHTING SUCH AS LED LIGHTBULBS.]**

1. (Yes) **[ASK G2]**
2. (No) **[SKIP TO SECTION H]**

99. (DON'T KNOW) **[SKIP TO SECTION H]**

G2. What were the other energy-efficient products that you installed without getting an incentive? **[DO NOT READ LIST; MARK ALL THAT APPLY; 99=DON'T KNOW, 88=REFUSED, -96=N/A] [IF THE CUSTOMER SAYS THEY BOUGHT SOMETHING BUT HAVE NOT INSTALLED IT, THE EQUIPMENT HAS TO BE INSTALLED AND OPERATING FOR US TO COUNT IT TOWARDS SPILLOVER.]**

1. (LED(s))

2. (Efficient lighting controls (occupancy sensors, daylighting, timers))
3. (High efficiency motor(s))
4. (Air source heat pump(s))
5. (Ground source heat pump(s))
6. (Central AC)
7. (VSD (variable speed drive(s)))
8. (Water heating equipment)
9. (Boiler or steam system(s))
10. (Compressed air equipment)
11. (Gas furnace(s))
12. (Refrigeration equipment (refrigerators, freezers))
13. (HVAC system controls (including smart thermostats))
14. (Operational improvements **[SPECIFY:_____])**
15. (Other) **[SPECIFY:_____]**

99. (DON'T KNOW) **[SKIP TO SECTION H]**
88. (REFUSED) **[SKIP TO SECTION H]**

[ASK G2.11-G2.13 IF G2=1]

G2.11 **[REPEAT FOR EACH ITEM MENTIONED IN** G2**]** What is the total wattage of the lighting? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
G2.12 **[REPEAT FOR EACH ITEM MENTIONED IN** G2**]** In what location was it installed (Indoors/Outdoors)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
G2.13 **[REPEAT FOR EACH ITEM MENTIONED IN** G2**]** What type of equipment was removed or replaced? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.21- G2.22 IF G2=2]

G2.21 How many lamps or fixtures are controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
G2.22 What is the average wattage of the lamps or fixtures controlled by the efficient lighting controls installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.31-G2.33 IF G2=3]

G2.31 How is the high efficiency motor controlled? (Always on, manual start/stop, VSD / ECM / VFD, Other)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
G2.33 On what equipment was the high efficiency motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
G2.33 What is the horsepower of the high efficiency motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.41 IF G2=4, 5] [ASK G2.42 IF G2=4, 5, 6] [ASK G2.43 IF G2=4, 5] [ASK G2.44 IF G2=4, 5, 6]

G2.41 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the heating efficiency rating (HSPF) of the **[INSERT ITEM FROM G2]**? **[RECORD NUMERIC RESPONSE: 0.1 TO 20.0, 99=DON'T KNOW, 88=REFUSED]**

G2.42 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the cooling efficiency rating (SEER/EER) of the **[INSERT ITEM FROM** G2]? **[RECORD NUMERIC RESPONSE: 0.1 TO 30.0 "SEER/EER RATING", 99=DON'T KNOW, 88=REFUSED]**

G2.43 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the heating output capacity in BTUs of the **[INSERT ITEM FROM G2]**? **[RECORD NUMERIC RESPONSE: 1 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**

G2.44 **[REPEAT FOR EACH ITEM MENTIONED IN G2]** What is the cooling output capacity in tons of the **[INSERT ITEM FROM G2]**? **[RECORD NUMERIC RESPONSE: 0 TO 100 "TONS", 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.51-G2.52 IF G2=7]

G2.51 On what type of equipment was the VSD (variable speed drive) motor installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.52 What is the total horsepower of the VSD (variable speed drive) motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.61-G2.64 IF G2=8]

G2.61 What type of water heating equipment was purchased and installed? **[READ LIST]**

1. Water heater with storage
2. Tankless water heater
3. Heat pump water heater with storage
4. Condensing water heater with storage
5. Boiler

99. (Don't know)

88. (Refused)

G2.62 What fuel type is used? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.63 What is the efficiency factor (EF) rating of the water heating equipment? **[RECORD NUMERIC RESPONSE: 0.00 TO 0.99 "Efficiency Factor (EF)", 99=DON'T KNOW, 88=REFUSED]**

G2.64 **[ASK IF G2.61 INDICATES WATER HEATER WITH STORAGE]** What is the capacity of the equipment in gallons? **[RECORD NUMERIC RESPONSE: 0 TO 10,000 "Capacity in gallons", 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.71-G2.73 IF G2=10]

G2.71 What is the compressed air equipment being used for? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.72 What type of compressed air equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
G2.73 What is the total horsepower of the compressor motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.81-G2.82 IF G2=11]

G2.81 What is the annual fuel utilization efficiency (AFUE) rating of the gas furnace? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**
G2.82 What is the output capacity of the gas furnace in BTUs? **[RECORD NUMERIC RESPONSE: 0 TO 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.91 IF G2=12]

G2.91 What type of refrigeration equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.101-G2.102 IF G2=13]

G2.101 What type of HVAC system control(s) was purchased and installed?
1. Smart thermostat
2. Building automation system
3. Other: **[RECORD RESPONSE]**

G2.102 What type(s) of HVAC equipment are controlled by the new HVAC system control(s)?
1. Heating equipment
2. Cooling equipment
99. Don't know

G2.103 [ASK G2.103 IF G2.102.1=YES] What is the heating output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 1,000,000 BTUs:?
1. **[RECORD RESPONSE, 98=DON'T KNOW]**

G2.104 [ASK G2.104 IF G2.102.2=YES] What is the cooling output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 150 tons?
1. **[RECORD NUMERIC RESPONSE: 0 TO 150 "Tons", 99=DON'T KNOW]**

[ASK G2.111 IF G2=14 OR 15]
G2.111 How do you know the **[INSERT ITEM FROM G2]** is energy efficient?
1. **[TEXT RESPONSE]**
99. Don't know

G3. **[REPEAT FOR EACH ITEM MENTIONED IN G2]** How many **[INSERT ITEM FROM G2]** did you install?

[RECORD NUMBER_____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]

G4. **[REPEAT FOR EACH ITEM MENTIONED IN G2]** In what year was/were the **[INSERT ITEM FROM G2]** purchased and installed?
[RECORD YEAR NUMBER____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]

G5. **[REPEAT FOR EACH ITEM MENTIONED IN G2]** Please tell us how important [**IF ANY B1.1=1 READ,** "assistance from your contractor and information and education from Focus on Energy" **OTHERWISE READ,** "the Focus on Energy Commercial and Industrial offering"] was in your decision to install **[ANSWER FROM G2]**" Was it…?: **[READ LIST EMPHASIZE EACH ANSWER OPTION AND PAUSE IN BETWEEN EACH OPTION.]**

1. Very important,
2. Somewhat important,
3. Neutral,
4. Not too important, or
5. Not at all important

99. (Don't know)
88. (Refused)

G6. Was **[INSERT EACH ITEM FROM G2]** installed at **[SITE ADDRESS]**?

1. Yes
2. No (**ASK:** What is the address of the location where you installed **[INSERT EACH ITEM FROM G2]**? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

99. (Don't know)
88. (Refused)

H. Closing

H1. *Do you have any other comments about your experience with Focus on Energy that you would like to share?
[RECORD RESPONSE:_____; 99 FOR DON'T KNOW, 88 FOR REFUSED]

H2. *On occasion, Focus on Energy may want to contact a customer to learn more about their participation experience. May we share your responses with a program manager, who may contact you regarding your experience?

1. Yes
2. No

99. (Don't know)
88. (Refused)

Thank you. We appreciate your help with this survey. Have a nice day.

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Focus on Energy Nonresidential Programs
CY 2023 Trade Ally Interview S&G Questions

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Background	Confirm record of participation	A, B1- B4
Awareness and Participation	How trade allies learned of the program and extent of participation	B4 - B8
Program Specific	Experience working with Schools and Government customers	Section C
Promotion	Knowledge and ease finding information	D1, D2
	How they promote the program	D3 - D7, D9, D10, E4
	Satisfaction with Incentives	D5 – D8
Program Experience	Program satisfaction	Section H
	Energy Advisor	E1 - E3
	Feedback on application	C3
Comparison to Other Programs	Differences from others	Section F
IRA Tax Incentives	Awareness and experience with IRA tax incentives	Section G

A. Introduction

Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your experience participating as a Trade Ally in their Program.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who would be familiar with Focus on Energy's Programs?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**
99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Do you have about 30 minutes to answer some questions? As a thank you for your time, we're offering a $150 gift card.

[If not available, seek to set an appointment]

Great, we will keep everything you tell us confidential – we won't report anything in a way that would identify individual respondents or companies.

B. Background

B1. To begin, can you tell me a little bit about your role at your company and how long you've been there?

B2. What types of projects and work does your company do? [Probe on commercial, residential markets, new construction/retrofit, and type of work; e.g., HVAC, electrical, etc.].

1. **For internal context: The following types of TAs work with School and Government Customers consistently:**
    - **Wholesale electrical distributors and electrical and lighting contractors**
    - **Wholesale HVAC equipment distributors, HVAC contractors, and service providers**
    - **Engineering firms – mechanical, electric, and civil (specific to water and wastewater customers)**
    - **Energy service companies completing performance contracts**
2. **Universities are working with Energy Service Companies (ESCOs) to complete energy savings projects. The team engages with ESCOs assist with program promotion and installing energy efficiency equipment in higher education institutes**

B3. What geographic area does your company serve?

1. (If TA is close to a border) Do you do any work outside of Wisconsin? If yes, what percentage of your work would you estimate is *in* Wisconsin?

B4. How long has your company been a trade ally for Focus on Energy?

1. **[If less than 5 years as a Focus TA]** How did you learn about the opportunity to be a trade ally for Focus on Energy?

B5. When you learned about the opportunity to become a Focus on Energy trade ally, what was appealing about it?

1. What concerns, if any, did you have about participating?

B6. What percentage of your projects qualify for a Focus on Energy rebate or incentive?

1. How has the share of projects you do that qualify for a Focus on Energy incentive changed since you became a registered trade ally?

B7. Have you utilized any of the tools/resources provided by Focus on Energy?

1. Custom incentive workbook
2. Cooling eligibility screening tool
3. Retrocommissioning workbook

4. Comprehensive lighting solutions workbook

B8. In your opinion, what is the single best aspect of the Focus on Energy program?

C. Schools and Government Program Specifics

C1. Can you tell me about the projects you've completed with School and/or Governmental customers in the past three years that have qualified for rebates through Focus on Energy? Do you typically work with [if multiple, probe for percentage of each]:

1. Schools (Public and private K-12 schools and higher education institutions, including universities, colleges and technical colleges)?
2. Local government entities (Entities including municipalities, counties, and wastewater facilities)?
3. Non-local Government entities (Entities including tribes, state and federal agencies including all Wisconsin Department of Administration and Wisconsin Department of Corrections facilities)?

C2. **[If TA works with any of: Commercial Refrigeration, HVAC/Plumbing, Lighting, or Process Systems]** Considering the type of work you do with School and/or Governmental customers that qualifies for incentives through the Focus on Energy program – have you completed projects including similar services for other types of customers that has qualified for a Focus on Energy incentive?

1. How have those experiences differed from your experiences with School and/or Governmental customers?

C3. At a high level, please walk us through a typical project with School and/or Governmental customers that receives an incentive from Focus on Energy, beginning with customer identification/procurement, through project scoping, coordination with the Focus on Energy team, implementation, all the way through until the rebate check is delivered:

1. Typically, how does your company identify potential customers?
    - **[If less than 5 years as a Focus TA]** Have your customer recruitment practices changed since joining the Focus Trade Ally Network? If so, how?
    - Does the Focus on Energy team ever provide you with leads?
2. When scoping a project, how much influence do you have on the overall project design? On the specific equipment selected?
    - How involved is the Focus team during the project scoping phase?
3. How easy or difficult is it for you to complete the project documentation and application required for Focus incentives?
    - Why do you say that? What makes it easy/difficult?

- What, if any challenges, come up with project documentation?
- How do documentation requirements compare to other incentives from other sources?

4. In terms of installing measures and completing projects, do project processes differ at all between projects that receive a Focus on Energy Incentive and those that don't?
   - In terms of timing, does the equipment installation/actual work of a project change at all?
   - Are there any difficulties comparing one to the other?
   - Anything that works particularly well?
   - Anything noteworthy at all?

D. Promoting Focus on Energy Offerings

D1. In general, how well do you feel you and your team understand the Focus on Energy offerings and requirements?

1. Are there any areas of the program that you are less familiar with?

D2. Who do you typically reach out to for information about the program or get answers to any questions? Energy Advisors? Focus on Energy Website? Something/somewhere else?

1. How easy is it to find out information about the program or get answers to any questions?

D3. How do you promote the incentives to your customers?

D4. When you interact with customers, how do you typically explain the available Focus on Energy incentives?

1. At what stage in the project do you bring up available incentives?
2. What are some concerns or questions customers have about incentive opportunities?

D5. Generally, how effective are current incentive levels in increasing your sales and services of energy efficient products?

1. Are incentives more effective for some product types than others?

D6. Would you recommend any changes to the incentive amounts or how the incentives are structured?

D7. Besides upfront cost, what other barriers do you find prevent customers from installing high-efficiency equipment?

1. Does the timing of delivery of energy efficient products (longer lead times) ever lead to customers choosing less efficient products?

D8. When a single project requires multiple equipment replacements or services, how easy or difficult is it for you to stack Focus incentives?

1. **[If relevant]** What, if anything, could make this process easier?

2. What about coordinating with other TAs/service providers if a customer needs work done that is outside of your offerings? Are there other companies that you typically partner with? Can anything be done to help better foster those relationships and promote cross-promotion of measures/programs?

D9. In your opinion, what effect have Focus incentives had on your sales of energy efficient products and services?

D10. In your opinion, what is the single biggest thing that could be done to help you complete more projects through the Focus on Energy program?

E. Process Feedback

E1. How satisfied are you with the support provided by your Focus on Energy Energy Advisor?

1. How satisfied have you been with communication with your Energy Advisor?
2. What can you tell us about your experience working with the Energy Advisor?
3. What is working well? What can be improved?

E2. Considering support that you may have received from your Focus on Energy Energy Advisor, which of the following benefits have you experienced?

1. Help completing project documentation/application?
2. Vetting of savings or incentive calculations?
3. Information to upsell higher efficiency equipment?
4. Anything else?

E3. **[For any response identified in E2]** How, if at all, did **[E2 response]** help you to promote more high-efficiency sales?

E4. What, if any, additional resources or support from Focus on Energy would help you promote more high-efficiency sales?

F. Comparison to Other Offerings

F1. **[If TA works in other states]** Do you participate in utility incentive programs in other states?

F2. **[IF F1=Yes]**
When you compare Focus on Energy to neighboring utility incentive programs, how easy or difficult is it to participate in comparison? [probe if needed: are there more challenging aspects, e.g., the registration, communication with Focus, post-installation inspections, etc.]

F3. In your opinion, what are the key differences between Focus on Energy incentives and the other state utility incentives you can draw on?

1. What overlaps have you seen between Focus on Energy incentives, and incentives from utilities in other states?
2. Do other states offer measures or support that Focus on Energy does not?

F4. Do the varying incentive design structures among programs in multiple states impact your ability to participate in Focus on Energy?
   1. [If yes] How? [probe for if they choose one or another and why]
   2. [If not addressed] Beyond cost, are there other factors that affect which incentive you'll apply for? [probe if needed: documentation requirements, customer service, etc.]

G. IRA Funding

G1. Are you aware of the financial incentives available for organizations through the Inflation Reduction Act (IRA) that can improve a building's energy efficiency?

   a) **For context:** The IRA expands the eligibility for incentives under Section 179D to nonprofit organizations for qualifying energy-saving investments such as energy-efficient interior lighting, HVAC, or the components that make up the building envelope (roofing, walls, etc.).

G2. How well do your standard business practices align with IRA requirements? Will you be making any changes to your standard offerings to align with the IRA?

G3. **[If G1=Yes]** Have you worked with any customers to help them meet the thresholds for savings?

G4. **[if G1 = Yes]** Have you promoted these changes to any potential customers to encourage them to adopt more energy efficiency in their buildings? Why or why not?

G5. How do you communicate multiple incentives – like combining Focus on Energy and IRA incentives – to your customers?

   1. What, if anything, can be done to better facilitate awareness and understanding of multiple/combined incentives that may be available?
   2. What, if anything, can be done to better facilitate access to those incentives?

H. Overall Reflection

H1. Thanks for your time so far—I'd like to wrap up with some broad questions. On a scale of 1 to 5 with 1 being very satisfied and 5 being very unsatisfied, how satisfied are you overall with the Focus on Energy Program?

   1. **[If H1 < 4]** Why do you say that?

H2. Would you like to highlight any additional aspects of the Focus on Energy trade ally program that you feel are working well?

H3. In your opinion, what, if anything, are the challenges of being a Focus on Energy trade ally?
   1. [If not addressed] Are there any specific obstacles in participating in the trade ally program you'd like to highlight?

H4. What, if anything, could Focus on Energy do that would help increase customer participation in Focus on Energy programs?

H5. What, if anything, could Focus on Energy do to increase the number of trade allies that promote Focus on Energy programs?

H6. Looking forward to the future, how do you anticipate your participation as a trade ally will change in the next few years?

H7. Is there anything else about the Focus on Energy program that you would like to share?

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Focus on Energy CY 2023 Energy Design Assistance/Energy Design Review Offering Building Owner Phone Survey Guide

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Questions**
Awareness and Influencers	Program awareness, promotion, and past participation	Section B
Motivation	Factors motivating participants to pursue the program and energy efficient building in general	Section C
Satisfaction	Satisfaction with program components and the program overall	Section D
Freeridership and Spillover	Program influence on participant decisions and behavior	Section E, F, G

Notes to Reviewer:

- Interviewer instructions are in green **[LIKE THIS]** (the style is "Survey: Interviewer Instructions").
- CATI programming instructions are in red **[LIKE THIS]** (the style is "Survey: Programming").
- Items that should not be read by the interviewer are in parentheses like this ( ).

QUOTA: 20-30 completes (Building Owners)

SAMPLE VARIABLES:

- **[MEASURE]** Energy Design Assistance OR Energy Design Review OR Product and Equipment Performance
- **[CONTACT NAME]**
- **[SITE ADDRESS]**
- **[HOW_HEARD]**
- **[CHECK_RECIPIENT]**
- **[FULL INCENTIVE AMOUNT]**

A. Introduction

[SECTION IS FORCED RESPONSE]

[THE INTRODUCTION IS DESIGNED TO FIND THE CORRECT PERSON AND MAKE THE INTENDED RESPONDENT FEEL COMFORTABLE COMPLETING A SURVEY. IF THE LIST CONTAINS A LOT OF CELL PHONE NUMBERS, IT MAY BE GOOD TO ASK IF THE RESPONDENT IS IN A SAFE PLACE TO COMPLETE THE SURVEY.]

A1. Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your recent energy efficiency project experience for the property at **[SITE ADDRESS]**.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who was most involved with the energy efficiency project your company recently completed with Focus on Energy?

[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**

99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**

88. (REFUSED) **[THANK AND TERMINATE]**

Back-up information, not to be programmed:

[If "No – Not available," ask if Respondent would like to arrange a more convenient time for us to call them back or if you can leave a message for that person.]

[IF RESPONDENT ASKS HOW LONG, SAY: "APPROXIMATELY 10 MINUTES."]

[IF NEEDED:] This survey is for research purposes only and this is not a marketing call. Your participation in this study is important so that Focus on Energy can improve its energy efficiency programs for businesses and other organizations.

[**Only if asked** for a Focus on Energy contact to verify the survey authenticity, offer Mitch Horrie with the Public Service Commission of Wisconsin, 608.267.3206]

[**Only if respondent says they already did a survey:** Thank you for your responses to that survey. This is another Focus on Energy study that you have been selected for, that asks a few more questions about your experience with the offering and your decision-making. If you have a few more spare minutes, we would greatly appreciate your responses!]

A2. *Our records show that you participated in Focus on Energy's **[MEASURE]** offering to support the energy efficiency of your new facility at **[SITE ADDRESS]** and received an incentive for this project in 2023.

1. (Yes)
2. (No, wrong year) **[RECORD CORRECT YEAR, IF POSSIBLE]**
3. (No, wrong address) **[RECORD CORRECT ADDRESS]**
4. (No, wrong measure) **[CORRECT BELOW]**
5. (No, I did not participate in that offering) **[THANK AND TERMINATE]**

99. (Don't know) **[IS THERE SOMEONE WE COULD SPEAK WITH THAT WOULD KNOW THIS? RECORD NAME AND CONTACT INFORMATION:_____]**

88. (Refused) **[THANK AND TERMINATE]**

[TERMINATION LANGUAGE] Thank you for your time.

B. Awareness and Influencers

B1. Prior to this project, had you completed other new construction projects that received an incentive from Focus on Energy for Energy Design Assistance or Review?

1. (Yes)
2. (No)

99. (Don't know)

B2. **[IF B1=Yes]** How many other projects that received an incentive from Focus on Energy for Energy Design Assistance or Review have you completed?

1. **[NUMERIC RESPONSE]**

99. (Don't know)

B3. I'm going to read you a short list. Please indicate who, if anyone, was involved in prompting you to pursue the Focus on Energy offering and incentives? **[READ LIST AND MARK 1=YES, 2=NO, 99=DON'T KNOW; 88=REFUSED, -96=N/A FOR EACH]** **[FORSED RESPONSE]**

1. An architect or design contractor
2. Focus on Energy staff
3. Your utility account manager
4. Your client
5. Your internal energy or sustainability team
6. Your internal design team or facilities team
7. Other **[Please Specify]**

B4. **[IF B1=1 AND B3.1=1]** For this year's project, did you work with the same design contractor or architect as you had worked with previously?

1. (Yes)
2. (No)
3. (Other: _____)

99. (Don't know)

B5. ***[IF B1= 1]** Overall, how would you say your experience with Focus on Energy was this year compared to prior years? Would you say it was….

1. About the same
2. More positive
3. Less positive

99. (Don't know)
88. (Refused)

B6. *[IF B5=2 OR 3] Why do you say that?

1. [OPEN END]

B7. *Who took the lead role in completing the application for the [MEASURE] offering? Was it… [RANDOMIZE] [READ OPTIONS, ALLOW ONLY ONE RESPONSE] [FORSED RESPONSE]

1. You (i.e., respondent)
2. Someone else at your organization
3. The architect or design contractor
4. A Focus on Energy representative
5. Someone else [SPECIFY:_____]

99. (Don't know)
88. (Refused)

B8. [ASK IF B7=1] *How easy would you say this application was to complete? Would you say: [READ LIST]

1. Very easy,
2. Mostly easy,
3. A mix of easy and challenging,
4. Mostly challenging, or
5. Very challenging?

99. (Don't know)
88. (Refused)

B9. [ASK IF B8= 3, 4, OR 5] *Why do you say that?

1. [OPEN END]

B10. When looking for information on the Focus on Energy offering, where do you go to find that information? [FORSED RESPONSE]

1. Focus on Energy website
2. Focus on Energy advisor
3. My utility website
4. Design team
5. Somewhere else [SPECIFY:_____]

99. (Don't know)
88. (Refused)

C. Motivations

C1. Referring to the project at **[SITE ADDRESS]**, what were your main reasons for including energy efficient design specs and features? Select all that apply. **[DO NOT READ] [RECORD VERBATIM, INCLUDING ALL DRIVING FACTORS]**.

1. Attractiveness to tenants/to the market
2. O&M cost savings
3. Real estate value of the building
4. Reduction in energy use and/or carbon emissions (want to do the right thing)
5. Stay competitive, be on the cutting edge
6. Good PR
7. Other **[Please Specify]**

C2. Among those, what would you say was your **primary** reason for including energy efficient design specs and features? **[RECORD VERBATIM, ATTEMPT TO NARROW DOWN ON PRIMARY MOTIVATION FROM PREVIOUS QUESTION] [FOR WEB: ONLY DISPLAY OPTIONS SELECTED IN C1. SINGLE RESPONSE]**.

1. Attractiveness to tenants/to the market
2. O&M cost savings
3. Real estate value of the building
4. Reduction in energy use and/or carbon emissions (want to do the right thing)
5. Stay competitive, be on the cutting edge
6. Good PR
7. Other **[Please Specify]**

99. Don't know

C3. Have you considered (or are you actively pursuing) Focus on Energy' incentives for energy efficient design for any other buildings?

1. (Yes)
2. (No)
3. (N/A, do not have other buildings]

99. (Don't know)

C4. Has your organization made an ongoing commitment to building to more aggressive energy goals, such as carbon neutral or zero net energy buildings? **[as opposed to just "above standard building code" and/or one building at a time]**

1. (Yes)
2. (No)

99. (Don't know)

C5. **[If C4= 1]** What commitment has your organization made?

1. **[OPEN ENDED RESPONSE]**

C6. **[If C4= 1]** In your opinion, how could Focus on Energy help you to achieve these goals?
1. **[OPEN ENDED RESPONSE]**

C7. *Are you aware that the federal government increased tax incentives for organizations incorporating significant energy efficiency improvements starting in 2023?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C8. ***[IF C7=1]** How, if at all, have the federal tax incentives impacted the decisions you are making on energy efficiency projects? **[ALLOW MULTIPLE RESPONSES]**
1. Accelerated them
2. Delayed them
3. Increased energy efficiency measures incorporated in projects
4. Made us look for more savings opportunities
5. No change
6. Other [**SPECIFY**_____]
99. (Don't know)
88. (Refused)

C9. *Have you or anyone else within your organization attended an in-person or web-based training delivered by Focus on Energy in the past two years?
1. (Yes)
2. (No)
99. (Don't know)
88. (Refused)

C10. ***[IF C9= 1]** How important was your business' participation in the training in your decision to participate in the **[MEASURE]** offering for which you received an incentive? Was the training… **[READ LIST]**
1. Very important
2. Somewhat important
3. Neutral
4. Not too important
5. Not at all important
99. (Don't know)
88. (Refused)

D. Satisfaction

D1. On a scale from 1 to 5, where 1=not at all satisfied and 5=very satisfied, how satisfied are you with…

	1 Not at all satisfied	2	3	4	5 Very satisfied	N/A	99. Don't Know	88. Refused
1. The support you received from Focus on Energy staff who assisted you with your project?								
2. The energy modeling assistance that you received from Focus on Energy?								
3. The recommendations you received to increase the energy efficiency of your building?								
4. The amount of the incentive you received?								
5. Focus on Energy, overall?								

D2. [ASK FOR EACH D1 RESPONSE WITH RATING < 4] What are your reasons for providing that rating?

1. **[OPEN ENDED RESPONSE]**

D3. What was the largest benefit you received from working with Focus on Energy, aside from than the incentive?

1. **[OPEN ENDED RESPONSE]**

D4. *What could Focus on Energy have done to improve your overall experience, if anything? **[DO NOT READ THE LIST, RECORD ALL THAT APPLY]**

1. (Better/more communication **[SPECIFY: WHO WOULD YOU LIKE MORE COMMUNICATION FROM?_____]**)
2. (Quicker response time **[SPECIFY: WHO WOULD YOU LIKE A QUICKER RESPONSE TIME FROM?__]**)
3. (Provide more recommendations **[ASK: WHAT ADDIDTIONAL TYPE OR RECOMMENDATIONS WOULD YOU HAVE LIKE TO RECIEVE?_____]**)
4. (Increasing the incentive amount)
5. (Simplify the application process **[ASK: IN WHAT WAY SHOULD IT BE SIMPLIFIED?_____?]**)
6. (Allow me to fill out the applications online)
7. (Simplify the website **[ASK: IN WHAT WAY?_____]**)
8. (Provide quicker approval on applications)
9. (Send incentive check out faster)
10. (Clearer explanation of how the offering works **[ASK IN WHAT WAY]**)

11. (Other **[SPECIFY:_____]**)
12. (No, nothing)
99. (Don't know)
88. (Refused)

E. Freeridership

[FORCE RESPONSES ACCORDING TO PROGRAMMING LOGIC]

Now I'd like to talk specifically about the new construction services you received.

My next several questions are about the advanced and comprehensive modeling performed through Focus on Energy. [IF NEEDED: This is the comprehensive whole-building modeling analysis and assistance that is used to identify energy saving options, demonstrate design impacts on building performance and costs, and identify program incentives.] Throughout the discussion, I'll refer to this comprehensive modeling simply as the "energy modeling".

E1. Our records show that Focus on Energy provided an incentive of [ACTUAL CALCULATED INCENTIVE AMOUNT] and a comprehensive analysis report for the energy efficient features you installed. Without the **incentive**, would you have considered and implemented strategies that were just as efficient?

1. Yes- all
2. Yes- some
    a. [SPECIFY; PROBE HOW PROJECT WOULD HAVE BEEN DIFFERENT WITHOUT THE INCENTIVE]
3. No
    b. [SPECIFY; PROBE HOW PROJECT WOULD HAVE BEEN DIFFERENT WITHOUT THE INCENTIVE]

99. (Don't Know)
88. (Refused)

E2. Our records show that Focus on Energy provided an incentive and a comprehensive analysis report for the energy efficient features you installed. Without the **report**, would you have considered and implemented strategies that were just as efficient?

1. Yes- all
2. Yes- some
    (i) [SPECIFY; PROBE HOW PROJECT WOULD HAVE BEEN DIFFERENT WITHOUT THE REPORT]
3. No
    (i) [SPECIFY; PROBE HOW PROJECT WOULD HAVE BEEN DIFFERENT WITHOUT THE REPORT]

99. (Don't Know)
88. (Refused)

E3. Had the incentive or energy modeling not been available, *when* would you have considered and implemented the same energy efficiency strategies? [READ LIST] [PROBE IF THEIR ANSWER DIFFERS FOR SPECIFIC ENERGY EFFICIENCY STRATEGIES OR IF ANSWER IS SAME FOR ALL STRATEGIES]

1. At the same time or later within the same year
2. Within 1 to 2 years
3. More than 2 years
4. Never
5. [RECORD NOTES IF APPLICABLE]

99. (Don't Know)
88. (Refused)

E4. [ASK IF E3=1 OR 2] *Before* you became aware of Focus on Energy's New Construction offerings, was the purchase and installation of the specific energy efficient strategies implemented included in your construction budget?

1. Yes
2. No

99. (Don't Know)
88. (Refused)

E5. Did you expect an incentive for improved energy efficiency design when planning and budgeting for this project?

1. Yes
2. No

99. (Don't Know)
88. (Refused)

E6. Finally, I'd like you to rate the level of importance for several factors in your decision to include energy-efficiency features and equipment in this building. For each factor, please identify on a 1 to 5 scale, where 1 is not at all important and 5 is very important. **[A TO D - RANDOMIZE LIST]**

Importance of Program Factors

Factor	*Not at all Important*				*Very Important*		
A) **[RESPONSE FROM C1]**	1	2	3	4	5	DK	NA
B) Total program incentives	1	2	3	4	5	DK	NA
C) Assistance provided by Focus on Energy staff in bundle selection	1	2	3	4	5	DK	NA
D) Energy modeling results and report identifying energy saving options	1	2	3	4	5	DK	NA

E) Information provided by Focus on Energy on energy savings opportunities	1	2	3	4	5	DK	NA
F) Previous participation in a Focus on Energy energy efficiency program or offering	1	2	3	4	5	DK	NA

F. New Construction Building Spillover

F1. Over the course of construction, did you install any energy efficient equipment that did not have modeled savings and that did not receive a Focus on Energy incentive?
1. Yes
2. No
99. (Don't Know)
88. (Refused)

F2. [IF F1= 1] Do you recall what equipment you installed?
1. Yes [SPECIFY]
2. No
99. (Don't Know)
88. (Refused)

F3. [IF F2= 1] How did you determine whether or not it was energy efficient?
1. It was ENERGY STAR certified
2. Other [SPECIFY]
99. (Don't Know)
88. (Refused)

F4. [IF F2= 1] How many [MEASURE FROM F2] did you install?
1. [SPECIFY QUANTITY]
99. (Don't Know)
88. (Refused)

F5. [IF F2= 1] How important was your participation in Focus on Energy in your decision to install the [INSERT ANSWER FROM F2]? Would you say:
1. Very Important
2. Somewhat important
3. Neutral
4. Not too important
5. Not important at all
99. (Don't Know)
88. (Refused)

F6. Since participating in the Focus on Energy New Construction Solution Energy Design Assistance offering, have you developed any other buildings, *specifically in Wisconsin,* with energy-efficient equipment or strategies?

1. Yes
2. No [SKIP TO Section G]
99. (Don't Know)
88. (Refused)

F7. [IF F6= 1] Do you recall what energy-efficient equipment you purchased and installed in these other buildings?

1. Yes [SPECIFY]
2. No
99. (Don't Know)
88. (Refused)

F8. [IF F6= 1] Did you receive an incentive from Focus on Energy for that/those project(s)?

1. Yes
2. No
99. (Don't Know)
88. (Refused)

F9. [IF F6= 1] How did you determine whether or not it was energy-efficient?

1. It was ENERGY STAR certified
2. Other [SPECIFY]
99. (Don't know)
88. (Refused)

F10. [IF F7 = 1] How many [MEASURE FROM F7.1] did you install?

1. [SPECIFY QUANTITY]
99. (Don't Know)
88. (Refused)

F11. [IF F7 = 1] How important was your past participation Focus on Energy in your decision to install the [INSERT ANSWER FROM F7]? Would you say:

1. Very Important
2. Somewhat important
3. Neutral
4. Not too important
5. Not important at all
99. (Don't Know)
88. (Refused)

G. Existing Building Spillover

G1. Since making participating in the New Construction Solution Energy Design Assistance offering, has your company installed any other energy-efficient products in your ***EXISTING*** building facilities that you did ***NOT*** receive a Focus on Energy incentive for or did ***NOT*** receive for free? **[IF NEEDED: BY ENERGY-EFFICIENT PRODUCTS, I MEAN HIGH EFFICIENCY HVAC EQUIPMENT, HIGH EFFICIENCY WATER HEATERS, HIGH EFFICIENCY MOTORS, OR ENERGY STAR LIGHTING SUCH AS LED LIGHTBULBS.]**

1. (Yes) **[ASK G2]**
2. (No) **[SKIP TO NEXT SECTION]**
99. (DON'T KNOW) **[SKIP TO NEXT SECTION]**

G2. What were the other energy-efficient products that you installed in existing building facilities without getting an incentive? **[DO NOT READ LIST; MARK ALL THAT APPLY; 99=DON'T KNOW, 88=REFUSED, -96=N/A] [IF THE CUSTOMER SAYS THEY BOUGHT SOMETHING BUT HAVE NOT INSTALLED IT, THE EQUIPMENT HAS TO BE INSTALLED AND OPERATING FOR US TO COUNT IT TOWARDS SPILLOVER.]**

1. (LED(s))
2. (Efficient lighting controls (occupancy sensors, daylighting, timers))
3. (High efficiency motor(s))
4. (Air source heat pump(s))
5. (Ground source heat pump(s))
6. (Central AC)
7. (VSD (variable speed drive(s)))
8. (Water heating equipment)
9. (Boiler or steam system(s))
10. (Compressed air equipment)
11. (Gas furnace(s))
12. (Refrigeration equipment (refrigerators, freezers))
13. (HVAC system controls (including smart thermostats))
14. (Operational improvements **[SPECIFY:_____]**)
15. (Other) **[SPECIFY:_____]**

99. (DON'T KNOW) **[SKIP TO NEXT SECTION]**
88. (REFUSED) **[SKIP TO NEXT SECTION]**

[ASK G2.11-G2.13 IF G2=1]

G2.11 What is the total wattage of the lighting? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.12 In what location was it installed (Indoors/Outdoors)? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.13 What type of equipment was removed or replaced? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.21- G2.22 IF G2=2]

G2.21 How many lamps or fixtures are controlled by the efficient lighting controls installed? [RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]

G2**.22** What is the average wattage of the lamps or fixtures controlled by the efficient lighting controls installed? [RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]

[ASK G2.31-G2.33 IF G2=3]

G2.31 How is the high efficiency motor controlled? (Always on, manual start/stop, VSD / ECM / VFD, Other)? [RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]

G2.33 On what equipment was the high efficiency motor installed? [RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]

G2.33 What is the horsepower of the high efficiency motor? [RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]

[ASK G2.41 IF G2=4, 5] [ASK G2.42 IF G2=4, 5, 6] [ASK G2.43 IF G2=4, 5] [ASK G2.44 IF G2=4, 5, 6]

G2**.41** [REPEAT FOR EACH ITEM MENTIONED IN G2] What is the heating efficiency rating (HSPF) of the [INSERT ITEM FROM G2]**?** [RECORD NUMERIC RESPONSE: 0.1 to 20.0, 99=DON'T KNOW, 88=REFUSED]

G2.42 [REPEAT FOR EACH ITEM MENTIONED IN G2] What is the cooling efficiency rating (SEER/EER) of the [INSERT ITEM FROM G2]**?** [RECORD NUMERIC RESPONSE: 0.1 TO 30.0 "SEER/EER RATING", 99=DON'T KNOW, 88=REFUSED]

G2.43 [REPEAT FOR EACH ITEM MENTIONED IN G2] What is the heating output capacity in BTUs of the [INSERT ITEM FROM G2]**?** [RECORD NUMERIC RESPONSE: 1 to 1000000 "BTUs", 99=DON'T KNOW, 88=REFUSED]

G2.44 [REPEAT FOR EACH ITEM MENTIONED IN G2] What is the cooling output capacity in tons of the [INSERT ITEM FROM G2]**?** [RECORD NUMERIC RESPONSE: 0 to 100 "Tons", 99=DON'T KNOW, 88=REFUSED]

[ASK G2.51-G2.52 IF G2=7]

G2.**51** On what type of equipment was the VSD (variable speed drive) motor installed? [RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]

G2.52 What is the total horsepower of the VSD (variable speed drive) motor? [RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]

[ASK G2.61-G2.64 IF G2=8]

G2.61 What type of water heating equipment was purchased and installed? **[READ LIST]**

1. Water heater with storage
2. Tankless water heater
3. Heat pump water heater with storage
4. Condensing water heater with storage
5. Boiler

99. (Don't know)
88. (Refused)

G2.62 What fuel type is used? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.63 What is the efficiency factor (EF) rating of the water heating equipment? **[RECORD NUMERIC RESPONSE: 0.00 TO 0.99 "EFFICIENCY FACTOR (EF)", 99=DON'T KNOW, 88=REFUSED]**

G2.64 **[ASK IF G2.61 INDICATES WATER HEATER WITH STORAGE]** What is the capacity of the equipment in gallons? **[RECORD NUMERIC RESPONSE: 0 TO 10,000 "CAPACITY IN GALLONS", 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.71-G2.73 IF G2=10]

G2.71 What is the compressed air equipment being used for? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.72 What type of compressed air equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.73 What is the total horsepower of the compressor motor? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.81-G2.82 IF G2=11]

G2.81 What is the annual fuel utilization efficiency (AFUE) rating of the gas furnace? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

G2.82 What is the output capacity of the gas furnace in BTUs? **[RECORD NUMERIC RESPONSE: 0 TO 1000000 "BTUS", 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.91 IF G2=12]

G2.91 What type of refrigeration equipment was purchased and installed? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

[ASK G2.101-G2.102 IF G2=13]

G2.101 What type of HVAC system control(s) was purchased and installed?

1. Smart thermostat
2. Building automation system
3. Other: **[RECORD RESPONSE]**

99. Don't know

G2.102 What type(s) of HVAC equipment are controlled by the new HVAC system control(s)?

1. Heating equipment
2. Cooling equipment

99. Don't know

G2.103 [ASK G2.103 IF G2.102.1=YES] What is the heating output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 1,000,000 BTUs:?

1. **[RECORD RESPONSE, 99=DON'T KNOW]**

G2.104 [ASK G2.104 IF G2.102.2=YES] What is the cooling output capacity of the heating equipment controlled by the new HVAC system controls? Please provide a numeric response between 0 and 150 tons?

1. **[RECORD NUMERIC RESPONSE: 0 TO 150 "TONS", 99=DON'T KNOW]**

[ASK G2.111 IF G2=14 OR 15]

G2.111 [REPEAT FOR EACH ITEM MENTIONED IN G2] How do you know the **[INSERT ITEM FROM G2]** is energy efficient?

1. **[TEXT RESPONSE]**

99. Don't know

G3. **[REPEAT FOR EACH ITEM MENTIONED IN G2]** How many **[INSERT ITEM FROM G2]** did you install?

1. **[RECORD NUMBER_____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]**

G4. **[REPEAT FOR EACH ITEM MENTIONED IN G2]** In what year was/were the **[INSERT ITEM FROM G2]** purchased and installed?

1. **[RECORD YEAR NUMBER____, 99 FOR DON'T KNOW, 88 FOR REFUSED, AND -96 FOR N/A]]**

G5. **[REPEAT FOR EACH ITEM MENTIONED IN G2]** How important was your participation in the Focus on Energy New Construction Solution Energy Design Assistance offering in your decision to install **[ANSWER FROM G2]**" Was it…?: **[READ LIST EMPHASIZE EACH ANSWER OPTION AND PAUSE IN BETWEEN EACH OPTION.]**

1. Very important,
2. Somewhat important,
3. Neutral,
4. Not too important, or
5. Not at all important

99. (Don't know)
88. (Refused)

G6. Was the **[INSERT EACH ITEM FROM G2]** installed at **[SITE ADDRESS]**?

1. Yes
2. No (**ASK:** What is the address of the location where you installed **[INSERT EACH ITEM FROM G2]**? **[RECORD RESPONSE, 99=DON'T KNOW, 88=REFUSED]**

99. (Don't know)
88. (Refused)

H. Closing

H1. Do you have any other comments about energy efficiency decisions and purchases you would like to share?

1. **[RECORD RESPONSE:_____]**

Thank you for sharing your opinions and taking the time to participate, your input is greatly appreciated.

CADMUS

Focus on Energy Nonresidential Programs
CY 2023 EDA/EDR Designer/Architect Interview

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Background	Type of work they do, location	A, B1- B3
Awareness and participation level	How trade ally learned of the program and how much they participate	B3 - C1
Program Specific	Program participation and experience	Section C
Promotion	Knowledge and ease finding information	A1, D2
	How they promote the program	D1 - D2
	Satisfaction with Incentives	D5 – D9
Process Feedback	Feedback on application	C2.4
	Feedback on interactions with Focus on Energy staff	Section E
Comparison to Other Programs	Differences from Others	Section F
IRA Tax Incentives	Awareness and experience with IRA tax incentives	Section G
Overall Satisfaction	Satisfaction and Opportunities for Improvement	Section H

A. Introduction

Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your experience participating in their XX Program.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who would be familiar with Focus on Energy's Energy Design Assistance Program?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**
99. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
88. (REFUSED) **[THANK AND TERMINATE]**

Do you have about 30 minutes to answer some questions? As a thank you for your time, we're offering a $150 gift card.

[If not available, seek to set an appointment]

Great, we will keep everything you tell us confidential – we won't report anything in a way that would identify individual respondents or companies.

B. Background

B1. To begin, can you tell me a little bit about your role at your company and how long you've been there?

1. What types of projects does your company do? [e.g. What types of buildings? And what is your role? (Architect, Engineer, consultant etc.)

B2. What geographic area does your company serve?

1. (If close to a border or located out of state) Do you do any work outside of Wisconsin? If yes, what percentage of your work would you estimate is *in* Wisconsin?

B3. How long has your company worked with Focus on Energy?

1. How did you learn about the opportunity to work with Focus on Energy?

B4. When you learned about the opportunity to work with Focus on Energy on design assistance, what was appealing about it?

1. What concerns, if any, did you have about participating?

C. Project Specifics

C1. Can you tell me about the projects you've completed in the past three years that have qualified for EDA/EDR incentives from Focus on Energy program?

1. What types of properties/building types have you worked with?

C2. Let's begin with **Energy Design Assistance**. At a high level, please walk me through a typical project that receives energy design assistance from Focus on Energy beginning with customer identification/procurement, through project scoping, coordination with Focus on Energy, implementation, all the way through until the project is complete:

1. Typically, how does your company identify potential participants?
    - Does the Focus team ever provide you with leads?
    - Do customers reach out to you inquiring about the program? Or do you typically inform customers about the program's potential?
    - What percentage of your customers participate in EDA?
2. When designing a project, how much influence do you have on the overall project design?
3. On the specific equipment selected?

- How involved is the Focus (Willdan) team during the project scoping phase? In what ways?

4. How often is a project scope revised due to the influence of the EDA program?

- The program grades projects in terms of energy efficiency as good/better/best:
  - How often do customers opt to go from "Good" to "Better"?
  - From "Better" to "Best"?
  - From "Good" to "Best"?

- What aspects of a project are most commonly changed?

C3. Thinking now about **Energy Design Review**. At a high level, please walk me through a typical project that receives energy design assistance from Focus on Energy beginning with customer identification/procurement, coordination with Focus on Energy, any project scope changes implemented at this juncture, all the way through until the project is complete:

1. Typically, how does your company identify potential customers?

- Does the Focus team ever provide you with leads?
- Do customers reach out to you inquiring about the program? Or do you typically inform customers about the program's potential?
- What percentage of your customers participate in EDR?

2. When reviewing a project, how much influence do you have on the overall project design?
3. On the specific equipment selected?

- How involved is the Focus (Willdan) team during the project scoping phase?

4. How often is a project scope revised due to the influence of the EDR program?

- What aspects of a project are most commonly changed?

C4. How easy or difficult is it for you to complete the project documentation required for EDA? For EDR?

1. What challenges, if any, arise with regards to documentation?
2. How do documentation requirements compare to other incentives from other sources?

C5. At a high level, what differentiates customers who participate in EDA and those who participate in EDR? Customer/building type? Previous experience? Awareness? Something else?

1. From your perspective, would the program benefit from more customers participating in EDA rather than EDR?
2. If so, what, if anything, can be done to drive more customers to participate in EDA rather than EDR?

D. Promoting Focus on Energy Offerings

D1. How do you promote design assistance to your customers? When you interact with customers, how do you typically explain the available Focus on Energy incentives?
   1. At what stage in the project do you bring up available incentives?
   2. What are some concerns or questions customers have about incentive opportunities?

D2. How do you quantify and communicate program benefits to your customers? Do you consider lifetime energy costs? Lifetime O&M costs? Anything else?
   1. Could the process of quantifying program benefits (aside from the available incentive) be improved at all? If so, how?
   2. Do customers typically have an internal payback threshold that projects must meet in order to pursue higher efficiency designs?

D3. When a single project requires multiple equipment replacements or services, how easy or difficult is it for you to stack Focus incentives?
   1. [If relevant] What, if anything, could make this process easier?

D4. To what extent, if at all, has the program influenced your overall design approach?

   1. Specifically, has anything changed with respect to your approach to project scoping simply because you know it will qualify for an EDA incentive?

D5. Generally, how helpful is design assistance in increasing your business?

   1. Is design assistance effective in encouraging customers to pursue energy efficiency in new construction?

   2. How effective are the incentives in encouraging customers to install energy efficiency?

   3. Are the incentives more effective for some product types than others?

D6. Besides upfront cost, are there any barriers you experience with regards to convincing customers to participate in either EDA or EDR?

   1. If so, what are they? What can be done to overcome them?

E. Process Feedback

[ALL]

E1. In general, how well do you feel you and your team understand the Focus on Energy Design Assistance offerings and requirements?
   1. Are there any areas of the program that you are less familiar with?

E2. How easy is it to find out information about the program or get answers to any questions?

1. Who do you typically contact/where do you look for answers to any program related question you may have?

E3. How easy or difficult is it for you to work with Willdan? With Franklin?
1. Why do you say that? What makes it easy or difficult?
2. Concerning communication with program teams:
   - Is communication occurring at the right time? At the right frequency? With the right people?
   - What, if anything, could be done to improve communication?
3. Aside from the customers themselves, is there anyone else you typically engage with on these projects?

E4. How satisfied have you been with your communication with your Focus on Energy Energy Advisor?

1. What can you tell us about your experience working with the Energy Advisor?
2. What is working well? What can be improved?

E5. Considering support that you may have received from your Focus on Energy Energy Advisor, which of the following benefits have you experienced?
1. Help completing project documentation/application?
2. Vetting of savings or incentive calculations?
3. Information to include higher efficiency upgrades?
4. Anything else?

E6. **[For any response identified in E3]** How, if at all, did **[E3 response]** help you encourage more customers to include high efficiency designs?

E7. What, if any, additional resources or support from Focus on Energy would help you promote more high-efficiency sales?

E8. Would you recommend any changes to EDA/EDR or how they are offered?

1. Would you recommend any changes to incentive amounts or how the incentives are structured?

2. What about coordinating with other TAs/service providers if a customer needs work done that is outside of your offerings? Are there other companies that you typically partner with? Can anything be done to help better foster those relationships and promote cross-promotion of measures/programs?

F. Comparison to Other Offerings

F1. [If participant works in other states] Do you participate in utility incentive programs in other states?

F2. *[IF F1=Yes]*
When you compare Focus on Energy to neighboring utility incentive programs, how easy or difficult is it to participate in comparison? [probe if needed: are there more challenging aspects, e.g., the registration, communication with Focus, post-installation inspections, etc.]

F3. In your opinion, what are the key differences between the Focus on Energy EDA/EDR programs and offerings in other states?
   1. What overlaps have you seen between Focus on Energy incentives, and incentives from utilities in other states?
   2. Do other states offer measures or support that Focus on Energy does not?

F4. Do the varying incentive design structures among programs in multiple states impact your ability to participate in Focus on Energy?
   1. [If yes] How? [probe for if they choose one or another and why]
   2. [If not addressed] Beyond cost, are there other factors that affect which incentive you'll apply for? [probe if needed: documentation requirements, customer service, etc.]

G. IRA Funding

G1. Are you aware of the expanded tax incentives available for commercial businesses through the Inflation Reduction Act (IRA) that can improve business's energy efficiency?

   a) For context: The IRA increases the tax incentives under Section 179D to nonprofit organizations for qualifying energy-saving investments such as energy-efficient interior lighting, HVAC, or the components that make up the building envelope (roofing, walls, etc.).

G2. How well do your standard business practices align with IRA requirements? Will you be making any changes to your standard offerings to align with the IRA?

G3. *[If G1=Yes]* Have you worked with any customers to help them meet the thresholds for savings?

G4. *[if G1 = Yes]* Have you promoted these changes to any potential customers to encourage them to adopt more energy efficiency in their buildings? Why or why not?

G5. In your experience, how important are multiple incentives – like combining Focus on Energy and IRA incentives – in customers' decisions to incorporate high-efficiency equipment or practices into their design?

   1. What, if anything, can be done to better facilitate awareness of multiple/combined incentives that may be available?
   2. What, if anything, can be done to better facilitate access to those incentives?

H. Overall Reflection

H1. Thanks for your time so far—I'd like to wrap up with some broad questions. In your opinion, what is the single best aspect of the Focus on Energy Design Assistance?

H2. In your opinion, what is the single biggest thing that could be done to help you complete more EDA projects through Focus on Energy? More EDR projects?

H3. What are the main benefits of being part of the EDA/EDR program assistance?
   1. Are there any aspects of your involvement that are working well you want to highlight?

H4. In your opinion, what, if anything, are the challenges of being part of the EDA/EDR program assistance?

1. [If not addressed] Are there any specific obstacles in participating you'd like to highlight?

H5. On a scale of 1 to 5 with 1 being very satisfied and 5 being very unsatisfied, how satisfied are you overall with the EDA/EDR Program?

H6. Looking forward to the future, how do you anticipate your participation will change in the next few years?

H7. What, if anything, could Focus on Energy do that would help increase customer participation in Focus on Energy programs?

H8. What, if anything, could Focus on Energy do to increase the number of design firms that promote Focus on Energy programs?

Cross-Cutting Surveys

CADMUS

Focus on Energy Midstream Equipment Program Contractor Survey Guide

Researchable Questions	Question Number
How aware of and satisfied with the program are contractors?	B2, Section C
In what ways has the program influenced contractors' promotional and pricing practices?	Section D
What areas of the program have been successful? Where does the program need to change?	Section E

Target Quota = 10 completes per measure.

Incentive = $100 e-gift card

General Instructions

- Interviewer instructions are in green **[LIKE THIS]**.
- Skip patterns or variables are in red **[LIKE THIS]**.
- Items that should not be read by the interviewer are in parentheses like this ( ).

Variables to be populated in advance:

- **[COMPANY NAME]**
- **[FIRSTNAME]**
- **[LASTNAME]**
- **[EMAIL]**
- **[PHONE NUMBER]**
- **[EQUIPMENT TYPE] = "Gas Water Heater" or "Circulator Pump"**
- **[2023 SALES]**

A. Screener

Hello, my name is **[INTERVIEWER NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would appreciate your feedback on its Midstream Equipment Program.

A1. **[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]:** Suggest rewording: We are interested in getting feedback from a person at your company that meets with customers and develops project bids and proposals for installing **[EQUIPMENT TYPE]**s? Would you be the right person for this?

1. (Yes)
2. (No)

A2. **[IF A1 = 2]** May I please speak with someone who does?

1. (Yes)

2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**
4. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
5. (REFUSED) **[THANK AND TERMINATE]**

A3. **[IF CONTACT NAME PROVIDED]:** May I please speak with **[CONTACT_NAME]**?

3. (Yes)
4. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
5. (No, not available) **[SCHEDULE CALLBACK]**
6. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**

98. (REFUSED) **[THANK AND TERMINATE]**

[WEB SURVEY INTRO TEXT].

Thank you for providing feedback about your company's experience with the Focus on Energy program!

To start, please click the arrow below to begin our survey.

The survey will take 15 to 20 minutes to complete.

If you have any questions about this research or any difficulties taking the survey, please contact:

Andrew Mielcarek at Apex Analytics:

414-236-0448

andrewm@apexanalyticsllc.com.

If you have any questions about the validity of this email or the survey, please contact:

Mitch Horrie at Public Service Commission of Wisconsin:

608-267-3206

mitch.horrie@wisconsin.gov.

Your responses will remain confidential and will be used to improve our energy programs for customers like you.

As a thank you for your time and feedback, we will send you a $100 e-gift card after you've completed the survey.

B. Contractor Background

B1. What type of equipment does **[COMPANY NAME]** install?

1. **[RECORD VERBATIM]**

B2. On a scale of 1 to 5, where 5 is very familiar – interact with it frequently, and 1 is not at all familiar – not aware of having interacted with it, how familiar are you with the Focus on Energy Midstream Instant Discount Program?

1. Not at all familiar – not aware of having interacted with it
2.
3.
4.
5. Very familiar – interact with it frequently

C. Program Awareness and Satisfaction

[ask section C if B2 > 2]

C1. How did you learn about Focus on Energy's instant discount for **[EQUIPMENT TYPE]**s? Select all that apply.

1. (Another contractor)
2. (Distributor- invoice)
3. (Distributor- verbal or counter materials)
4. (Distributor- website)
5. (Focus on Energy's website)
6. (Utility bill insert)
7. (Didn't know Focus on Energy provided the discount)
8. (Other: specify)

99. (Don't know)

ASK IF C1<> 3

C2. Has someone at your distributor ever discussed the available **[EQUIPMENT TYPE]** Focus on Energy instant discount with you?

1. (Yes)
2. (No)

99. (Don't know)

C3. What are the most common reasons that your customers give for selecting higher efficiency equipment? Select all that apply.

1. (Save energy)
2. (Reduce operating costs)
3. (Reduce environmental impact)
4. (Recommended by others)

5. (Available discounts)
6. (Other) **[Specify]**
98. (Don't know)

C4. How would you rate your overall satisfaction with the Focus on Energy's Midstream Equipment Program, on a scale of 0 to 10, with 0 being Not at all Satisfied and 10 being Very Satisfied?
1. **[Record 0-10]**
98. (Don't know)

C5. [if C4 < 8] Why do you say that?
1. **[RECORD VERBATIM]**

D. Stocking and Promotional Practices

Now I'd like to talk about your company's typical promotional and pricing practices.

STOCKING ATTRIBUTION QUESTIONS

D1. Do you typically keep a supply of **[EQUIPMENT TYPE]**s in stock or do you purchase units from your distributor upon clients' acceptance of your bids? **[REPEAT FOR EACH EQUIPMENT TYPE]**
1. Keep a supply in stock
2. Purchase as needed
3. Other **[RECORD VERBATIM]**
98. (Don't know)

D2. [ASK IF D1=1] Do you typically include high efficiency equipment in your [EQUIPMENT TYPE] inventory? [IF EQUIPMENT TYPE = Gas Water Heater, meaning they are ENERGY STAR certified V4 or V5] [IF EQUIPMENT TYPE = Circulator Pump, meaning they are high-efficiency variable speed ECM pumps]? [REPEAT FOR EACH EQUIPMENT TYPE]
1. Yes
2. No
98. (Don't know)

D3. [ASK IF D1=1] Are your inventories for [EQUIPMENT TYPE]s relatively constant or are there seasonal fluctuations? [REPEAT FOR EACH EQUIPMENT TYPE]
1. Constant
2. Seasonal Variation
3. Stocked when ordered
4. Other **[RECORD VERBATIM]**
98. (Don't know)

D4. [ASK IF D2=1]

[PHONE SURVEY TEXT] I'm going to read you a list of potential influences on your stocking decisions about high-efficiency **[EQUIPMENT TYPE]**s. For each influence, please rate how influential they are using a 1-5 scale, where 5 means *very influential*, and 1 means *not at all influential*. **[REPEAT FOR EACH EQUIPMENT TYPE]**

[WEB SURVEY TEXT] Here is a list of potential influences on your stocking decisions about high-efficiency **[EQUIPMENT TYPE]**s. For each influence, please rate how influential they are using a 1-5 scale, where 5 means *very influential*, and 1 means *not at all influential*. **[REPEAT FOR EACH EQUIPMENT TYPE]**

1. Focus on Energy discounts
2. Market demand or turns rate
3. Competitive comparison/market competition
4. Manufacturer rebates
5. Energy Costs
6. Sales marketing/education
7. Vendor promotions
8. New product line offering
9. Warehouse size limitations

D4a. [ASK IF D2=1]

Are there any other influential factors on your stocking decisions about high-efficiency **[EQUIPMENT TYPE]**s? **[REPEAT FOR EACH EQUIPMENT TYPE]**

1. Yes **[RECORD VERBATIM]**
2. No

98. (Don't know)

D4b. [ASK IF D4a=1]

Please rate how influential the other factor was on your stocking decisions about high-efficiency **[EQUIPMENT TYPE]s,** using a 1-5 scale, where 5 means *very influential*, and 1 means *not at all influential*. **[REPEAT FOR EACH EQUIPMENT TYPE]**

D5. **[ASK IF D2=1]** How influential is the Focus on Energy instant discount to the selection of high-efficiency **[EQUIPMENT TYPE]** equipment your company keeps in stock? **[REPEAT FOR EACH EQUIPMENT TYPE]**

Equipment Type	1. Not at all influential	2. Not too influential	3. Neutral	4. Somewhat influential	5. Very influential	Don't know
[EQUIPMENT TYPE]						

D6. [ASK IF D1=1] For all [EQUIPMENT TYPE]s, approximately how many [EQUIPMENT TYPE]s (number of units) does your company normally keep available in stock? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW; ESTIMATE SHOULD INCLUDE REGULAR AND HIGH-EFFICIENCY EQUIPMENT]**

D7. [ASK IF D2=1] Of those, how many are high efficiency? [RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]

D8. [ASK IF **D2=1**] If the program weren't available, how many of these high-efficiency [EQUIPMENT TYPE]s would you stock? [RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]

Equipment Type	D6. For all [EQUIPMENT TYPE]s approximately how many [EQUIPMENT TYPE]s does your company normally keep available in stock?	D7. Of those, how many are high efficiency?	D8. If the program weren't available, how many of these high-efficiency [EQUIPMENT TYPE]s would you stock?
[EQUIPMENT TYPE]			

UPSELLING ATTRIBUTION QUESTIONS

D9. What marketing tactics, generally speaking, does your company employ? **[RECORD ALL THE APPLY]**

1. Website
2. Radio ads
3. Online directories, e.g. Google Maps, Angi
4. Organic social media presence
5. Paid digital and/or social media ads
6. TV ads
7. Print ads, e.g. newspaper
8. Email
9. Mailings
10. Trucks
11. Word of mouth/reputation
12. None [MAKE EXCLUSIVE]
13. Other [specify]

98. (Don't know)

D10. Do you highlight efficient equipment in any of your marketing?

1. (Yes, all)

2. (Yes, some)
3. (No)
98. (Don't know)

D11. Do you call out the Focus on Energy discount in any of your marketing?
1. (Yes, all)
2. (Yes, some)
3. (No)
98. (Don't know)

D12. Does your company make **[EQUIPMENT TYPE]** equipment recommendations to buyers? **[REPEAT FOR EACH EQUIPMENT TYPE]**
1. (Yes)
2. (No)
98. (Don't know)

D13. **[ASK IF D12=1]** How do you typically present equipment recommendations to customers?
1. [RECORD VERBATIM]
98. (Don't Know)

D14. **[ASK IF D12=1]** What percent of time does your company make any recommendation to buyers?
1. **[RECORD PERCENTAGE]**
98. (Don't know)

D15. **[ASK IF D12=1]** How influential is the Focus on Energy instant discount to the **[EQUIPMENT TYPE]** efficiency level your company recommends to buyers? **[REPEAT FOR EACH EQUIPMENT TYPE]**

Equipment Type	1. Not at all influential	2. Not too influential	3. Neutral	4. Somewhat influential	5. Very influential	Don't know
[EQUIPMENT TYPE]						

D16. **[ASK IF D12=1]** In situations where you are selling **[EQUIPMENT TYPE]**s, about what percent of the time are you currently recommending the high-efficiency equipment? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]**

D17. **[ASK IF D12=1]** For **[EQUIPMENT TYPE]** equipment, what percent of the time would you have recommended the high-efficiency equipment had the program not existed in 2023? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]**

Equipment Type	D16. In situations where you are selling [EQUIPMENT TYPE]s, about what percent of the time are you currently recommending the high-efficiency equipment?	D17. For [EQUIPMENT TYPE] equipment, what percent of the time would you have recommended the high-efficiency equipment had the program not existed in 2023?
[EQUIPMENT TYPE]		

D18. **[ASK IF D12=1]** If the program had stopped at the end of 2023 and the instant discount was no longer available, what percent of the time would you be recommending qualifying **[EQUIPMENT TYPE]** equipment for each product category in 2024 **[RECORD PERCENT FOR EACH EQUIPMENT TYPE]**

PRICING ATTRIBUTION QUESTIONS

D19. How does your company determine the price the buyer pays for the high-efficiency equipment we've been discussing? **[RECORD FOR EACH EQUIPMENT TYPE IF PROCESS DIFFERS]**

1. **[RECORD VERBATIM]**

98. (Don't know)

D20. Is the price ever negotiable? [RECORD FOR EACH EQUIPMENT TYPE]

1. (Yes)
2. (No)

98. (Don't know)

D21. Does the Focus on Energy instant discount impact the final price paid by the buyer for the **[EQUIPMENT TYPE]** equipment? **[RECORD FOR EACH EQUIPMENT TYPE]**

1. (Yes)
2. (No)

98. (Don't know)

D22. [if D21=2] Why do you say that?

1. [RECORD VERBATIM]

D23. On average, what percent of the discount is passed on to the buyer for the **[EQUIPMENT TYPE]**, either directly or indirectly? **[RECORD FOR EACH EQUIPMENT]**

1. **[RECORD PERCENTAGE]**

98. (Don't know)

D24. How often do you tell customers shopping for **[EQUIPMENT TYPE]** equipment about Focus on Energy's Midstream program?

1. (Always)
2. (Often)

3. (Sometimes)
4. (Rarely)
5. (Never)
98. (Don't know)

D25. What do you think are the major considerations for your customers when deciding whether to replace their **[EQUIPMENT TYPE]** with energy efficient vs. standard equipment?
1. **[RECORD VERBATIM]**
98. (Don't know)

E. Desired Program Changes

To close our discussion, I'd like to ask your opinion about the program's equipment offerings and instant discounts.

E1. Are there efficient **[EQUIPMENT TYPE]** models that are not eligible for discounts that you think should be included in the program?
1. (Yes)
2. (No)
98. (Don't know)

E2. **[IF E1=1]** What types of equipment? Can you give an example?
1. [RECORD VERBATIM]

E3. How much of the cost difference between efficient **[EQUIPMENT TYPE]**s vs. standard **[EQUIPMENT TYPE]**s do you think a discount needs to cover to influence customers' purchase decision? **[REPEAT FOR EACH EQUIPMENT TYPE]**
1. **[PERCENTAGE]** % of the incremental cost
2. [RECORD VERBATIM EXPLINATION]
98. (Don't know)

E4. Is there anything you would change about the Focus on Energy program to improve it? What and why?
1. [RECORD VERBATIM]

F. Closing

F1. Those are all my questions. Is there anything else you would like to add?

F2. Would you please confirm your email address, so we can send you your e-gift card?
1. [email address]

Thank you for your input. We appreciate your time. Have a nice day.

CADMUS

Focus on Energy Midstream Program Participating Distributor Interview Guide

Researchable Questions	Question Number
What are distributors' motivations for participating in the program?	B6 - B11, C1
How satisfied are distributors with the program?	Section C
In what ways has the program influenced distributors' stocking, promotional and pricing practices?	Section D
What areas of the program have been successful? Where might the program need to change?	Section E

Target Quota = 5 completes (all participating Water Heater and Circulator Pump distributors).

General Instructions

- Interviewer instructions are in green **[LIKE THIS]**.
- Skip patterns or variables are in red **[LIKE THIS]**.
- Items that should not be read by the interviewer are in parentheses like this ( ).

Variables to be populated in advance:

- **[COMPANY NAME]**
- **[EMAIL]**
- **[PHONE NUMBER]**
- **[FIRSTNAME]**
- **[LASTNAME]**
- **[EQUIPMENT TYPE] = "Water Heater" or "Circulator Pump"**
- **[2023 SALES]**

Target Population

This research seeks to gather information from distributors who offer Water Heater and Circulator Pump discounts through the Focus on Energy Midstream Program.

Incentive Distribution

Interview participants will be offered a $150 incentive for their participation. Incentives will be distributed via email through the service Tango Card. Participants will be afforded the option to either

redeem the Tango Card as an electronic gift card to a retailer of their choice, or for the $150 incentive to be donated to a charity of their choice in their name.[1]

Email Invitation

Subject: Help strengthen Focus on Energy's Midstream Program

Hi [FIRSTNAME]:

As a distributor participating in Focus on Energy's Midstream Program, your feedback is essential to making this a strong program that works well for businesses like yours. Please help Focus on Energy by participating in a phone interview to share your feedback.

The interview should take approximately **30 minutes**, and we are offering a **$150 electronic gift card** in appreciation of your time and insights.

Focus on Energy is working with Apex Analytics, an independent research firm, to conduct these interviews. Any feedback or information you share is kept confidential unless you ask for Focus on Energy to follow up with you.

Please reply to this email to let us know if one of the openings listed below works for you. If none of the options work with your schedule, please offer several alternatives. If there is someone else at your company we should contact instead, please provide the contact information.

[LIST TIMES AND DATES OF AVAILABILITY].

We appreciate your time and help with this and look forward to speaking with you.

Sincerely,
[Name]
[Email]
[Phone Number]
[Firm]

If you have any questions about the validity of this email or the interview, please contact Mitch Horrie at the Public Service Commission of Wisconsin (608-267-3206 or mitch.horrie@wisconsin.gov).

Calendar Invitation

To: **[EMAIL]**
From: [YOUREMAIL]
Subject: Interview about Focus on Energy's Midstream Program

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[1] The full list of participating charities can be accessed here: https://www.tangocard.com/reward-catalog?rewardcategory=donation

Hello [FIRSTNAME]:

Thank you for scheduling time to speak with me about Focus on Energy's Midstream Program. Our call is scheduled for [INSERT TIME AND DATE OF CALL] and should take approximately 30 minutes. We know your time is valuable and we appreciate your input. As a thank you, we will send you a $150 electronic gift card upon completion of the interview.

As previously mentioned, we will ask about your experience with this instant discount program, successes and challenges, and its influence. Your responses in this interview will be kept confidential unless you indicate that you would like Focus on Energy to follow up with you.

If you need to reschedule, please let us know.

Thank you. We look forward to speaking with you.

Sincerely,
[Name]
[Email]
[Phone Number]
[Firm]

If you have any questions about the validity of this email or the interview, please contact Mitch Horrie at the Public Service Commission of Wisconsin (608-267-3206 or mitch.horrie@wisconsin.gov).

Introduction

IF SCHDEDULED CALL

Hello **[FIRSTNAME]**. This is **[INTERVIEWER NAME]** from **[FIRM]**. Thank you for making the time to speak with me about Focus on Energy's Midstream Program. The purpose of this interview is to hear from you how the program is running.

I expect this interview to take approximately 30 minutes. If you need to stop before then we can schedule a second call to finish. As I mentioned in the initial invitation, we will send you a $150 e-gift card upon completion of the interview as a thank you for your time and feedback.

IF UNSCHDEDULED CALL

Hello, my name is **[INTERVIEWER NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would appreciate your feedback on its Midstream Program.

[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT_NAME]**?

1. (Yes)
2. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
3. (No, not available) **[SCHEDULE CALLBACK]**

6. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
98. (REFUSED) **[THANK AND TERMINATE]**

IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: Are you the person within your company most involved with the Focus on Energy Midstream program?

4. (Yes)
5. (No)

[IF A2 = 2] May I please speak with the person who is?

(Yes)
(Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
(No, not available) **[SCHEDULE CALLBACK]**
(DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
(REFUSED) **[THANK AND TERMINATE]**

I have a set of questions about your experience with the Focus on Energy Midstream program that should take less than 30 minutes. I know your time is valuable, so as a thank you for your time and feedback, we will send you a $150 e-gift card after this call. Your feedback is very important to ensuring that Focus on Energy programs are working well for customers and program partners like yourself.

Can I ask you the questions now?

(Yes)
(No) **[ASK TO SCHEDULE ANOTHER TIME]**

Company Background and Motivations for Participating

First, I have general questions about **[COMPANY NAME]**.

What type of equipment does **[COMPANY NAME]** sell?

[RECORD VERBATIM]

Does your company distribute **[EQUIPMENT TYPE]** equipment outside of Wisconsin?

(Yes)
(No)
98. (Don't know)

[IF B2=1] Approximately what proportion of the [EQUIPMENT TYPE] equipment you sell are distributed within WI?

[RECORD PERCENTAGE]
98. (Don't know)

[IF B2=1 (DISTRIBUTE OUTSIDE OF WI)]

Thank you. The rest of my questions will focus on your company's business in **WI** only.

Is your location the home office for the company or a branch?

[IF BRANCH] Is this location a franchise/independently run?

Now I'd like to talk about your typical customer mix; in other words, the proportion of customers that are contractors vs. business owners or managers. Approximately what proportion of your **[Equipment Type]** equipment sales (in dollars) are to: **[RECORD PERCENTAGE FOR EACH]**

1. Contractors?
2. Retailers?
3. Business owners or managers?

A1a Of these, what would you say are the most common business types you serve? **[RECORD VERBATIM]**

4. Residential customers?
5. Other? **[PLEASE SPECIFY]**

98. (Don't know)

Are you able to estimate the percentage of your customers that are regular or repeat customers?

[Prompt for percentage and record response]

How long has your company been a distributor for the Focus on Energy Midstream Program?

1. **[RECORD VERBATIM]** years

How did you learn about the opportunity to be a Focus on Energy program distributor?

1. **[RECORD VERBATIM]**

What were your company's reasons for becoming a participating distributor in the Focus on Energy program? **[Read options and select all that apply]**

Meet customer demand
Match offerings provided by other distributors
Access equipment discounts
Promote efficient equipment
Other [PLEASE SPECIFY]

Through your participation in the Focus on Energy Midstream Program, would you say that you have:

Learned a lot about energy efficient equipment
Learned a little about energy efficient equipment
Not learned anything new about energy efficient equipment
98. (Don't know)

[IF B10= 1 or 2] What have you learned through your participation in the program?

[RECORD VERBATIM]

Success and Challenges/ Program Satisfaction

Now I have a few questions about how things are going with the Focus on Energy Midstream Program.

What are the main benefits that you have experienced from participating in the program? **[SELECT ALL THAT APPLY]**

Ability to provide discounts
Stay competitive in the market
Customer satisfaction/loyalty
Other [PLEASE SPECIFY]

Have you encountered any challenges with participating in the program?

[RECORD VERBATIM]

Have you had any issues with:

Setting up/managing point-of-sale system to collect the required data
Being reimbursed for incentive payments
Calculating sales commissions

[FOR EACH C3 = YES] What issues [RESPONSE FROM C2] have you encountered?

What about the program is working well?

[RECORD VERBATIM]

What about the program could be improved?

[RECORD VERBATIM]

Is there any way Focus on Energy could support you to make your participation in the program more seamless?

A. **[IF NEEDED]** Are there specific tools that Focus on Energy could provide?

Thinking about your overall experience with Focus on Energy's Midstream Program, how would you rate your satisfaction, on a scale of 0 to 10, with 10 being Very Satisfied?

0. Very unsatisfied
1.
2.
3.
4.
5.
6.
7.
8.
9.
10. Very satisfied

Stocking and Promotional Practices

Now I'd like to talk about your company's typical stocking and promotional practices.

STOCKING ATTRIBUTION QUESTIONS

For all **[EQUIPMENT TYPE]**s, approximately how many different models of **[EQUIPMENT TYPE]**s does your company normally keep available in stock?
[RECORD FOR EACH EQUIPMENT TYPE; ESTIMATE SHOULD INCLUDE REGULAR AND HIGH-EFFICIENCY EQUIPMENT]

Of those, how many qualify for the Focus on Energy program?
[RECORD FOR EACH EQUIPMENT TYPE]

How are stocking decisions made for [EQUIPMENT TYPE]s? [REPEAT FOR EACH EQUIPMENT TYPE]

1. **[RECORD VERBATIM]**
98. (Don't know)

Are the inventories for **[EQUIPMENT TYPE]**s relatively constant or are there seasonal fluctuations? **[REPEAT FOR EACH EQUIPMENT TYPE]**

1. Constant
2. Seasonal Variation
3. Stocked when ordered
4. Other **[RECORD VERBATIM]**
98. (Don't know)

I'm going to read you a list of potential influences on your company's stocking decisions about high-efficiency **[EQUIPMENT TYPE]**s. For each influence, please rate how influential they are using a 1-5 scale, where 5 means *very influential*, and 1 means *not at all influential*. **[REPEAT FOR EACH EQUIPMENT TYPE]**

1. Focus on Energy incentives
2. Market demand or turns rate
3. Competitive comparison/market competition
4. Manufacturer rebates
5. Energy Costs
6. Sales marketing/education
7. Vendor promotions
8. New product line offering
9. Warehouse size limitations
10. Other **[RECORD VERBATIM]**
98. (Don't know)

[EQUIPMENT TYPE]	1. Not at all influential	2. Not too influential	3. Neutral	4. Somewhat influential	5. Very influential	Don't know
The Focus on Energy incentive						
Market demand or turns rate						
Competitive comparison/market competition						
4. Manufacturer rebates						
5. Energy Costs						
6. Sales marketing/education						
7. Vendor promotions						
8. New product line offering						
9. Warehouse size limitations						
10. Other [RECORD VERBATIM]						

For all [EQUIPMENT TYPE]s approximately how many, in terms of equipment count, [EQUIPMENT TYPE]s does your company normally keep available in stock? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW; ESTIMATE SHOULD INCLUDE REGULAR AND HIGH-EFFICIENCY EQUIPMENT]**

Of those, how many are high efficiency? [RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]

If the program were not available, how many of these high-efficiency **[EQUIPMENT TYPE]**s would you stock? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]**

Equipment Type	D6. For all [EQUIPMENT TYPE]s approximately how many, in terms of equipment count, [EQUIPMENT TYPE]s does your company normally keep available in stock?	D7. Of those, how many are high efficiency?	D8. If the program weren't available, how many of these high-efficiency [EQUIPMENT TYPE]s would you stock?
[EQUIPMENT TYPE]			

What percentage of all your **[EQUIPMENT TYPE]** stock do you anticipate will be high efficiency in 2024? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]**

If the program had stopped at the end of 2022 and the instant discount was no longer available, what percentage of all your **[EQUIPMENT TYPE]** stock do you estimate would be high efficiency in 2023? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]**

Equipment Type	D9. What percentage all your [EQUIPMENT TYPE] stock do you anticipate will be high efficiency in 2024?	D10. If the program had stopped at the end of 2022 what percentage of all your [EQUIPMENT TYPE] stock do you estimate would be high efficiency in 2023?
[EQUIPMENT TYPE]		

UPSELLING ATTRIBUTION QUESTIONS

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?

Not aware

Very aware

98. (Don't know)

What marketing tactics, generally speaking, does your company employ? **[RECORD ALL THE APPLY]**

Website
Radio ads
Online directories, e.g. Google Maps, Angi
Organic social media presence
Paid digital and/or social media ads
TV ads
Print ads, e.g. newspaper
Email
Mailings
Trucks
Trade associations/conferences
Word of mouth/reputation
None [MAKE EXCLUSIVE]
Other [specify]
98. (Don't know)

Do you highlight efficient equipment in any of your marketing?

(Yes, all)
(Yes, some)
(No)
98. (Don't know)

Do you call out the Focus on Energy discount or program in any of your marketing?

(Yes, all)

(Yes, some)
(No)
98. (Don't know)

Do you utilize the marketing collateral provided by the program?
(Yes)
(No)
98. (Don't know)

[IF D15 = 1] How effective is the marketing collateral provided by the program? How could it be better?
[RECORD VERBATIM]

The program allows distributors to hold back up to 40% of the measure incentive to offset costs, and to use towards things like salesperson spiffs, promotional events, marketing collateral, or other activity intended to drive program participation. How do you typically utilize that opportunity?
Do you hold back the full 40%? Are there different situations where you might do things differently?
How do you use your share of the incentive?
How do you communicate this to contractors?

Does your company make **[EQUIPMENT TYPE]** equipment recommendations to contractors or other buyers? **[REPEAT FOR EACH EQUIPMENT TYPE]**
1. (Yes)
2. (No)
98. (Don't know)

[ASK IF D18=1] How do you typically present equipment recommendations to contractors or buyers?
[RECORD VERBATIM]
98. (Don't Know)

[ASK IF D18=1] What percent of time does your company make any recommendations to contractors or buyers?
1. **[RECORD PERCENTAGE]**
98. (Don't know)

[ASK IF D18=1] Does the program incentive influence the **[EQUIPMENT TYPE]** efficiency level your company recommends to contractors or buyers? **[REPEAT FOR EACH EQUIPMENT TYPE]**
1. (Yes)
2. (No)
98. (Don't know)

[ASK IF D18=1] In situations where you are selling **[EQUIPMENT TYPE]**s, about what percent of the time are you currently recommending the high-efficiency equipment? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]**

[ASK IF D18=1] For **[EQUIPMENT TYPE]** equipment, what percent of the time would you have recommended the high-efficiency equipment had the program not existed in 2023? **[RECORD FOR EACH EQUIPMENT TYPE IN TABLE BELOW]**

Equipment Type	D22. In situations where you are selling [EQUIPMENT TYPE]s, about what percent of the time are you currently recommending the high-efficiency equipment?	D23. For [EQUIPMENT TYPE] equipment, what percent of the time would you have recommended the high-efficiency equipment had the program not existed in 2023?
[EQUIPMENT TYPE]		

[ASK IF D18=1] If the program had ended after 2022, what percent of the time would you be recommending high-efficiency equipment for each product category? **[RECORD PERCENT FOR EACH EQUIPMENT TYPE]**

PRICING ATTRIBUTION QUESTIONS

How does your company determine the price the buyer pays for the high-efficiency equipment we've been discussing? **[RECORD FOR EACH EQUIPMENT TYPE IF PROCESS DIFFERS]**

1. **[RECORD VERBATIM]**
98. (Don't know)

Is the price ever negotiable? [RECORD FOR EACH EQUIPMENT TYPE]

1. (Yes)
2. (No)
98. (Don't know)

By how much, percentage-wise, does the incentive impact the final price paid by the buyer? **[RECORD FOR EACH EQUIPMENT TYPE]**

1. **[RECORD PERCENTAGE]** discount
98. (Don't know)

How often do you tell contractors or other buyers shopping for **[EQUIPMENT TYPE]** equipment about Focus on Energy's Midstream program?

(Always)
(Often)
(Sometimes)
(Rarely)
(Never)

98. (Don't know)

Desired Program Changes

To close our discussion, I'd like to ask your opinion about the program's equipment offerings and incentives.

[IF NOT ALREADY MENTIONED] Are there efficient **[EQUIPMENT TYPE]** models that are not eligible for incentives that you think should be included in the program?

(Yes)
(No)
98. (Don't know)

[IF E1=1] What types of equipment? Can you give an example?

2. [RECORD VERBATIM]

[IF NOT ALREADY MENTIONED] How much of the cost difference between efficient **[EQUIPMENT TYPE]**s vs. standard **[EQUIPMENT TYPE]**s do you think a discount needs to cover to influence buyers' purchase decision? **[REPEAT FOR EACH EQUIPMENT TYPE]**

[PERCENTAGE] % of the incremental cost
[RECORD VERBATIM EXPLINATION]
98. (Don't know)

Is there anything you would change about the Focus on Energy program to improve it? What and why?

[RECORD VERBATIM]

Closing

Would you like Focus on Energy to follow up with you regarding anything that we have discussed?

Those are all my questions. Is there anything else you would like to add?

Would you please confirm your email address, so we can send you your e-gift card?

[email address]

Thank you for your input. We appreciate your time. Have a nice day.

CADMUS

Focus on Energy Midstream Program
CY 2023 Community Based Organization Staff Interview

Researchable Questions		
Key Research Topics	**Areas of Investigation**	**Related Section/ Questions**
Awareness and Motivation	How did the Community Based Organizations (CBOs) learn of the program?	B1
	How long have they participated?	B1
Program Process	How they promote the program	C1
	Does supply of kits meet demand?	C1
	How are kits distributed?	C2
	Are there limits on how many kits customers can receive?	C3
Customer Feedback	Are participants satisfied with the kits?	D1
	Do participants install the kits?	D1
	Which other measures would participants want included in the kits?	D2
Overall Experience	Is there adequate support for CBO staff to implement the program?	E1
	How easy is it for CBOs to participate?	E1, E2
	How easy is it to work with Greenlite?	E3
	Feedback on interactions with Focus on Energy staff	E3
	Knowledge and ease of finding information	E4
	Satisfaction and Opportunities for Improvement	E5

Quota= 10 completes

Target Population

This research seeks to gather information from **representatives of foodbanks and Community Based Organizations (CBOs)** who participated in the Kit Distribution offering of the Midstream Program.

Incentive Distribution

Participants organizations will be offered a $50 donation for their participation. Donations will be provided via email through the service Tango Card. Participants will be afforded the option to either receive an $50 Visa or Mastercard debit card or an electronic gift card to a retailer of their choice.[1]

[1] The full list of participating charities can be accessed here: https://www.tangocard.com/reward-catalog?rewardcategory=donation

Recruitment

Hello, my name is **[NAME]** and I am calling on behalf of Wisconsin's Focus on Energy. Focus on Energy would like to learn more about your experience participating in their Community Based Organization Kit Distribution Program, also known as the Foodbank kit program prior to 2023.

[IF NO CONTACT NAME, OR CONTACT NO LONGER WORKS FOR ORG]: May I please speak with the person who would be familiar with Focus on Energy's kit distribution Program?
[IF CONTACT NAME PROVIDED]: May I please speak with **[CONTACT NAME]**?

1. (Yes, call transferred) **[START OVER WITH NEW RESPONDENT]**
2. (No, not available) **[SCHEDULE CALLBACK]**
3. (DON'T KNOW) **[ASK TO SPEAK WITH SOMEONE WHO WOULD KNOW AND START AGAIN]**
4. (REFUSED) **[THANK AND TERMINATE]**
5. (Yes) Do you have about 30 minutes to answer some questions?

[If not available, seek to set an appointment]

Great, we will keep everything you tell us confidential – we won't report anything in a way that would identify individual respondents or organizations.

Introduction

Thank you for agreeing to talk with me today. I expect this conversation to take about 20-30 minutes. To help me capture your responses accurately, is it okay if I record this call? The recording will be used for my note-taking purposes only. It won't be shared with Focus on Energy.

A1. Can you briefly explain to me your role at your organization? How long have you been in this role? What community services does your organization provide?

Participant Awareness and Motivation

We'd like to ask a few questions about your experience with the Focus on Energy kit distribution program to date:

A2. How long has your organization participated in the Focus on Energy kit distribution program?

A3. How did your organization first learn about the Focus on Energy kit distribution program?

1. How did you learn about whether your organization qualified to participate?
2. What benefits did you believe your organization, or its constituents would gain from being part of the program?
3. How has your actual experience compared to your expectations?

A4. **[If not 1st year of participation]** Overall, how would you say your experience with Focus on Energy was this year compared to prior years? **[If needed]:** What was different? What improved?

Program Process

A5. Please tell us about your experience with the process of participating in the program. Can you talk a bit about:
1. How do you promote the kits to participants? Do you advertise?
2. How do you submit requests to receive kits? How easy is it to complete? Have you had any troubles with it?
3. How long does it typically take to receive kits once you request them?
4. What types of kits have you distributed? (Water savings kit, Weatherization kit, or the Lightbulb kit)?
5. How do you decide on the type/number of kits that you request? What drives this?
6. Does the supply of each of the kits match the demand for them? Are there typically enough for people who want them?

A6. How do you distribute the kits to recipients?

A7. Does your organization limit the number of kits per recipient? If yes, how is that handled?

Customer Feedback

A8. Have you received any feedback about the kits from kit recipients?
1. Do you think recipients install the products in the kits? Why or why not?
2. Are there any kit items that are particularly popular?
3. Are there any kit items that are not popular?
4. Have you received any feedback about the new weatherization kits? About discontinuing the lighting kits?

A9. Do you have any suggestions for other products that could be included in the kits?

Overall Experience

A10. What does it take for your organization to participate in the kit distribution program? Is there adequate support for your staff to implement the program?
1. What type of resources?
2. How many people?
3. How much time?
4. Any other resources?

A11. Have you experienced any challenges to participating in the program?

A12. Please tell us about your experience with the process of participating in the program. Can you talk a bit about:
1. In general, how was the communication with Focus on Energy/Greenlite program staff?
2. Did you interact with Focus on Energy staff other than Greenlite?

3. Overall, how satisfied were you with the communication you received from Greenlite? Why do you say that?
4. How does your organization stay informed about available kits/measures/opportunities?

A13. When you have questions about the Focus on Energy program, do you know where to look for information or get questions answered?

A14. What could Focus on Energy have done to improve your overall experience, if anything?

Closing

A15. Thank you for speaking with us today. Do you have any other comments about your experience with the Focus on Energy program that you would like to share?

Thank you. We appreciate your help with this survey. Have a nice day.

CADMUS

Focus on Energy Affordable Housing Solar PV Pilot 2023

Research Objectives	Corresponding Question Numbers
Identify motivations for participation	Section B
Assess program influence	Section C
Assess customer satisfaction with program experience	Section D
Identify barriers to participation	Section E

Target Quota = 6 completes [N=12, will use census approach]

Variables to be Pulled into Survey

- Customer Organization
- Email (Application Contact Email or Customer Email based on best fit)
- Customer Phone
- Contact Name (matched to email)
- Application Count
- Provider Organization

Email Invitation

Subject: Your Feedback is Needed to Shape Strong Focus on Energy Programs

Dear **[CONTACT NAME]**,

Thank you for working with Focus on Energy's Affordable Housing Solar PV pilot in 2023. We invite you to tell us about your experience with the program. Your input will be used to improve Focus on Energy's programs and will be kept confidential. **The survey will take 10 to 15 minutes to complete**.

Click the link below to take the survey:

[auto-generated link]

Or you may copy and paste the following URL into your internet browser: [auto-generated url]

If you have any questions about this research or any difficulties taking the survey, please contact Callie Smith from The Cadmus Group, the research firm conducting this survey on our behalf, at 303-389-2485 or callie.smith@cadmusgroup.com.

If you have any questions about the validity of this email or the survey, please contact Scott Bloedorn at Focus on Energy at 608-209-5303 or scott.bloedorn@focusonenergy.com.

Thank you in advance for sharing your experiences and your time.

[SIGNATURE]

Reminder Invitation

Subject: Don't forget to tell Focus on Energy about your Solar program experience

Dear **[CONTACT NAME]**,

We recently invited you to tell us about your experience with Focus on Energy's Affordable Housing Solar PV pilot program. We would still like to hear from you. Your input will be used to improve Focus on Energy's programs and will be kept confidential. **Please take 10 minutes today to complete the survey**.

Click the link below to take the survey:

[auto-generated link]

Or you may copy and paste the following URL into your internet browser: [auto-generated url]

If you have any questions about this research or any difficulties taking the survey, please contact Callie Smith from The Cadmus Group, the research firm conducting this survey on our behalf, at 303-389-2485 or callie.smith@cadmusgroup.com.

If you have any questions about the validity of this email or the survey, please contact Scott Bloedorn at Focus on Energy at 608-209-5303 or scott.bloedorn@focusonenergy.com.

Thank you in advance for sharing your experiences and your time.

[SIGNATURE]

A. Introduction and Screener

[ALL QUESTIONS IN THIS SECTION ARE FORCED RESPONSE UNLESS OTHERWISE INDICATED]

Welcome! This survey will take 10 to 15 minutes to complete. Your responses will remain confidential and will be used to improve the Focus on Energy programs for participating organizations like yours.

A1. Our records show that your organization received at least one incentive from Focus on Energy for participating in the Affordable Housing Solar PV pilot in 2023. Is this correct?

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

A2. **[IF A1=98]** Is there someone else who would know that we could send this survey to?

1. Yes (What is their email: _____)
2. No [TERMINATE]
98. Don't know **[TERMINATE]**

[TERMINATION LANGUAGE] We're sorry, this survey is for organizations that participated in the pilot. Thank you for taking the time to participate.

B. Motivations

[ALL QUESTIONS IN THIS SECTION ARE SKIPPABLE UNLESS OTHERWISE INDICATED]

B1. Who provided input that influenced the decision to install solar PV on the house(s)? Select all that apply. **[HAVE THE ORDER OF RESPONSES ROTATE RANDMONLY, EXCEPT OTHER AND DON'T KNOW; MULTIPLE RESPONSE]**

1. Future homeowners
2. Contractors
3. Focus on Energy Advisor
4. Utility representative
5. Staff within your organization
6. Local government
7. Local community organizations
8. Local environmental organizations
9. Financial institution
10. Donors to your organization
11. Your organization's board members
12. Volunteers
13. Other (Specify:_____)
98. Don't know

B2. Which factors influenced the decision to install solar PV on the house(s)? Select *all that apply*. **[HAVE THE ORDER OF RESPONSES ROTATE RANDMONLY, EXCEPT OTHER AND DON'T KNOW; MULTIPLE RESPONSE]**

1. Preference of homeowners
2. Anticipated energy bill affordability
3. Good financial investment
4. Positive environmental impact
5. Availability of incentives/access to funding
6. Stakeholder input
7. To create a case study/demonstration project(s)
8. Other (Specify:_____)

98. Don't know

B3. Which were the *three most* influential factors in the decision to install solar PV on the house(s)? Please rank the top three most influential factors. **[HAVE THE ORDER OF RESPONSES ROTATE RANDMONLY, EXCEPT OTHER AND DON'T KNOW; ALLOW RESPONDENTS TO SELECT AND ORDER 3 OPTIONS]**

1. Preference of homeowners
2. Anticipated energy bill affordability
3. Good financial investment
4. Positive environmental impact
5. Availability of incentives/access to funding
6. Stakeholder input
7. To create a case study/demonstration project(s)
8. Other (Specify:_____)

98. Don't know

B4. Other than the Focus on Energy incentive, did you receive any additional incentives (funding/discounts/technical assistance/equipment/other) for installing solar PV systems on the home(s)?

1. Yes
2. No

98. Don't know

B5. [IF B4=1] What other incentive(s) did you receive and who was it from?

1. [OPEN ENDED]

B6. Prior to participating in the Focus on Energy Affordable Housing Solar PV pilot, had your organization installed any solar PV systems on homes that it built?

1. Yes
2. No

98. Don't know

B7. **[IF B6=1]** Did your organization receive any incentives (funding/discounts/technical assistance/equipment/other) for its prior solar installations?
1. Yes
2. No
98. Don't know

B8. **[IF B7=1]** What incentive(s) did your organization receive for its previous solar installation(s) and who was it from?
1. [OPEN ENDED]

B9. **[IF B7=1]** Please briefly describe your organization's prior experience with installing solar PV. How many other prior installations? What home type(s) and where? Did it go smoothly?
1. [OPEN ENDED]

C. Program Influence

[ALL QUESTIONS IN THIS SECTION ARE SKIPPABLE UNLESS OTHERWISE INDICATED]

C1. Did your organization decide to install the solar PV system(s) that you received a Focus on Energy incentive for before learning about the Focus on Energy incentive?
1. Yes
2. No
98. Don't know

C2. **[IF C1= 1]** Had your organization already budgeted for solar PV before learning about the Focus on Energy incentive?
1. Yes
2. No
98. Don't know

C3. **[IF C1= 1]** Had your organization already begun working with a solar PV installer before learning of the Focus on Energy incentive?
1. Yes
2. No
98. Don't know

C4. Would your organization have installed the same solar PV system(s) without the Focus on Energy incentive?
1. Yes, would have installed the same system(s)
2. No, would have *installed different* solar PV system(s)
3. No, would *not have installed any* solar PV system(s)
98. Don't know

C5. **[IF C4=2]** What would have been different about the solar PV system(s) your organization installed if you did not receive the Focus on Energy incentive?
1. [OPEN ENDED]

C6. On a scale from 1 to 5, where 1 indicates *not at all likely* and 5 indicates *very likely*, how likely would you say your organization is to install solar PV systems on future projects with these different incentive offers?
1. Double the Focus on Energy incentive you received in 2023 (capped at 100% of the installed cost)
2. The same Focus on Energy incentive you received in 2023
3. Half the Focus on Energy incentive you received in 2023
4. No Focus on Energy incentive

Not at all likely (1)	Not too likely (2)	Uncertain (3)	Somewhat likely (4)	Very likely (5)	Don't know (98)

C7. Through your engagement with the Focus on Energy Affordable Housing Solar PV pilot, did you learn about any Focus on Energy offerings that you were not already aware of?
1. Yes
2. No

C8. [IF C7=1] What Focus on Energy offerings did you learn about?
1. [OPEN ENDED]

C9. Did you incorporate other efficiency measures into the homes that received the solar PV systems? Select all that apply. **[MAKE NONE AND DON'T KNOW EXCLUSIVE, OTHERWISE MULTIPLE RESPONSE]**
1. Above code insulation
2. ENERGY STAR windows
3. High efficiency fossil fuel furnace or boiler
4. Heat pump heating system
5. High efficiency fossil fuel water heater
6. Heat pump water heater
7. ENERGY STAR appliances
8. Smart thermostat
9. Other (Please Specify:_____)
10. None
98. Don't know

D. Program Experience

D1. How would you rate your satisfaction with each of the following elements on a scale from 1 to 5, where 1 indicates *not at all satisfied* and 5 indicates *very satisfied?*

1. Communication with Focus on Energy staff
2. Technical support from Focus on Energy staff
3. The price of the solar PV system
4. The solar PV system installation process
5. The timeline for the solar PV system installation
6. The solar PV contractor that you worked with
7. The solar PV equipment that was installed
8. The Focus on Energy application process
9. The timeline for the Focus on Energy application and incentive payment
10. The Focus on Energy incentive amount
11. The Focus on Energy pilot overall

Not at all satisfied (1)	Not too satisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat satisfied (4)	Very satisfied (5)	Don't know/not applicable (98)

D2. [FOR EACH D1 <5] Why were you less than very satisfied with the [ANSWER FROM D1]?

1. [OPEN ENDED]

D3. Did you experience any project delays?

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

D4. [IF D3=1] What caused the delay?

1. [OPEN ENDED]

E. Barriers

E1. Did you experience any challenges participating in the Focus on Energy Affordable Housing Solar PV pilot?

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

E2. [IF E1=1] What challenges did you experience?
   1. [OPEN ENDED]

E3. Did your organization have any projects that it hoped to have participate in the Focus on Energy Affordable Housing Solar PV pilot in 2023 but did not?
   1. Yes
   2. No
   98. Don't know

E4. **[IF E3=1]** What stopped the project(s) from being part of the Focus on Energy Affordable Housing Solar PV pilot in 2023?
   1. [OPEN ENDED]

F. Closing

F1. Is there any other feedback that you'd like to provide about the Focus on Energy Affordable Housing Solar PV pilot?
   1. [OPEN ENDED]

[END OF SURVEY MESSAGE] This completes the survey. Your responses are very important to Focus on Energy. We appreciate your participation and feedback. Thank you!

CADMUS

Virtual Commissioning Process Evaluation Interview Questions

A. Process Questions

A1. Prior to participating in the Focus on Energy Virtual Commissioning pilot, were you familiar with, or had you done, any sort of building commissioning? **[IF HAD DONE COMMISSIONING PREVIOUSLY, PROBE:** retrocommissioning or virtual commissioning?**]**

A2. On a scale of 1 to 5, where 1 indicates *not at all easy* and 5 indicates *very easy*, how easy did you find it to understand the pilot's suggestions for building adjustments?

1. Not easy at all
2.
3.
4.
5. Very easy

98. (Don't know)
98. (Refused)

A3. **[IF A2 < 4]** What was not easy to understand?

A4. Were there any suggested building adjustments that you did not make? **[IF YES:** Why were they not done?**]**

A5. Do you feel you need additional training to implement any of the suggested building adjustments? **[IF YES:** What type of training would be helpful?**]**

A6. Had you already identified or planned to make any of the building adjustments recommended by the Focus pilot before participating in the pilot? **[PROBE:** which ones?**]**

A7. How influential was the Focus pilot in the decision to make recommended adjustments to your building? **[PROBE:** would you have made any of them without the pilot? Would you have made them on roughly the same timeframe without the pilot?**]**

A8. Did you have to get approval or buy-in from anyone before moving ahead with any of the recommended adjustments to your building? **[PROBE:** who?**]**

A9. Did you expect to see energy and cost savings from the adjustments you made? Have you seen the expected level of energy and cost savings? **[PROBE:** more or less than expected?**]**

A10. What, if any, has been the feedback from building occupants to the adjustments? **[PROBE:** positive or negative?**]**

A11. How, if at all, has participating in the pilot changed your awareness of energy use patterns?

A12. Since participating in the Focus on Energy pilot, do you review your building setpoints more or less than before you participated?

A13. In total, how much time would you estimate was involved in participating in the pilot? Was it more or less than you expected?

A14. How would you rate your satisfaction with each of the following elements on a scale from 1 to 5, where 1 indicates *not at all satisfied* and 5 indicates *very satisfied?*

1. Communication with Focus on Energy pilot staff
2. The type of adjustments recommended by the pilot
3. The level of detail provided with the recommendations
4. The ease of making the adjustments to the building that were recommended by the pilot
5. The energy savings resulting from adjustments made based on recommendations from the pilot
6. The pilot overall

Not at all satisfied (1)	Not too satisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat satisfied (4)	Very satisfied (5)	Don't know/not applicable (98)

A15. **[FOR EACH A14 < 4]** Why were you less than satisfied with the **[ANSWER FROM A14]**?