Business Energy Efficiency Portfolio:
Volume 1

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1 Executive Summary

Under contract with Ameren Missouri, ADM Associates, Inc., (ADM) performed evaluation, measurement, and verification (EM&V) activities to confirm the energy savings (kWh) and demand reduction (kW) realized through its energy efficiency programs. ADM partnered with BrightLine Group to perform the ex post analysis for the virtual commissioning component of the Retro-Commissioning Program.

This report is divided into two volumes that provide information on the impact, process, and cost-effectiveness evaluation of the Ameren Missouri portfolio of business programs implemented during the 2024 program year (PY2024). Volume I presents chapters describing the evaluation approach and findings.

Volume I is organized as follows:

- Chapter 2: Evaluation Approach
- Chapter 3: Standard and Custom
- Chapter 4: Retro-Commissioning
- Chapter 5: Small Business Direct Install
- Chapter 6: Business Social Services
- Chapter 7: Nonparticipant Survey Key Findings

See report Volume II for chapters presenting detailed information regarding evaluation methodologies, data collection instruments, and evaluation results.

1.1 Impact Evaluation Findings

Table 1-1 summarizes the energy savings for the Ameren Missouri portfolio of business energy efficiency programs. Table 1-2 summarizes the peak demand impacts of the business energy efficiency programs.

Table 1-1 Summary of Energy Savings

Program Name	Annual Net MWh Savings Goal	Percent Achievement of Annual Net MWh Savings Goal	Ex Ante Annual MWh Savings	Ex Post Annual Gross MWh Savings	Gross Realization Rate	Ex Post Annual Net MWh Savings	Net-to-Gross Ratio	Lifetime Net Ex Post MWh Savings
Standard Incentive Program	39,547	63%	38,224	38,591	101%	25,084	65%	365,995
Custom Incentive Program	29,246	111%	53,637	49,805	93%	32,373	65%	512,692
Small Business Direct Install Program	7,981	49%	6,323	5,955	94%	3,871	65%	57,269
Retro-Commissioning Program	3,339	111%	5,694	5,709	100%	3,711	65%	34,226
Business Social Services Program	5,012	121%	5,706	6,076	106%	6,076	100%	91,048
Business Portfolio Totals	85,125	84%	109,584	106,136	97%	71,115	67%	1,061,230

Table 1-2 Summary of Peak Demand Impacts

Program Name	Annual Net MW Savings Goal	Percent Achievement of Annual Net MW Savings Goal	Ex Ante Gross MW Savings	Ex Post Gross MW Savings	Gross Realization Rate	Ex Post Net MW Savings	Net-to-Gross Ratio
Standard Incentive Program	9.83	84%	12.69	12.74	100%	8.28	65%
Custom Incentive Program	13.06	81%	16.14	16.34	101%	10.62	65%
Small Business Direct Install Program	1.59	47%	1.20	1.14	95%	0.74	65%
Retro-Commissioning Program	1.39	107%	2.24	2.29	102%	1.49	65%
Business Social Services Program	0.98	118%	1.08	1.15	107%	1.15	100%
Business Portfolio Totals	26.85	83%	33.35	33.66	101%	22.28	66%

1.2 Key Evaluation Findings

The PY2024 BizSavers Business Programs achieved 84% of the portfolio-wide net energy savings goal, with a total ex post annual net savings of 71,115 MWh and a gross realization rate of 97%. While some programs exceeded their individual savings goals, others fell short, contributing to the portfolio's overall shortfall.

- The Business Social Services (121%), Custom Incentive (111%), and Retro-Commissioning (111%) programs surpassed their net savings goals, demonstrating strong performance.
- The Standard Incentive Program (63%) and Small Business Direct Install Program (49%) underperformed in terms of net savings goal achievement, despite realization rates of 101% and 94%, respectively.
- Lighting and HVAC measures played a significant role in ex ante energy savings across multiple programs.

1.3 Cost Effectiveness Results

The following table summarizes the cost effectiveness results of each of the programs.

Table 1-3 Cost Effectiveness Results

Program Name	TRC	UCT	RIM	PCT	SCT
Standard Incentive Program	2.85	2.68	0.56	10.20	3.90
Custom Incentive Program	3.09	3.22	0.59	10.13	4.01
Retro-Commissioning Program	3.63	2.63	0.76	15.29	5.57
Small Business Direct Install Program	2.30	1.63	0.40	16.28	3.75
Business Social Services Program	4.27	1.90	0.41	16.09	4.27

2 Evaluation Approach

This chapter presents a summary of the evaluation approach and data collection activities that the ADM Team used to evaluate the Ameren Missouri programs.

2.1 Ex Post Gross Savings Approach

For the Ex Post Gross kWh Savings analysis, the ADM Team used the Ameren Missouri TRM for measures characterized in that document. We followed the equations in the TRM and relied on one of these sources for measure parameters, listed in order of preference:

- Site specific primary data collected from site visits or desk review,
- Measure-specific information from the program tracking data, and
- Ameren Missouri TRM parameter values for "unknown" measure characteristics.

The ADM Team calculated Ex Post Gross kW Savings by factoring Ex Post Gross kWh Savings by the applicable stipulated Ameren Missouri end-use energy to coincident peak demand factors.

For measures not characterized by the TRM, Table 2-1 summarizes the approaches we used by the measure type. Volume II of the report presents information on the approaches used for the sampled projects.

Table 2-1 Typical Methods to Determine Savings for Custom Measures

Measure	Approach
Lighting	Spreadsheet analysis with before and after fixture wattages, with metered hours of use by area, waste heat factors, and annual work schedule following the IPMVP Option A method.
HVAC	Energy simulation model with field collected input data and utility monthly billing data or interval data. Engineering analysis using project specific inputs.
VFDs	Engineering analysis utilizing measurements of power and run-time obtained through monitoring.
Refrigeration	Simulations with DOE-2.2 refrigeration engineering analysis models, engineering analysis with monitored/trended power or interval meter data analysis, depending on project.
Compressed Air Systems	Engineering analysis, with monitored data on power, CAGI data derived air flows for pre or post conditions.
Process Improvements	Engineering analysis, with monitored data on power, load factor, machine output and schedule of operation.
New Construction	Building simulation analysis for HVAC; IPMVP Option A for lighting measures and the appropriate code baseline for either the building type or space type.

2.1.1 Review of Documentation

Ameren Missouri's program implementation contractor provided documentation for the sampled energy efficiency projects undertaken at customer facilities. The ADM Team's first step in the evaluation effort

was to review this documentation and other program materials that were relevant to the evaluation effort.

For each sampled project, the ADM Team reviewed the available documentation (e.g., audit reports, savings calculation work papers, etc.) for each rebated measure, with attention given to the calculation procedures and documentation for savings estimates. Reviewed documents included program forms, reports, billing system data, weather data, and any other potentially useful data. For each application, the ADM Team determined if the following types of information was available for each application:

- Documentation for the equipment changed, including (1) descriptions, (2) schematics, (3) performance data, and (4) other supporting information
- Documentation for the new equipment installed, including (1) descriptions, (2) schematics, (3) performance data, and (4) other supporting information
- Information about the savings calculation methodology, including (1) what methodology was used, (2) specifications of assumptions and sources for these specifications, and (3) correctness of calculations.

In addition to the above activities, ADM completed a review of program tracking data. The purpose of the review was to assess the sufficiency of the tracking data for supporting program implementation and evaluation.

2.1.2 Verification Procedures

The ADM Team used a combination of on-site visits, remote verifications, and desk reviews to collect project-specific data and assess project savings. The ADM Team performed on-site data collection for larger or more complex projects that required extensive data collection through visual inspection, monitoring, and/or facility operating schedules and load factors. For less complex projects, project documentation and data collected remotely were used to estimate savings.

2.1.2.1 On-site Data Collection Procedure

The site visits for sampled projects were conducted to collect primary data on the measures implemented under the program. During an on-site visit, the field staff accomplished three major tasks:

- First, they verified the implementation status of all measures for which customers received incentives. They confirmed that the energy efficiency measures were installed correctly and continued to function properly.
- Second, they collected physical data, when necessary, to analyze the energy savings realized from the installed improvements and measures.
- Third, they interviewed facility personnel to obtain additional information on the installed system, complementing the data collected from other sources.

Monitoring was conducted at sites where the ADM Team determined that monitored data was necessary to minimize uncertainty associated with savings calculations. Monitoring was not conducted at sites where other data sources and methods could estimate energy impacts with relatively less uncertainty.

2.1.2.2 Remote Data Collection Procedure

The following list summarizes the remote data collection procedures followed by the ADM Team:

- For remote data collection, the ADM Team completed a detailed review of project invoicing and supporting documentation. The ADM Team discussed any discrepancies between invoicing, documentation, and incentivized measures identified in program tracking data with the program implementation contractor or customer contact as necessary.

- In cases where verification was limited to confirming equipment installation, an ADM analyst contacted the site contact via email, with telephone follow-up as needed. For cases requiring more detailed information, such as operating schedules or heating and cooling types, the ADM Team conducted interviews guided by the information needs defined in the site-specific M&V plan. Additionally, customers were asked to send pictures of installed equipment, such as motor nameplates.
- For cases where Option B (retrofit isolation) was applied, the ADM Team requested energy use data collected through EMS systems or other onsite monitoring efforts implemented by site staff or their contractors, if available.
- The application of International Performance Measurement and Verification Protocol (IPMVP) Option C, whole facility analysis, was used for custom measures where feasible. This was supplemented by information collected via telephone or email regarding schedule and equipment changes that may have occurred during the pre- and post-installation period. The ADM Team referenced TMYx weather data in performing these analyses.

2.1.2.3 Use of AMI Data

The ADM Team leveraged Ameren Missouri's Advanced Metering Infrastructure (AMI) data to support the evaluation of business energy efficiency programs. The analysis focused on three primary areas:

- **Validating Site Operating Hours** – AMI interval data was used to analyze site-specific load shapes, providing insights into operating schedules. By examining patterns of energy consumption, the evaluation team verified or refined documented operating hours.
- **Estimating Energy Savings through Option C Analyses** – The team utilized AMI data to perform Option C analyses, a whole-facility approach that assesses energy savings by comparing pre- and post-intervention consumption while accounting for external factors.
- **Substantiating Baseline Energy Consumption** – AMI data served as a key resource in establishing baseline energy usage for business program participants.

2.2 Ex Post Net Savings Approach

To calculate ex post gross savings, ADM multiplied the gross savings by the net-to-gross ratios employed in the calculation of throughput disincentives. These ratios are set at 65% for non-low-income programs and 100% for the Business Social Services low-income program.

2.3 Process Evaluation Approach

The process evaluation focused on addressing the five process evaluation questions required by Missouri Code of State Regulations section 20 CSR 4240-22.070(8). As stated,

> *Each demand-side program and demand-side rate that is part of the utility's preferred resource plan shall be subjected to an ongoing evaluation process which addresses at least the following questions about program design.*
>
> 1. *What are the primary market imperfections that are common to the target market segment?*
> 2. *Is the target market segment appropriately defined, or should it be further subdivided or merged with other market segments?*

3. *Does the mix of end-use measures included in the program appropriately reflect the diversity of end-use energy service needs and existing end-use technologies within the target market segment?*

4. *Are the communication channels and delivery mechanisms appropriate for the target market segment?*

5. *What can be done to more effectively overcome the identified market imperfections and to increase the rate of customer acceptance and implementation for select end-uses/measure groups included in the Program?*

In addition to addressing the five process evaluation questions, the process evaluation provides findings and recommendations, as applicable, based on the findings from the evaluation research activities.

2.4 Cost Effectiveness Analysis

ADM analyzed the final, post-implementation cost-effectiveness of each measure, program, and the overall portfolio. ADM coordinated with Ameren Missouri to obtain the economic and financial assumptions for developing the model, including discount rate, line losses, summer peak date/time, avoided electric transmission and distribution costs, and escalation rates. Additionally, program spending data costs for implementation, incentives, and administration were provided by Ameren Missouri. ADM provided measure-level data by program with model inputs for the number of units, measure life, gross energy savings, net energy savings, demand savings, end use, and incremental costs.

The approaches for calculating gross and net energy and demand savings were characterized in the program sector chapters below. The sources of data for EULs and incremental costs were, stated in order of preference:

- The Ameren Missouri TRM
- Project-specific information
- Another source, such as the Illinois TRM, Mid-Atlantic TRM, or Pennsylvania TRM.

The ADM Team calculated cost-effectiveness using the five most widely accepted tests conducted in evaluations of energy efficiency programs across North America. These tests are summarized below:

- Utility Cost Test (UCT): Comparison of program administrator costs to resource supply costs.
- Total Resource Cost Test (TRC): Comparison of program administrator and customer costs to utility resource savings.
- Ratepayer Impact Measure Test (RIM): Impact of the program on all ratepayers, including non-participants.
- Societal Cost Test (SCT): Comparison of total societal costs to resource savings and non-monetized benefits.
- Participant Cost Test (PCT): Comparison of costs and benefits from the perspective of the customer implementing the measures.

2.5 Summary of Data Collection

The ADM Team engaged in several forms of data collection in the process of completing the evaluation of the Ameren Missouri programs. We present a brief overview of the data collection activities here.

2.5.1 Interviews with Program Staff

The ADM Team completed interviews with program staff from Ameren Missouri and its implementation partners. The purpose of the interview was to review our understanding of the program design and operations, obtain additional information on program marketing and markets targeted, delivery approaches and strategies, as well as quality control and data management approaches. The interviews were completed in March and May of 2024.

2.5.2 Surveys

Online surveys and interviews of program participants, market actors, and nonparticipants were the primary data collection activity. The populations for these surveys were developed using data from program participation records and the database of Ameren Missouri. Table 2-2 summarizes the survey data collection.

Table 2-2 Summary of Data Collection

Program Name	Data Collection Activity	Mode	Number of Contacts	Completed Surveys / Interviews	Response Rate
Standard, Custom, and Small Business Direct Install (SBDI)	Participant Survey	Email	332	23	6.9%
Standard, Custom, and SBDI	Trade ally survey	Email	242	21	8.7%
Cross-cutting	Nonparticipant survey	Email	18,430	126	0.7%

2.5.3 Sampled Projects

Table 2-3 summarizes the number of sites sampled for ex post gross savings analysis.

Table 2-3 Number of Sampled Projects

Program Name	Number of Sampled Projects
Standard	106
Custom	50
Retro-Commissioning	23
Small Business Direct Install	57
Business Social Services	29

2.5.4 Review of Program Documents

The ADM Team reviewed several types of documents to obtain information about the programs and their operations. The types of documents included:

- Program database queries and extracts.
- Application forms and participation agreements.
- Program guidelines.
- Program websites.
- Marketing materials and marketing reports.

3 Standard and Custom

The Standard Program is structured to foster energy awareness and the adoption of energy efficient technologies or services by offering incentives to mitigate the higher costs associated with these projects. The program simplifies participation processes to entice customer engagement, focusing on technologies such as lighting, motors, controls, HVAC, and refrigeration. Participation in the Standard Program is application-based, supported by a network of registered Trade Allies and non-registered Market Partners including contractors, distributors, wholesale retailers, and, where applicable, local economic and professional associations. The target market encompasses commercial, industrial, and institutional customers, excluding multi-family and low-income customers who are catered to by residential programs.

The Custom Program aims to enhance energy awareness and the uptake of energy efficient technologies or services by providing incentives to offset the associated higher costs. The Custom Program targets processes, technologies, and energy efficiency measures that do not align with other pre-defined programs, typically dealing with complex and unique projects. These projects necessitate customer-specific incentive applications and calculations of estimated energy savings. The incentive levels are determined based on energy savings estimates for each proposed measure, except for interior lighting measures, where incentives are based on the watts reduced. Projects with incentives exceeding $15,000 require onsite visits to verify baseline data, energy savings estimates, and post-installation measuring capabilities. Like the Standard Program, the program targets commercial, industrial, and institutional customers while excluding multi-family and low-income customers. New construction projects may receive incentives through the Custom Program.

3.1 Program Activity Summary

Table 3-1 and Table 3-3 summarizes the Standard and Custom Program activity during PY2024.

Table 3-1 Summary of Program Activity – Standard

End Use	Participants		Ex Ante Gross Savings	
	Count	Percent	MWh	Percent
Lighting	575	55.2%	27,470	71.9%
Cooling	345	33.1%	6,740	17.6%
HVAC	55	5.3%	2,494	6.5%
Motors	2	0.2%	105	0.3%
Refrigeration	19	1.8%	167	0.4%
Air Comp	12	1.2%	666	1.7%
Miscellaneous	20	1.9%	289	0.8%
Cooking	11	1.1%	189	0.5%
Water Heating	3	0.3%	106	0.3%
Total	940	100%	38,224	100%

*The summed percentages of projects may exceed 100% because some participants completed projects with multiple end-uses.

Table 3-2 Summary of Program Activity – Custom

End Use	Participants		Ex Ante Gross Savings	
	Count	Percent	MWh	Percent
Lighting	219	55.9%	19,156	35.7%
Cooling	40	10.2%	6,057	11.3%
HVAC	85	21.7%	9,955	18.6%
Process	13	3.3%	15,008	28.0%
Motors	9	2.3%	1,244	2.3%
Refrigeration	13	3.3%	905	1.7%
Air Comp	5	1.3%	1,260	2.3%
Building Shell	5	1.3%	52	0.1%
Miscellaneous	2	0.5%	0	0.0%
Ext Lighting	1	0.3%	0	0.0%
Total	307	100%	53,637	100%

*The summed percentages of projects may exceed 100% because some participants completed projects with multiple end-uses.

Figure 3-1 and Figure 3-2 summarize the trends in ex ante savings since PY2019. The figures show a decline in Standard Program savings in recent years and an increase in Custom Program savings. Several factors may explain these trends. In 2022, the New Construction program was incorporated into the Custom Program, increasing savings attributed to that portfolio. In addition, the budgets for the SBDI and BSS Programs have increased. These offerings provide attractive incentive rates for eligible customers, which may have shifted participation away from the Standard Program. Finally, the Custom Program includes indoor agriculture projects developed in recent years, which have contributed to overall savings.

Figure 3-1 Trends in Ex Ante Savings – Standard Program

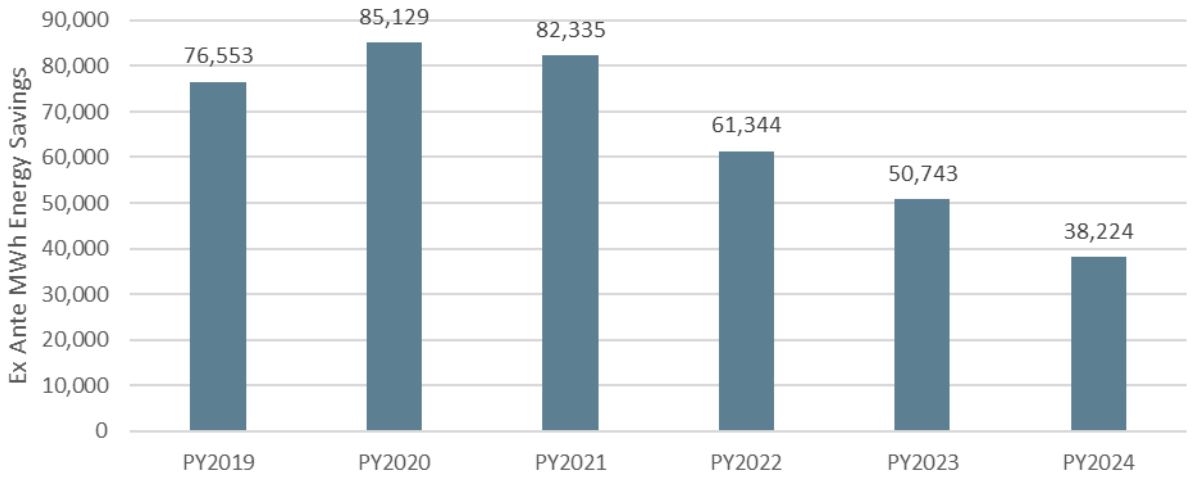
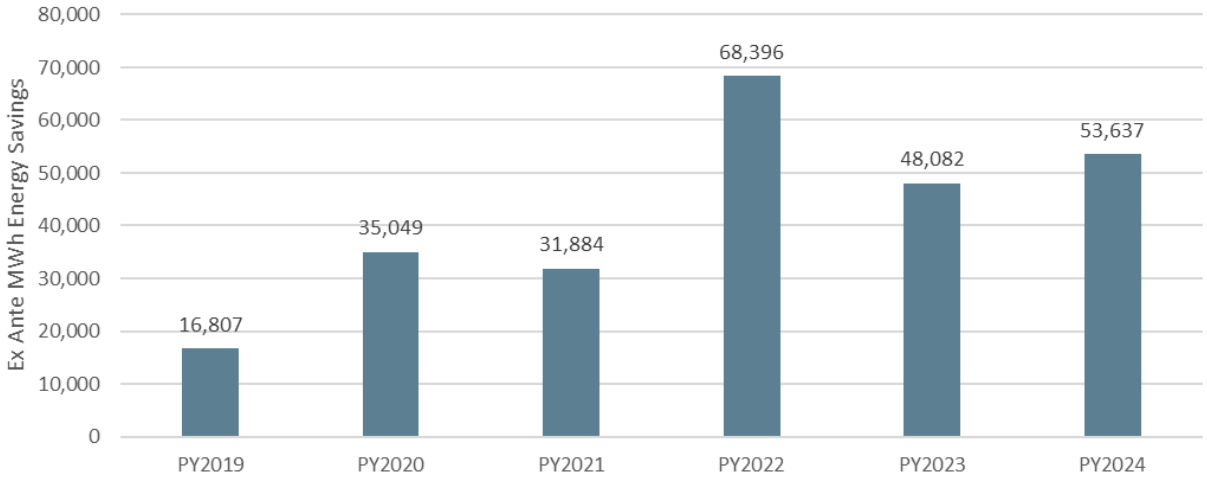


Figure 3-2 Trends in Ex Ante Savings – Custom Program



3.2 Data Collection Activities

The ADM Team administered the participant survey to a census of unique contacts with contact information available at the time the surveys were fielded.

Table 3-3 Summary of Survey Data Collection – Standard and Custom

Data Collection Activity	Mode	Time Frame	Number of Contacts	Completed Surveys / Interviews	Response Rate
Participant survey*	Email	August 2024	332	23	6.9%
Trade ally survey	Email	August 2024	242	21	8.7%
* Four of the respondents participated in the SBDI Program.					

The ADM Team employed a stratified sampling method for the ex post analysis sample, basing strata boundaries on predicted (ex ante) kWh energy savings. This approach yielded a gross savings estimate with a relative precision of 9.2% for the Standard Program and 10.3% for the Custom Program at the 90% confidence level.

The following tables present the number of projects, ex ante gross kWh energy savings, and sampling statistics for each stratum in the sample. Details on the procedures used to estimate the gross savings of the sampled projects is presented in Volume II of the report.

Table 3-4 Summary of Ex Post Savings Analysis Sample Design – Standard

Stratum ID	Strata boundaries (MWh)	Number of projects	Total Ex Ante Annual MWh	Average MWh Savings	Std. dev. of MWh savings	Final design sample
1 - LED Lamps/Kits	> 150	10	2,221	222	70	9
2 - LED Lamps/Kits	30 - 150	57	3,563	63	31	8
3 - LED Lamps/Kits	< 30	273	2,236	8	8	9
4 - LED Fixtures	> 300	1	376	376	n/a	1
5 - LED Fixtures	50 - 300	29	2,760	95	52	10
6 - LED Fixtures	< 50	403	4,042	10	11	14
7 - Non-Lighting	> 170	23	7,077	308	128	17
8 - Non-Lighting	30 - 170	151	11,050	73	37	26
9 - Non-Lighting	< 30	482	4,900	10	8	12
Totals		1,429	38,224	27		106

Table 3-5 Summary of Ex Post Savings Analysis Sample Design – Custom

Stratum ID	Strata boundaries (MWh)	Number of projects	Total Ex Ante Annual MWh	Average MWh Savings	Std. dev. of MWh savings	Final design sample
1 - LED Lighting	> 700	4	8,046	2,012	727	4
2 - LED Lighting	150 - 700	27	9,238	342	153	7
3 - LED Lighting	< 150	48	2,803	58	38	5
4 - HVAC	> 600	8	13,406	1,676	1,852	7
5 - HVAC	200 - 600	12	4,071	339	118	5
6 - HVAC	< 200	111	4,118	37	42	9
7 - Other	> 300	10	10,616	1,062	919	9
8 - Other	< 300	119	1,339	11	22	4
Totals		339	53,637	5,537		50

3.3 Estimation of Ex Post Savings

Table 3-6 summarizes the results of the ex post gross savings analysis.

Table 3-6 Summary of Ex Post Gross and Net Savings – Standard and Custom

Metric	Ex Ante Gross Savings	Ex Post Gross Savings	Gross Realization Rate	Ex Post Net Savings	Net-to-Gross Ratio	Net Goal	% of Goal
Standard							
Energy Savings (MWh)	38,224	38,591	101%	25,084	65%	39,547	63%
Demand Savings (MW)	12.69	12.74	100%	8.28	65%	9.83	84%
Custom							
Energy Savings (MWh)	53,637	49,805	93%	32,373	65%	29,246	111%
Demand Savings (MW)	16.14	16.34	101%	10.63	65%	13.06	81%

Table 3-7 and Table 3-8 summarize gross savings by end use.

Table 3-7 Summary of Ex Post Gross Savings by End Use - Standard

End Use	Ex Ante MWh Gross Savings	Ex Post MWh Gross Savings	Gross Realization Rate (MWh)	Ex Ante MW Gross Savings	Ex Post MW Gross Savings	Gross Realization Rate (MW)
Lighting	27,470	27,480	100%	5.22	5.17	99%
Cooling	6,740	7,059	105%	6.14	6.23	101%
HVAC	2,494	2,565	103%	1.11	1.12	102%
Motors	105	111	106%	0.01	0.02	105%
Refrigeration	167	144	86%	0.02	0.02	83%
Air Comp	666	708	106%	0.09	0.10	105%
Miscellaneous	289	216	75%	0.04	0.03	74%
Cooking	189	196	104%	0.04	0.04	101%
Water Heating	106	111	105%	0.02	0.02	103%
Total	38,224	38,591	101%	12.69	12.74	100%

Table 3-8 Summary of Ex Post Gross Savings by End Use - Custom

End Use	Ex Ante MWh Gross Savings	Ex Post MWh Gross Savings	Gross Realization Rate (MWh)	Ex Ante MW Gross Savings	Ex Post MW Gross Savings	Gross Realization Rate (MW)
Lighting	19,156	17,210	90%	3.64	3.39	93%
Cooling	6,057	5,902	97%	5.52	5.37	97%

HVAC	9,955	10,005	100%	4.42	4.45	101%
Process	15,008	13,461	90%	2.07	2.65	128%
Motors	1,244	1,144	92%	0.17	0.16	95%
Refrigeration	905	905	100%	0.12	0.12	100%
Air Comp	1,260	1,127	89%	0.17	0.16	89%
Building Shell	52	51	100%	0.02	0.02	100%
Total	53,637	49,805	93%	16.14	16.34	101%

3.3.1 Sample Results

Table 3-9 and Table 3-10 present the ex post savings for the sampled projects by sample stratum.

Table 3-9 Summary of Ex Post Gross Savings by Sample Stratum – Standard

Stratum	Ex Ante MWh Savings	Ex Post Annual Gross MWh Savings	kWh Gross Realization Rate	Ex Ante Gross MW Savings	Ex Post Gross MW Savings	MW Gross Realization Rate
1 - LED Lamps/Kits	2,052	1,958	95%	0.38	0.37	96%
2 - LED Lamps/Kits	583	567	97%	0.11	0.11	97%
3 - LED Lamps/Kits	137	142	104%	0.04	0.04	102%
4 - LED Fixtures	376	335	89%	0.07	0.06	90%
5 - LED Fixtures	1,313	1,258	96%	0.55	0.52	96%
6 - LED Fixtures	89	94	106%	0.05	0.05	103%
7 - Non-Lighting	5,875	5,579	95%	1.10	1.08	98%
8 - Non-Lighting	1,924	2,038	106%	0.94	0.99	105%
9 - Non-Lighting	89	91	102%	0.02	0.02	96%

Table 3-10 Summary of Ex Post Gross Savings by Sample Stratum – Custom

Stratum	Ex Ante MWh Savings	Ex Post Annual Gross MWh Savings	kWh Gross Realization Rate	Ex Ante Gross MW Savings	Ex Post Gross MW Savings	MW Gross Realization Rate
1 - LED Lighting	8,046	7,846	98%	1.65	1.48	90%
2 - LED Lighting	3,029	3,025	100%	1.64	1.65	100%
3 - LED Lighting	388	408	105%	0.26	0.27	104%
4 - HVAC	12,645	11,106	88%	3.33	3.91	117%
5 - HVAC	1,694	878	52%	0.60	0.43	71%

Stratum	Ex Ante MWh Savings	Ex Post Annual Gross MWh Savings	kWh Gross Realization Rate	Ex Ante Gross MW Savings	Ex Post Gross MW Savings	MW Gross Realization Rate
6 - HVAC	369	366	99%	0.07	0.07	100%
7 - Other	10,297	10,160	99%	1.99	1.98	99%
8 - Other	147	147	100%	0.05	0.05	100%

3.4 Process Evaluation Findings

3.4.1 Required Process Evaluation Questions

This section presents findings related to addressing the five process evaluation questions required by Missouri Code of State Regulations section 20 CSR 4240-22.070(8). The findings presented apply to all programs in the portfolio collectively referred to as the BizSavers Program.

3.4.1.1 What are the primary market imperfections that are common to the target market segment?

The primary market imperfections common to the target market segment are discussed below.

Lack of awareness about benefits of energy efficient upgrades: According to Ameren and implementer staff, the BizSavers Program exists primarily to help commercial customers identify energy savings opportunities that they would not be generally aware of without assistance. Staff indicated that small businesses tend to be especially unaware of energy efficiency benefits. Staff also indicated that commercial customers don't always understand how participating in the BizSavers Program could help them save money on upfront costs, the long-term bill savings associated with more efficient equipment, and often, improved operational efficiency of new equipment that can require less maintenance and servicing.

Concern about participating in a program: Staff reported that even if customers are interested in efficiency, many have concerns about participating in a program because they think the application for incentives will be complex or difficult to complete. This is especially true for small businesses that do not have dedicated facility managers or other staff to manage an upgrade project that involves applying for incentives. Additionally, these customers may have concerns about complying with program requirements and possible inspections required.

Concerns about upfront cost: Some businesses are reluctant to choose an efficient option because they are concerned that even with an incentive, they will not have the necessary money or financing available to them to purchase the efficient option. Like the other market imperfections noted here, these concerns are especially relevant to small businesses. Staff reported customers were especially concerned about upfront costs in the last couple of years when inflation was higher than normal[1], and they were struggling to pay other bills.

Some contractors emphasize efficiency to customers more than others: Retro commissioning and compressed air contractors emphasize efficiency because that is a key part of their business model. It is

[1] 2022 inflation rate in the US was 8.0%, 2023 inflation was 4.1%, and YTD inflation in 2024 is 2.4. Consumer Price Index,. CPI Home : U.S. Bureau of Labor Statistics. Accessed November 18, 2024.

less clear that contractors in other fields like general HVAC services emphasize efficiency as much. Staff indicated that they continually vet their program trade allies to ensure only engaged and high-performing contractors stay in the trade ally network.

3.4.1.2 Is the target market segment appropriately defined, or should it be further subdivided or merged with other market segments?

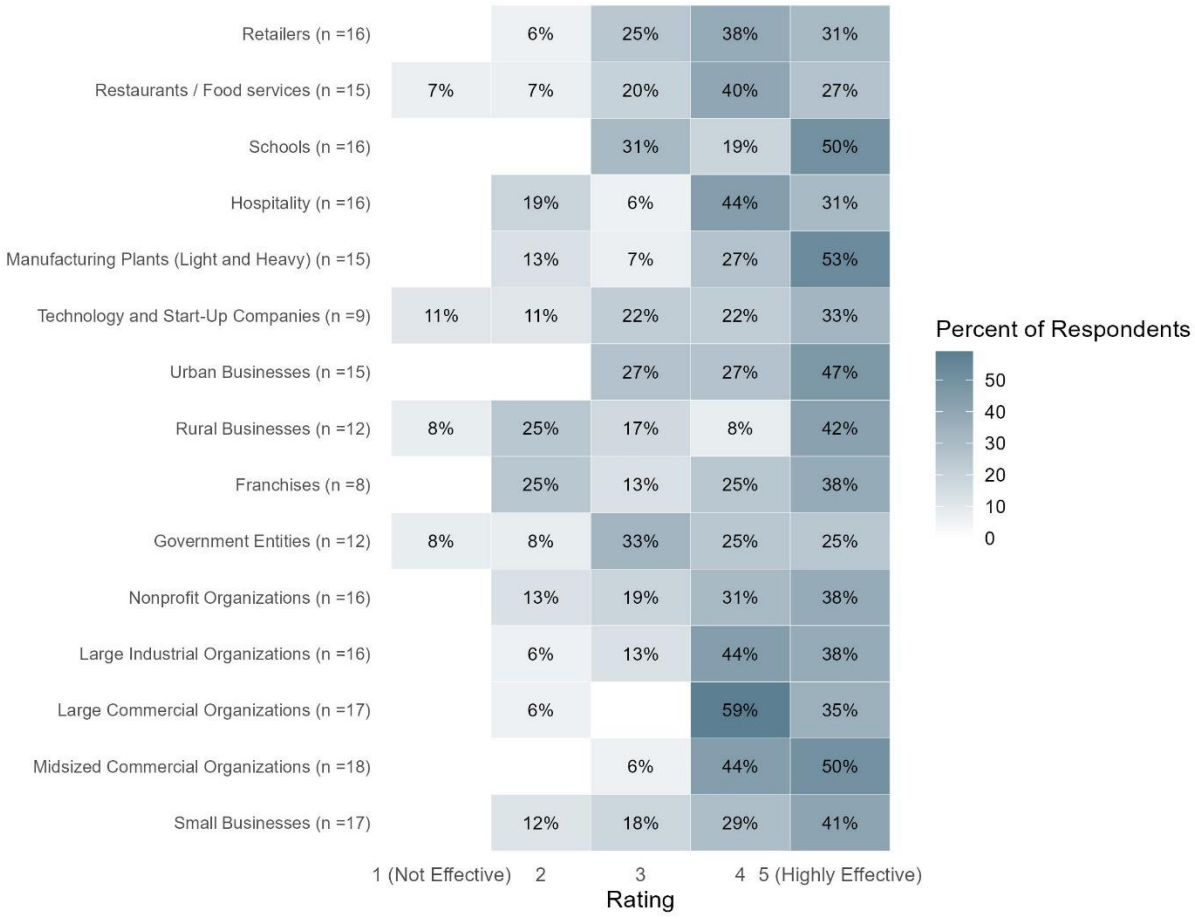
The BizSavers Program effectively targets a diverse range of business types and sizes, as reported by Ameren and implementer staff and confirmed through program document review. Currently, Ameren segments the program into the following groups.

- **Small businesses**. Ameren serves this market through their Small Business Direct Install (SBDI) effort. They target customers with less than 100kW of demand that typically do not have facility managers or other resources to help participate in a traditional efficiency program. Dedicated service providers do the installation work for this program and there are a range of measures available including lighting, HVAC, and controls. Staff reported that the SBDI efforts could benefit from additional service providers which would allow the program to serve more small businesses.
- **Non-profits, municipalities, and schools in income-eligible areas**. Ameren serves this market through their Business Social Services (BSS) offering, which provides prescriptive incentives, application processing and a dedicated service provider network to work these customers. Staff reported that there is an opportunity to grow this program by expanding eligibility to more non-profits and by serving more rural areas with this initiative.
- **Large facilities with energy management systems.** Ameren's Retro Commissioning (RCx) program offers owners or managers of large facilities an opportunity to identify low and no-cost ways to save energy by optimizing system controls and changing operational systems that can yield energy savings. Additionally, Ameren has started to offer a Virtual RCx service which uses a third-party firm to identify inefficiencies in a customer's energy usage using smart meter load data.
- **All other businesses:** The Standard and Custom program tracks allow commercial customers of any size to save money on the installation of energy saving lighting, HVAC, production, and other types of equipment. Customers can choose from prescriptive incentives that are paid on a per unit basis or custom incentives that are calculated based on the projected annual energy savings.

Staff indicated there may be an opportunity to segment the commercial market more and develop programs to serve these segments. For example, one staff person suggested there may be an opportunity to develop a program and set of measures targeted at restaurants.

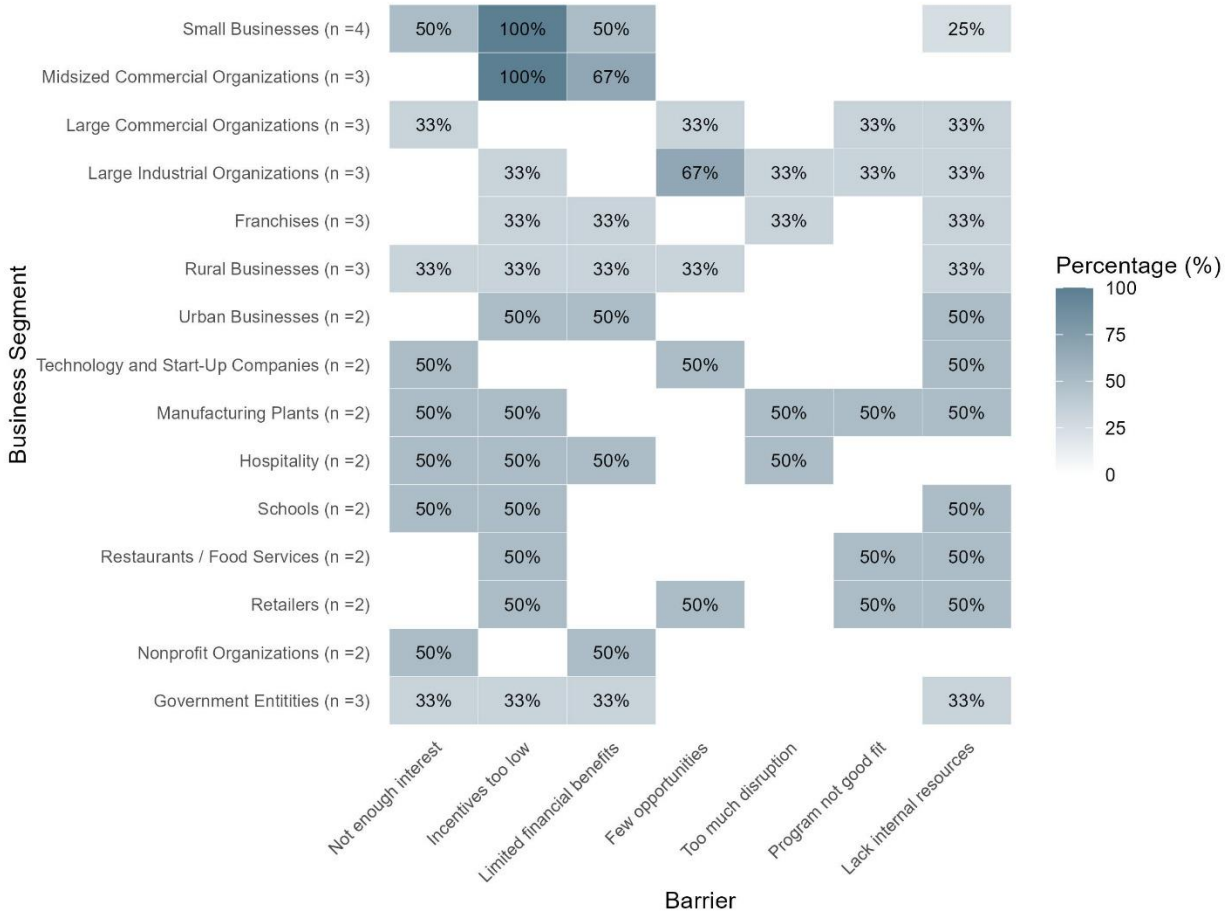
Business trade allies' ratings of incentive effectiveness generally suggest similar levels of effectiveness of the incentives offered in PY2024 for the different business segments. The findings are summarized in Figure 3-3 and the generalizability of the findings to the PY2025 programs is limited given the discontinuation of lighting incentives.

Figure 3-3 Trade Ally Ratings of Incentive Effectiveness for Different Business Segments



Across business segments, respondents cited low incentives and limited financial benefits as key reasons why the Ameren Missouri programs and incentives are perceived as ineffective. Additionally, barriers such as lack of internal resources and disruption to business operations were mentioned in certain segments. Because few trade allies rated the incentives as ineffective, the findings are based on small sample sizes (2–4 respondents per segment), so results should be interpreted cautiously.

Figure 3-4 Barriers to Incentive Effectiveness



3.4.1.3 Does the mix of end-use measures included in the program appropriately reflect the diversity of end-use energy service needs and existing end-use technologies within the target market segment?

Staff indicated that the BizSavers Program generally provides the measures customers need but suggested that adjustments to the measure list could make the offerings more comprehensive. Under the four primary tracks identified above, customers have a wide selection of energy saving measures to select from. This list includes lighting, HVAC, compressed air, and controls. The Custom track allows the program to address unique customer needs by offering measures tailored to less common technologies or specific circumstances.

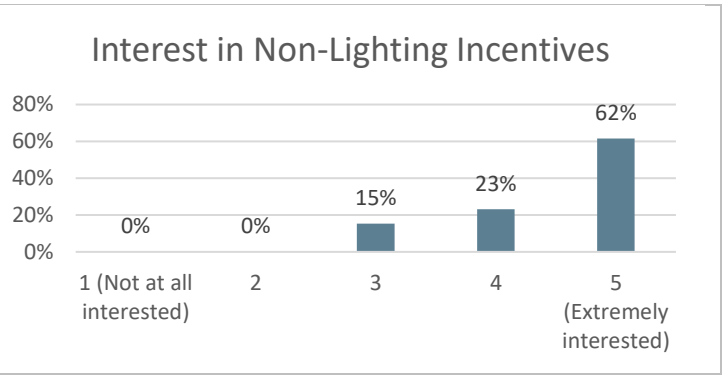
Staff did indicate a few ways to expand the number of measures available to better serve the customer base.

- Create an easier pathway for SBDI and BSS customers to receive custom measures without going through the normal Custom pathway. Staff did not indicate how this change could happen.
- As noted above, staff noted that the addition of the Virtual RCx program track has the potential to make receiving RCx services easier for participants.

Survey responses suggest that there is an opportunity to increase awareness of non-lighting and custom incentives among program participants. As shown in Figure 3-5, approximately half of the customers who installed lighting measures were aware of non-lighting incentives, and many expressed interest in these incentives if they needed to replace non-lighting equipment. Additionally, 21% of standard and SBDI participants were aware of custom incentive opportunities.

Figure 3-5 Awareness and Interest in Incentives

Response	Percent of Respondents (n = 15)
Lighting Participants Aware of Non-Lighting Incentives (n = 14)	50%
Standard/SBDI Participants Aware of Custom Incentives (n = 19)	21%



A few trade allies suggested additional incentives, but many of the suggestions were for lighting measures that will be discontinued in 2025. The table below summarizes the feedback provided by trade allies. Expansion of kitchen equipment prescriptive incentives may present an opportunity for the program.

Table 3-11 Summary of Trade Ally Suggestions for Additional Incentives

Suggested Incentives	Example Utilities	Note
Power optimization systems installed at the main electric panels in facilities	Liberty/Empire Electric, Ameren Illinois	
Exterior lighting; Higher incentives for "plug-and-play" LED solutions	Virtually all the other programs we work with offer incentives for exterior lighting, and many do not have varying incentive amounts for Type A or Type B solutions.	Incentives not available in 2025
Instant incentives for industrial	Ameren Illinois	Ameren Illinois offers instant incentives for notched v-belts and other equipment.
Exterior Lighting	Ameren Illinois	Incentives not available in 2025
Exterior Lighting / Parking Garages / EV Car Private & Public Charging Stations Ameren Illinois Program is superior in all these regards.	Ameren Illinois	Incentives not available in 2025
Outdoor lighting; Increased HVAC incentives, especially within SBDI program	Various local coop programs	Incentives not available in 2025

Suggested Incentives	Example Utilities	Note
Commercial Ice Makers, Fryers, Cooktops, Broilers, Water Heaters	Many nationwide	Prescriptive incentives offered for some kitchen and water heating equipment in 2024

3.4.1.4 Are the communication channels and delivery mechanisms appropriate for the target market segment?

Staff reported several ways they communicate with the commercial market to increase awareness of program services. They include:

- **Digital ads and social media**: The program uses digital ads, LinkedIn, Google, and other platforms to reach a broad commercial audience. These ads highlight specific incentives targeted at various groups.
- **Newsletters and email campaigns**: Program staff provide regular newsletters and emails to participants to keep them informed about program updates, new incentives, and case studies. This is a way the program works with participants to make them repeat participants. Furthermore, the Program targets the email campaigns so large businesses are not receiving information about something like BSS which is not relevant to them.
- **Trade Ally events**: The program hosts regular events with trade allies to update them on changes to program rules, new incentive offerings, and relevant topics such as technological innovations in their field.
- **Direct outreach to trade allies and large customers**: Ameren uses business development representatives to conduct direct outreach to trade allies and large participants. These representatives maintain regular communication with these firms to keep them apprised of program changes as well as help them participate in future projects. These representatives provide large customers and trade allies with a go-to person for their questions about program rules, processes, and measures. Surveyed trade allies preferred email communications to receive program updates (83% of 18 respondents stated this preference).
- **The Bid Board**: Ameren maintains an online board where customers can post a project and receive bids from trade allies. The board asks the customer some questions about the possible project including type of work needed (e.g. HVAC upgrade) and any specific requirements (e.g. Project needs to happen during holiday break for a school). Once the post passes review from TRC, Trade allies can bid on the work through the board and the customer can then select a winning bid or seek more information. The board provides another way to facilitate communication between all parties beyond just applications and phone calls.
- **Regular feedback from participants and trade allies**. Ameren regularly solicits feedback from trade allies and participants about their satisfaction with the program. This feedback comes from surveys completed as part of the annual evaluation (this report), communications between business development representatives and customers, and conversations at trade ally events between program staff and market actors.

Participant survey responses suggest that the communication approaches support customer awareness. Forty-five percent of respondents (n = 20) learned of the program from the trade ally they worked with, 20% from the program website, 15% from an Ameren Missouri email or newsletter, and 10% from an Ameren Missouri account representative.

Participant survey feedback indicates that the application process has been an effective aspect of the program's delivery. Nearly all respondents found the information on how to complete the application to be clear, with 67% rating it as "completely clear" and an additional 25% providing a 4 out of 5 rating (Figure 3-6). Moreover, all respondents reported knowing who to contact for assistance with the application, demonstrating that communication channels are well-established and accessible.

Further detailed feedback (Figure 3-7) highlights that participants find all rated aspects of the application process acceptable:

- **Ease of finding forms on the website:** 89% rated as acceptable.
- **Ease of using the electronic application:** 100% acceptable.
- **Time for application approval:** 100% acceptable.
- **Effort required to provide documentation:** 92% acceptable.
- **Overall application process**: 100% acceptable.

These results suggest that the program's communication and delivery mechanisms align well with the needs of the target market.

Figure 3-6 Clarity of Information on How to Complete Application (n = 12)

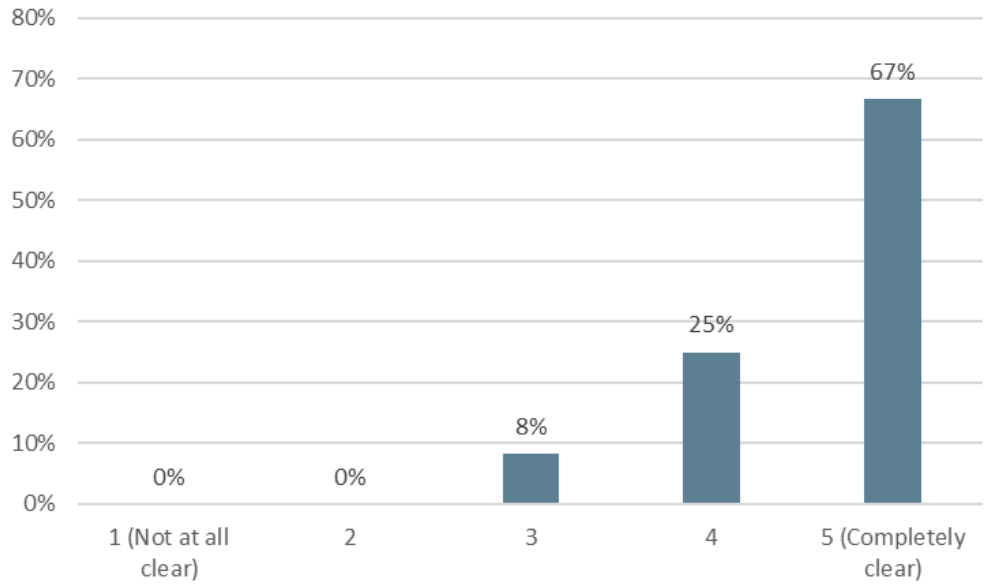
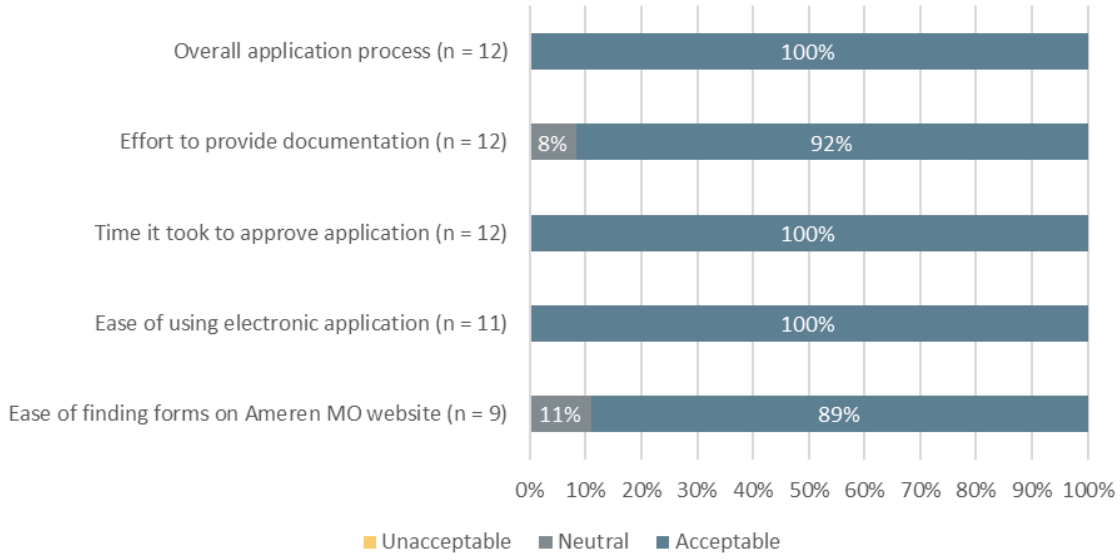


Figure 3-7 Acceptability of Application Process and Components



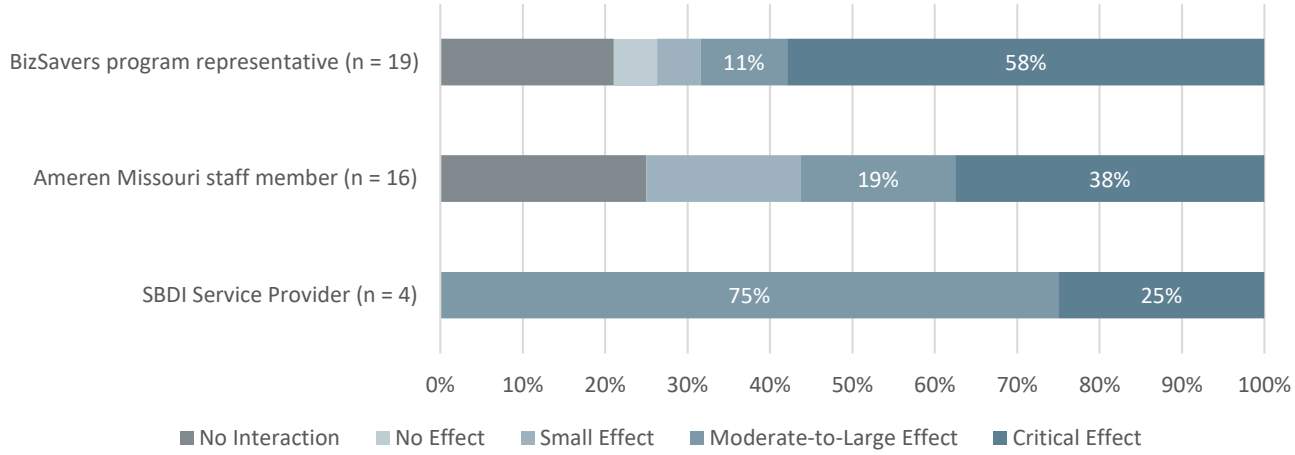
Program representatives, SBDI Service Providers, and Ameren Missouri staff serve as important communication channels that support program delivery. Participant feedback on their influence underscores the effectiveness of these actors in engaging the target market and facilitating energy efficiency projects (Figure 3-8).

BizSavers program representatives and SBDI Service Providers (for SBDI projects) had the most significant influence on participants' decisions to complete energy efficiency projects. A majority of respondents (58%) indicated that BizSavers representatives had a Critical Effect, with relatively few reporting no interaction. Similarly, all respondents who interacted with SBDI Service Providers found their input impactful, with 75% reporting a Moderate-to-Large Effect and 25% citing a Critical Effect. However, these findings are based on a sample of four and should be interpreted with caution.

Contractors and Ameren Missouri staff also played notable roles, although their influence was somewhat more varied. Among contractors, 36% of respondents reported a Critical Effect, while 29% noted a Moderate-to-Large Effect. For Ameren Missouri staff, 38% cited a Critical Effect, and 19% a Moderate-to-Large Effect. In comparison, vendors had a more mixed impact, with 29% reporting a Critical Effect and smaller proportions citing other levels of influence.

Overall, these findings highlight the importance of program representatives and SBDI Service Providers as the most consistently impactful communication channels, demonstrating their appropriateness and effectiveness in supporting the program's delivery. The results also suggest that personal engagement by these key actors is a successful delivery mechanism, particularly in driving participant decision-making and facilitating project completion.

Figure 3-8 Effect on Decision to Complete Energy Efficiency Project



3.4.1.5 What can be done to more effectively overcome the identified market imperfections and to increase the rate of customer acceptance and implementation for select end-uses/measure groups included in the Program?

Staff reported several ways the BizSavers Program could increase participation and adoption of efficiency measures. Some of these methods were alluded to in the above sections.

- **Streamline application processes**: Staff suggested reducing the complexity of the application process, particularly for small businesses that may lack dedicated personnel to navigate the program. While no specific recommendations were provided, staff emphasized the need for continued automation of application submission and tracking. An online tracking system could enable trade allies and participants to monitor the status of applications, especially for complex Custom applications, which often take significant time to complete. Additionally, such a system could facilitate customer journey tracking, allowing program staff to monitor a customer's project from initial contact to completion. This would help identify drop-off points and areas where customers may require additional support, reducing the likelihood of project abandonment.
- **Greater promotion of the Bid Board**: Staff highlighted the potential of the Bid Board to facilitate customer participation in projects but emphasized the need for increased utilization. To boost awareness, staff recommended greater promotion of the Bid Board, particularly among small businesses.
- **Continue refining targeted marketing efforts**: As noted above, staff reported regular use of targeted marketing efforts using online platforms and email campaigns. However, staff also noted it will be important to maintain those efforts and refine them as program opportunities evolve. For example, they may need to develop an outreach campaign targeting nonprofit customers to promote the BSS offering if eligibility requirements change.
- **Educate trade allies about offerings outside their specific trade:** Staff identified a missed opportunity when trade allies fail to refer customers to other potential energy-saving measures during site visits. For example, a lighting trade ally could inform a customer about

HVAC offerings if they observe old, inefficient heating and cooling equipment or if the customer mentions issues with their system. Expanding trade allies' knowledge of cross-trade offerings could help maximize energy-saving opportunities for customers.

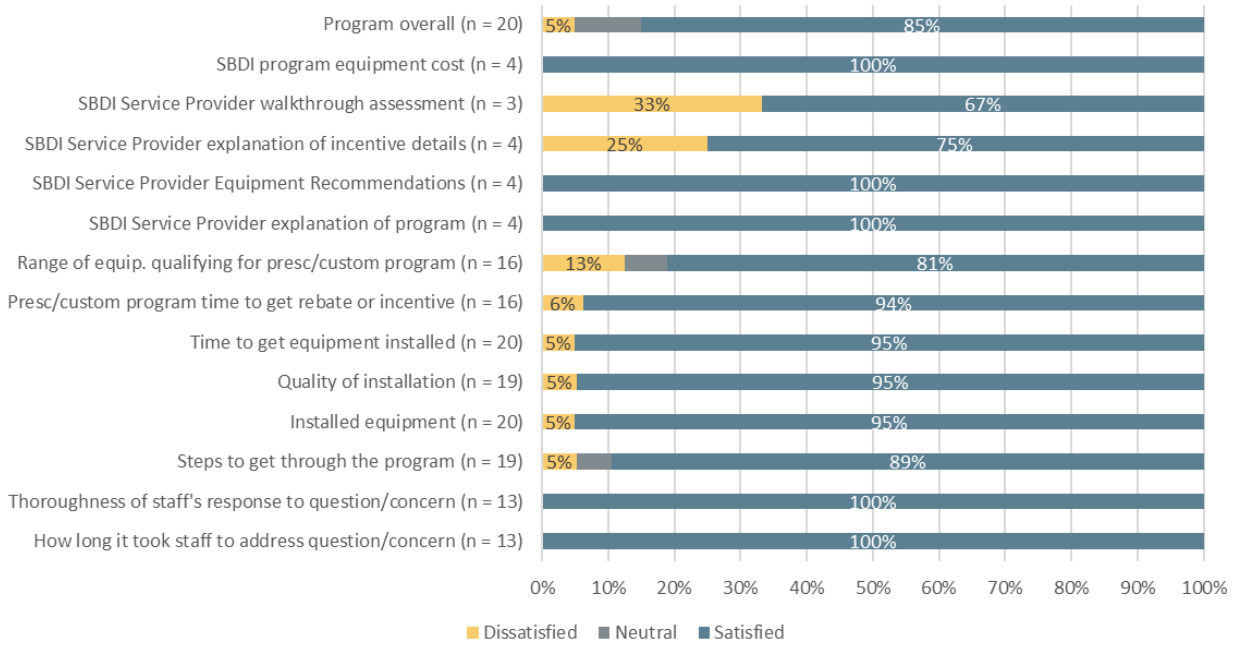
- **Increase recruitment of trade allies in traditionally underserved areas:** The trade ally network is well developed and has been in place for multiple years. However, according to staff, there is an opportunity to expand the trade ally network, especially in rural areas of the Ameren service territory. If there are contractors serving these areas that are not in the trade ally network, this would be an opportunity to increase savings as well as promote equity.
- **Increase financing opportunities:** Staff indicated that there could be an opportunity to offer on-bill financing that could help some customers overcome their concern about the upfront cost of some measures.
- **Increase outreach and interactions with community groups**: By partnering with groups like local Chambers of Commerce or other community groups, Ameren can promote program offerings that may be of interest to commercial customers. This could be especially valuable in rural areas and anywhere that has been traditionally underserved by Ameren programs.

3.4.2 Additional Process Evaluation Findings

Overall program satisfaction is high, with 85% of participants reporting satisfaction and only a small percentage (5%) expressing dissatisfaction. Staff performance received high ratings, with 100% satisfaction for both the timeliness and thoroughness of responses to questions or concerns. Similarly, satisfaction with program processes and installation was high, with 89% to 95% satisfaction reported for the steps to complete the program, installed equipment, quality of installation, and the time required for installation. However, minor dissatisfaction (5% to 6%) was noted in these areas. For the prescriptive/custom program, 94% of participants were satisfied with the time to receive rebates or incentives, while satisfaction with the range of qualifying equipment was slightly lower at 81%, with 13% expressing dissatisfaction.

For SBDI, results were mixed. All four respondents were satisfied with the service provider’s explanation of the program, equipment recommendations, and equipment costs. However, one respondent reported dissatisfaction with the explanation of incentive details, and one was dissatisfied with the walkthrough assessment. However, due to the small number of SBDI participants who responded to the survey, the result should be interpreted with caution.

Figure 3-9 Participant Satisfaction



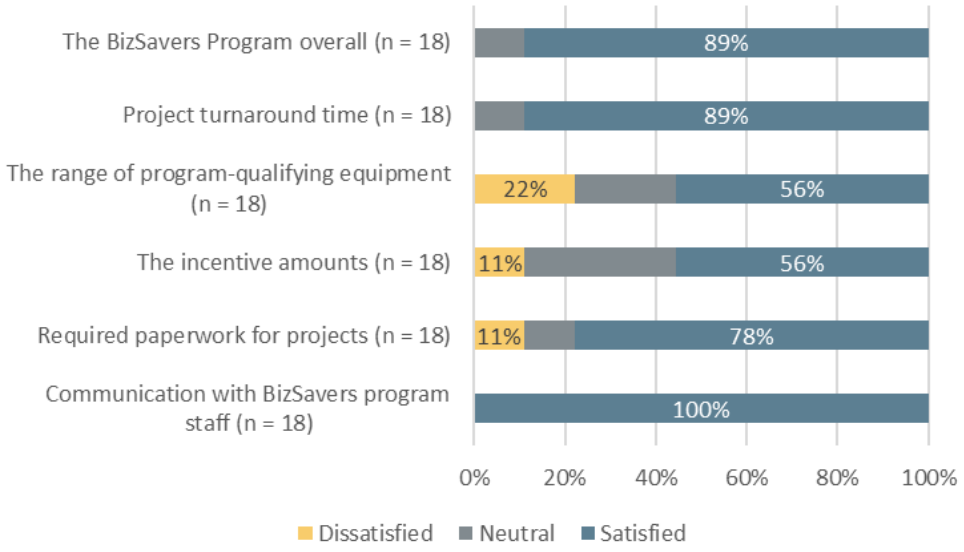
Trade allies expressed high satisfaction with the BizSavers Program overall and with most program aspects. Eighty-nine percent of trade allies reported being satisfied with the program overall. Satisfaction was highest with communication from program staff, with all respondents (100%) indicating they were satisfied. Similarly, satisfaction with project turnaround time was high, with 89% satisfied.

However, areas of concern included the range of program-qualifying equipment, incentive amounts, and required paperwork. Dissatisfaction with these aspects was noted by some respondents, as reflected in satisfaction ratings:

- **Range of program-qualifying equipment**: 22% dissatisfied, 22% neutral, 56% satisfied
- **Incentive amounts**: 11% dissatisfied, 33% neutral, 56% satisfied
- **Required paperwork**: 11% dissatisfied, 11% neutral, 78% satisfied

Open-ended comments highlighted specific issues, including a desire for the program to cover more equipment, particularly exterior lighting and food service equipment. One trade ally suggested increasing trade ally bonuses, stating, “More trade ally bonuses paid directly to them.” Another trade ally recommended administering incentive applications at the project level rather than requiring separate applications for each account, explaining:

> *“My company typically does work across our clients' portfolios, and the program would be greatly improved if incentive applications were administered on a project-level basis.”*



3.5 Key Findings and Recommendations

The following are the main findings and recommendations from the evaluation of the program.

- **The evaluation of the PY2024 BizSavers Standard and Custom Programs found that while both performed well in terms of the realization rate, their overall results differed.** The Standard Program had a gross realization rate of 101%, but ex ante energy savings declined from 50,743 MWh in PY2023 to 38,224 MWh in PY2024, and the program achieved 63% of its net energy savings goal. In contrast, the Custom Program had a gross realization rate of 93%, saw an increase in ex ante energy savings from 48,082 MWh in PY2023 to 53,637 MWh in PY2024, and exceeded its net savings goal by achieving 111% of it. Lighting accounted for the largest share of savings in both programs – 71.9% of Standard Program ex ante savings and 35.7% Custom Program ex ante savings.

- **BizSavers Program targets a wide range of business types and sizes.** The market segments targeted are small businesses through the SBDI Program; non-profits, municipalities, and schools in income-eligible areas through the BSS Program; large facilities with energy management systems through the RCx Program; and all other businesses through the RCx Program. Program staff noted a potential opportunity to develop a program and measures specifically for restaurants, an idea echoed by a trade ally who suggested expanding prescriptive incentives for commercial kitchen equipment.

  Recommendation 1: Develop a program or program component specifically tailored to restaurants. This should include measures designed for the unique needs of these businesses and strategies to effectively reach this segment. Key considerations include addressing challenges in engaging key decision-makers, building relationships with equipment dealers, and creating marketing materials that meet the specific information needs of restaurant owners.

- **Survey findings indicate that the program communication channels and delivery mechanisms are effective. P**articipant feedback on the influence of program representatives, SBDI Service Providers, and Ameren Missouri on their project highlights the

effectiveness of these actors in engaging the target market and facilitating energy efficiency projects. Additionally, participants provided positive feedback on the application process, and all knew where to get help on completing the application.

That said, program staff noted that they are continuing efforts to improve program communication and delivery by streamlining the application process, developing new communication methods (e.g., the Bid Board), refining marketing strategies, increasing outreach and interaction with community groups, and enhancing trade ally education.

- **Participants and trade allies reported satisfaction with the program.** Among participants, 85% reported that they were satisfied with the program overall and 5% reported dissatisfaction. Similarly, 89% of trade allies were satisfied with the program overall and none reported dissatisfaction.

4 Retro-Commissioning

The RCx Program is designed to assist customers in retro-commissioning existing facilities. The process encompasses several activities such as executing a retro-commissioning study, benchmarking the current performance levels of building systems, pinpointing improvements for optimizing operating system performance, and, where relevant, offering financial incentives to endorse the implementation of program recommendations. Optimization measures commonly center around compressed air, refrigeration, and building systems.

A fundamental aspect of the program is its reliance on program-approved contractors, designated as Retro-Commissioning Service Providers (RSPs), to yield measurable energy savings. These RSPs undertake a comprehensive facility energy study focusing on equipment optimization and engage in educating customers regarding the sustenance of equipment efficiency.

Through the structured involvement of RSPs, the RCx Program not only aims at improving the energy efficiency of existing facilities but also endeavors to instill a culture of energy consciousness and maintenance efficiency among customers. This holistic approach positions the RCx Program as a pivotal initiative in promoting energy efficiency and operational optimization in existing facilities, thereby contributing to broader energy conservation and sustainability objectives.

The Virtual Commissioning™ (VCx™) component analyzes facility energy usage to identify unexpected and wasted energy. Offered at no cost to small- and medium-sized business customers through Ameren Missouri's energy partner, Power TakeOff, the program required no fees or applications. The program uses a trained Energy Advisor to review energy usage data remotely.

4.1 Program Activity Summary

Table 4-1 summarizes the Retro-Commissioning Program activity during PY2024 by end-use.

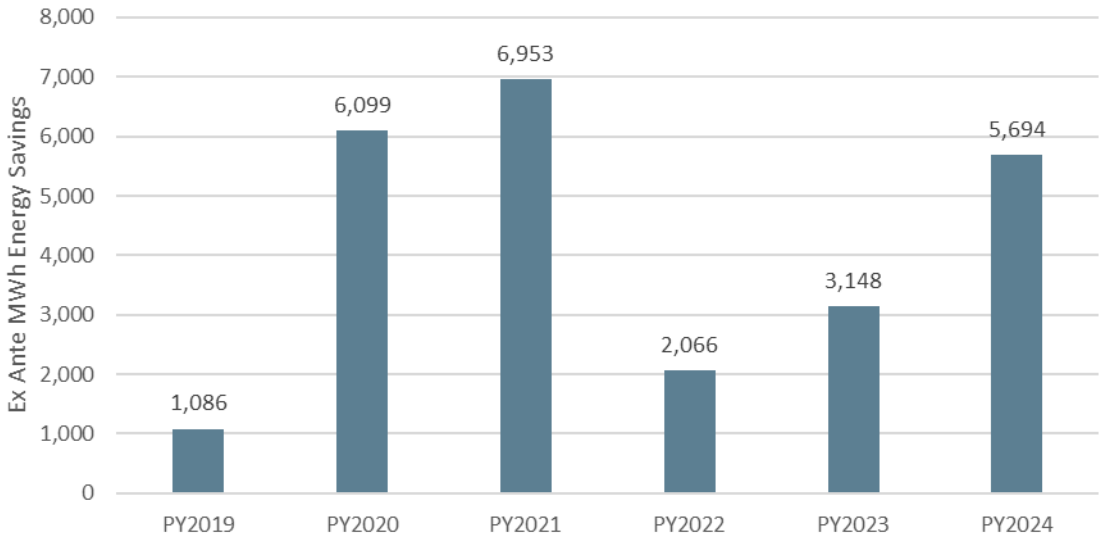
Table 4-1 Summary of Program Activity – Retro-Commissioning

End Use	Participants		Ex Ante Gross Savings	
	Count	Percent	MWh	Percent
Lighting	12	33.3%	535	9.4%
Cooling	2	5.6%	222	3.9%
HVAC	14	38.9%	4,112	72.2%
Air Comp	8	22.2%	824	14.5%
Total	31	100.0%	5,694	100.0%

*The summed percentages of projects may exceed 100% because some participants completed projects with multiple end-uses.

Figure 4-1 summarizes trends in ex ante savings since PY2019.

Figure 4-1 Trends in Ex Ante Savings – Retro-Commissioning



4.2 Data Collection Activities

The ADM Team employed a stratified sampling method for the ex post analysis sample, basing strata boundaries on predicted (ex ante) kWh energy savings. This approach yielded a gross savings estimate with a relative precision of 6.2% at the 90% confidence level.

The following table presents the number of projects, predicted gross kWh energy savings, and sampling statistics for each stratum in the program sample. Details on the procedures used to estimate the gross savings of the sampled projects are presented in Volume II of the report.

Table 4-2 Summary of Ex Post Savings Analysis Sample Design – Retro-Commissioning

Stratum ID	Strata boundaries (MWh)	Number of projects	Total Ex Ante Annual MWh	Average MWh Savings	Std. dev. of MWh savings	Final design sample
1 - RCx	> 255	4	2,759	690	598	4
2 - RCx	> 0	7	365	52	51	2
3 - Virtual RCx	> 0	17	2,570	151	316	17
Totals		28	5,694	893		23

4.3 Estimation of Ex Post Savings

Table 4-3 summarizes the results of the ex post gross savings analysis.

Table 4-3 Summary of Ex Post Gross Energy Savings – Retro-Commissioning

Metric	Ex Ante Gross Savings	Ex Post Gross Savings	Gross Real-ization Rate	Ex Post Net Savings	Net-to-Gross Ratio	Net Goal	% of Goal
Energy Savings (MWh)	5,694	5,709	100%	3,711	65%	3,339	111%
Demand Savings (MW)	2.24	2.29	102%	1.49	65%	1.39	107%

Table 4-4 summarizes gross savings by end use.

Table 4-4 Summary of Ex Post Gross Savings by End Use – Retro-Commissioning

End Use	Ex Ante MWh Gross Savings	Ex Post MWh Gross Savings	Gross Real-ization Rate (MWh)	Ex Ante MW Gross Savings	Ex Post MW Gross Savings	Gross Real-ization Rate (MW)
Lighting	535	422	79%	0.10	0.08	81%
Cooling	222	222	100%	0.20	0.20	100%
HVAC	4,112	4,241	103%	1.82	1.89	103%
Air Comp	824	824	100%	0.11	0.11	100%
Total	5,694	5,709	100%	2.24	2.29	102%

4.3.1 Sample Results

Table 4-5 presents the ex post savings for the sampled projects by sample stratum.

Table 4-5 Summary of Ex Post Gross Savings by Sample Stratum – Retro-Commissioning

Stratum	Ex Ante MWh Savings	Ex Post Annual Gross MWh Savings	kWh Gross Realization Rate	Ex Ante Gross MW Savings	Ex Post Gross MW Savings	MW Gross Realization Rate
1 - RCx	2,759	2,759	100%	1.11	1.11	100%
2 - RCx	110	110	100%	0.04	0.04	100%
3 - Virtual RCx	2,570	2,455	96%	1.00	1.05	104%

4.4 Process Evaluation Findings

The process evaluation findings for the Retro-Commissioning Program are presented in Section 3.4.

4.5 Key Findings and Recommendations

The following are the main findings and recommendations from the evaluation of the program.

- **The PY2024 BizSavers Retro-Commissioning/ Virtual Retro-Commissioning Program saw increased ex ante savings.** Additionally, ex ante energy savings for Retro-Commissioning increased significantly from 3,148 MWh in PY2023 to 5,694 MWh in PY2024 and the program achieved 111% of its goal. HVAC measures were the primary driver of program savings, accounting for 72% of total ex ante energy savings. These results highlight the effectiveness of retro-commissioning efforts in delivering verified energy savings, particularly through HVAC-related measures.

5 Small Business Direct Install

The SBDI Program is crafted to facilitate the adoption of energy efficient technologies within small business frameworks by alleviating hurdles such as high upfront costs, insufficient knowledge, and limited time and resources to explore energy efficiency prospects. The program is tailored for small non-residential customers under the Small General Service Rate 2(M), encompassing commercial and institutional customers, but excluding multi-family customers. A distinguishing feature of the SBDI Program is its simplified, immediate, and streamlined process aimed at encouraging participation from small business customers.

SBDI Program Service Providers play an important role in delivering low-cost energy efficient measures to small business customers. These Service Providers are responsible for the supply, installation, and completion of necessary paperwork for eligible participants. Moreover, they are charged with the identification of additional energy efficiency opportunities beyond the SBDI Program's purview.

5.1 Program Activity Summary

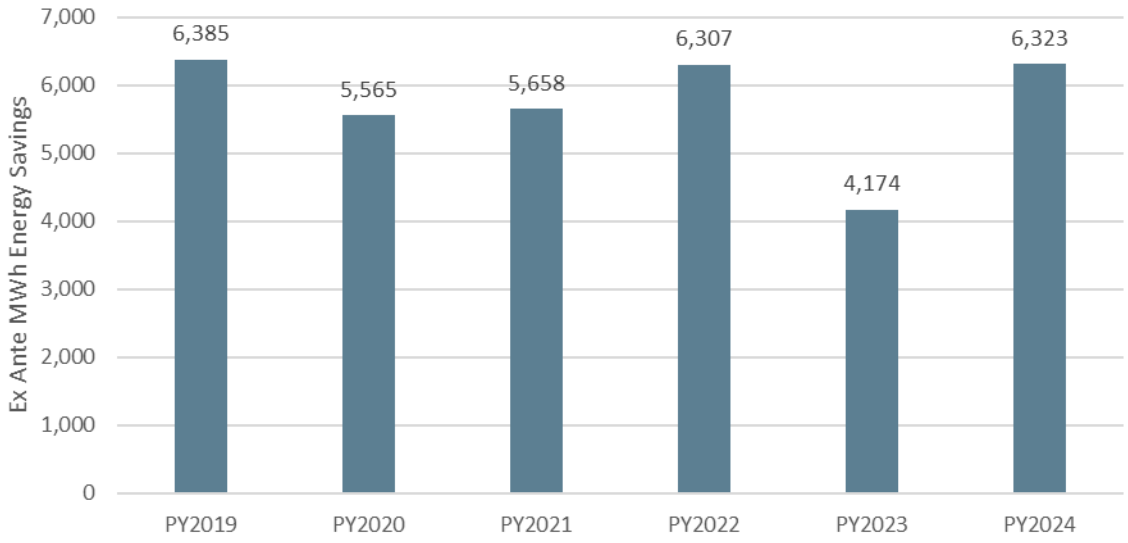
Table 5-1 summarizes the Small Business Direct Install Program activity during PY2024 by end-use.

Table 5-1 Summary of Program Activity – Small Business Direct Install

End Use	Participants		Ex Ante Gross Savings	
	Count	Percent	MWh	Percent
Lighting	491	94.8%	5,972	94.5%
Cooling	4	0.8%	14	0.2%
HVAC	2	0.4%	3	0.1%
Refrigeration	14	2.7%	298	4.7%
Miscellaneous	5	1.0%	18	0.3%
Cooking	2	0.4%	17	0.3%
Total	513	100.0%	6,323	100.0%

Figure 5-1 summarizes trends in ex ante savings since PY2019.

Figure 5-1 Trends in Ex Ante Savings – Small Business Direct Install



5.2 Data Collection Activities

The ADM Team administered the survey to a census of unique contacts with contact information available at the time the surveys were fielded.

Table 5-2 Summary of Data Collection – Small Business Direct Install

Data Collection Activity	Mode	Time Frame	Population Targeted	Completed Surveys / Interviews	Response Rate
Participant Survey	Email	August 2024	97	4	4.1%

The ADM Team employed a stratified sampling method for the ex post analysis sample, basing strata boundaries on predicted (ex ante) kWh energy savings. This approach yielded a gross savings estimate with a relative precision of 9.4% at the 90% confidence level.

The following table presents the number of projects, predicted gross kWh energy savings, and sampling statistics for each stratum in the program sample. Details on the procedures used to estimate the gross savings of the sampled projects are presented in Volume II of the report.

Table 5-3 Summary of Ex Post Savings Analysis Sample Design – Small Business Direct Install

Stratum ID	Strata boundaries (MWh)	Number of projects	Total Ex Ante Annual MWh	Average MWh Savings	Std. dev. of MWh savings	Coefficient of variation	Final design sample
1 - LED Lamps/kits	> 60	7	579	83	22	0.26	7
2 - LED Lamps/kits	15 - 60	68	1,748	26	8	0.32	10
3 - LED Lamps/kits	6 - 15	117	1,104	9	3	0.27	6

Stratum ID	Strata boundaries (MWh)	Number of projects	Total Ex Ante Annual MWh	Average MWh Savings	Std. dev. of MWh savings	Coefficient of variation	Final design sample
4 - LED Lamps/kits	< 6	284	789	3	2	0.65	5
5 - LED Fixtures	> 50	4	326	82	19	0.24	4
6 - LED Fixtures	12 - 50	18	370	21	8	0.40	3
7 - LED Fixtures	< 12	62	280	5	3	0.74	7
8 - Non-Lighting	> 70	2	237	119	48	0.40	2
9 - Non-Lighting	< 70	14	333	24	5	0.22	1
10 - Non-Lighting	< 16	136	557	4	4	1.02	12
Totals		712	6,323	9			57

5.3 Estimation of Ex Post Savings

Table 5-4 summarizes the results of the ex post gross savings analysis.

Table 5-4 Summary of Ex Post Gross Energy Savings – Small Business Direct Install

Metric	Ex Ante Gross Savings	Ex Post Gross Savings	Gross Real-ization Rate	Ex Post Net Savings	Net-to-Gross Ratio	Net Goal	% of Goal
Energy Savings (MWh)	6,323	5,955	94%	3,871	65%	7,981	49%
Demand Savings (MW)	1.20	1.14	95%	0.74	65%	1.59	47%

Table 5-5 summarizes gross savings by end use.

Table 5-5 Summary of Ex Post Gross Savings by End Use – Small Business Direct Install

End Use	Ex Ante MWh Gross Savings	Ex Post MWh Gross Savings	Gross Real-ization Rate (MWh)	Ex Ante MW Gross Savings	Ex Post MW Gross Savings	Gross Real-ization Rate (MW)
Lighting	5,972	5,633	94%	1.13	1.08	95%
Cooling	14	14	95%	0.01	0.01	95%
HVAC	3	5	140%	0.00	0.00	140%
Refrigeration	298	271	91%	0.04	0.04	90%
Miscellaneous	18	18	97%	0.00	0.00	97%
Cooking	17	15	91%	0.00	0.00	91%
Total	6,323	5,955	94%	1.20	1.14	95%

5.3.1 Sample Results

Table 5-6 presents the ex post savings for the sampled projects by sample stratum.

Table 5-6 Summary of Ex Post Gross Savings by Sample Stratum – Small Business Direct Install

Stratum	Ex Ante MWh Savings	Ex Post Annual Gross MWh Savings	kWh Gross Realization Rate	Ex Ante Gross MW Savings	Ex Post Gross MW Savings	MW Gross Realization Rate
1 - LED Lamps/kits	579	557	96%	0.11	0.11	96%
2 - LED Lamps/kits	306	278	91%	0.06	0.05	90%
3 - LED Lamps/kits	66	60	91%	0.01	0.01	91%
4 - LED Lamps/kits	17	18	102%	0.00	0.00	101%
5 - LED Fixtures	326	319	98%	0.06	0.06	98%
6 - LED Fixtures	78	77	98%	0.01	0.01	98%
7 - LED Fixtures	35	37	104%	0.01	0.01	114%
8 - Non-Lighting	237	232	98%	0.05	0.04	98%
9 - Non-Lighting	21	19	87%	0.00	0.00	101%
10 - Non-Lighting	43	39	90%	0.01	0.01	93%

5.4 Process Evaluation Findings

The process evaluation findings for the Small Business Direct Install Program are presented in Section 3.4.

5.5 Key Findings and Recommendations

The following are the main findings and recommendations from the evaluation of the program.

- **The PY2024 BizSavers Lighting Program demonstrated solid performance, with a strong realization rate of 94%.** Lighting measures accounted for the majority of ex ante energy savings at 94.5%. Ex ante savings increased from 4,174 MWh in PY2023 to 6,323 MWh in PY2024. However, despite this growth, the program fell short of its energy savings goal, achieving 49% of the target. These results indicate that while realization rates were strong and savings increased year over year, there may be opportunities to enhance the program's ability to meet its overall savings goals.

6 Business Social Services

The Business Social Services (BSS) Program was introduced by Ameren Missouri with the objective of facilitating the adoption of energy efficient technologies within social service organizations. This program addresses various barriers including high upfront costs, absence of financing, lack of knowledge, and insufficient time and resources to explore energy efficiency opportunities. The targeted market encompasses commercial, nonprofit, and tax-exempt business customers offering social services to low-income populations in federally designated opportunity zones. These services span family services, healthcare facilities, homeless shelters, employment services, worker training organizations, job banks, and childcare facilities.

The BSS Program offers lighting and other measures at low or no cost to qualifying social service business customers. The provision and installation of these measures are carried out by program-approved Service Providers who also complete the necessary paperwork for eligible participants and identify further energy efficiency opportunities beyond the scope of the BSS Program. When compared to the BizSavers programs, the BSS Program offers higher incentive levels for deemed measures, including incentives that cover 100% of eligible costs for specific interior lighting measures.

6.1 Program Activity Summary

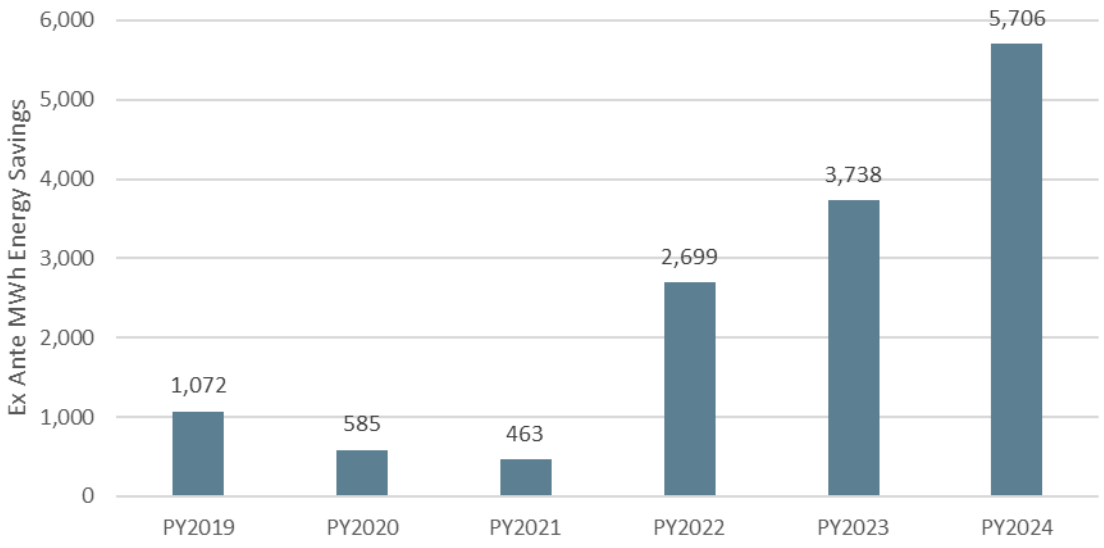
Table 6-1 summarizes the Business Social Services Program activity during PY2024 by end-use.

Table 6-1 Summary of Program Activity – Business Social Services

End Use	Participants		Ex Ante Gross Savings	
	Count	Percent	MWh	Percent
Lighting	63	100.0%	5,706	100.0%
Total	63	100.0%	5,706	100.0%

Figure 6-1 summarizes trends in ex ante savings since PY2019.

Figure 6-1 Trends in Ex Ante Savings – Business Social Services



6.2 Data Collection Activities

The ADM Team employed a stratified sampling method for the ex post analysis sample, basing strata boundaries on predicted (ex ante) kWh energy savings. This approach yielded a gross savings estimate with a relative precision of 8.0% at the 90% confidence level.

The following table presents the number of projects, predicted gross kWh energy savings, and sampling statistics for each stratum in the program sample. Details on the procedures used to estimate the gross savings of the sampled projects are presented in Volume II of the report.

Table 6-2 Summary of Ex Post Savings Analysis Sample Design – Business Social Services

Stratum ID	Strata boundaries (MWh)	Number of projects	Total Ex Ante Annual MWh	Average MWh Savings	Std. dev. of MWh savings	Final design sample
1 - LED Lamps/Kits	> 180	7	2,238	320	188	7
2 - LED Lamps/Kits	70 - 180	15	1,678	112	33	4
3 - LED Lamps/Kits	20 - 70	16	722	45	14	3
4 - LED Lamps/Kits	< 20	19	164	9	5	2
5 - Other	> 40	6	542	90	67	5
6 - Other	< 40	33	361	11	10	8
Totals		96	5,706	587		29

6.3 Estimation of Ex Post Savings

Table 6-3 summarizes the results of the ex post gross savings analysis.

Table 6-3 Summary of Ex Post Gross Energy Savings – Business Social Services

Metric	Ex Ante Gross Savings	Ex Post Gross Savings	Gross Real-ization Rate	Ex Post Net Savings	Net-to-Gross Ratio	Net Goal	% of Goal
Energy Savings (MWh)	5,706	6,076	106%	6,076	100%	5,012	121%
Demand Savings (MW)	1.08	1.15	107%	1.15	100%	0.98	118%

Table 6-4 summarizes gross savings by end use.

Table 6-4 Summary of Ex Post Gross Savings by End Use – Business Social Services

End Use	Ex Ante MWh Gross Savings	Ex Post MWh Gross Savings	Gross Realization Rate (MWh)	Ex Ante MW Gross Savings	Ex Post MW Gross Savings	Gross Realization Rate (MW)
Lighting	5,706	6,076	106%	1.08	1.15	107%

6.3.1 Sample Results

Table 6-5 presents the ex post savings for the sampled projects by savings stratum.

Table 6-5 Summary of Ex Post Gross Savings by Sample Stratum – Business Social Services

Stratum	Ex Ante MWh Savings	Ex Post Annual Gross MWh Savings	kWh Gross Realization Rate	Ex Ante Gross MW Savings	Ex Post Gross MW Savings	MW Gross Realization Rate
1 - LED Lamps/Kits	2,238	2,443	109%	0.42	0.46	109%
2 - LED Lamps/Kits	542	550	102%	0.10	0.10	102%
3 - LED Lamps/Kits	140	145	103%	0.03	0.03	103%
4 - LED Lamps/Kits	13	13	101%	0.00	0.00	101%
5 - Other	494	598	121%	0.09	0.11	121%
6 - Other	131	130	99%	0.02	0.02	99%

6.4 Process Evaluation Findings

The process evaluation findings for the Business Social Services Program are presented in Section 3.4.

6.5 Key Findings and Recommendations

The following are the main findings and recommendations from the evaluation of the program.

- **The PY2024 BizSavers Business Social Services Program performed well, exceeding its energy savings goal at 121%.** Ex ante energy savings increased from 3,738 MWh in PY2023 to 5,706 MWh in PY2024. The program also achieved a strong realization rate of 106%. These results highlight the program's success in delivering verified energy savings and surpassing its established targets.

7 Nonparticipant Survey Key Findings

This chapter summarizes findings from a survey of Ameren Missouri customers conducted to evaluate program awareness, participation barriers, and decision-making processes among nonparticipants. The sample frame was developed by targeting a large group of customers whose records indicated no participation in Ameren Missouri's energy efficiency programs in the past three years.

The ADM Team administered an email survey to the sampled Ameren Missouri customers. The survey was conducted in two rounds, with each sampled contact receiving up to three emails per round: an initial invitation to complete the survey, followed by two reminder emails.

Table 7-1 summarizes the data collection for the nonparticipant spillover research.

Table 7-1 Summary of Data Collection

Mode	Time Frame	Number of Contacts	Completed Surveys	Response Rate
Email	August 2024	18,430	69	0.7%

Weighting adjustments were applied to account for differences in response rates and the share of accounts across strata, ensuring the results reflect the broader population (Table 7-2). Small businesses in rural and small-town areas represented the largest share of both accounts and responses, emphasizing their importance in understanding program gaps and opportunities. Business classifications as urban or rural/small town were based on ZIP code-level data from the U.S. Department of Agriculture.[2]

Table 7-2 Weighting Summary

Stratum	Share of Accounts	Share of Responses	Weight
Medium and Large Business (3M, 4M, 6M, 11M)	7.2%	6.3%	1.24
Small Business (2M) - Urban	13.6%	21.4%	0.55
Small Business (2M) - Rural/small town	79.2%	72.2%	1.14

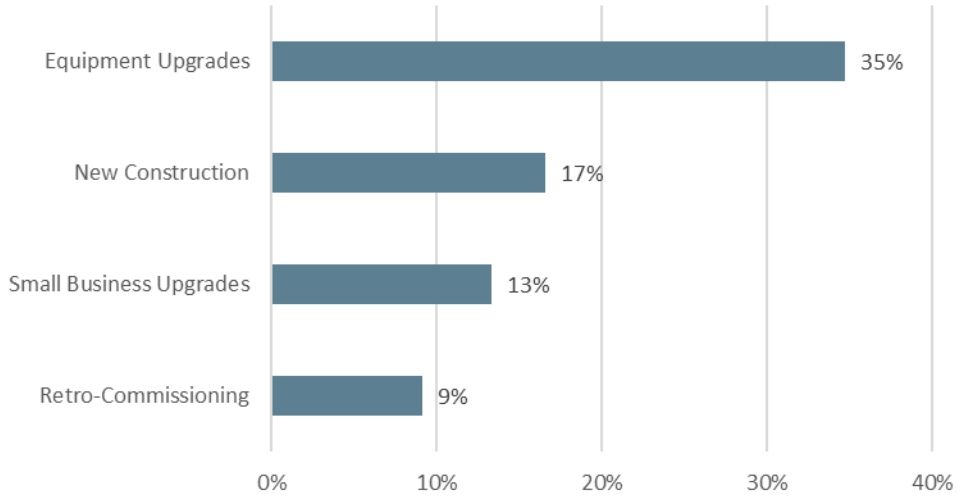
The next sections summarize the main findings.

7.1 Program Awareness

Non-participants are most aware of incentives for equipment upgrades, but awareness of other incentive types remains low. Overall, the highest awareness was for incentives related to equipment upgrades, with 35% of respondents indicating familiarity (Figure 7-1). This was followed by awareness of incentives for new construction designs (17%), small business customer incentives (13%), and retro-commissioning projects (9%).

[2] U.S. Department of Agriculture, Economic Research Service. (2025). *Rural-Urban Commuting Area Codes*. Retrieved August 2024 from https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes

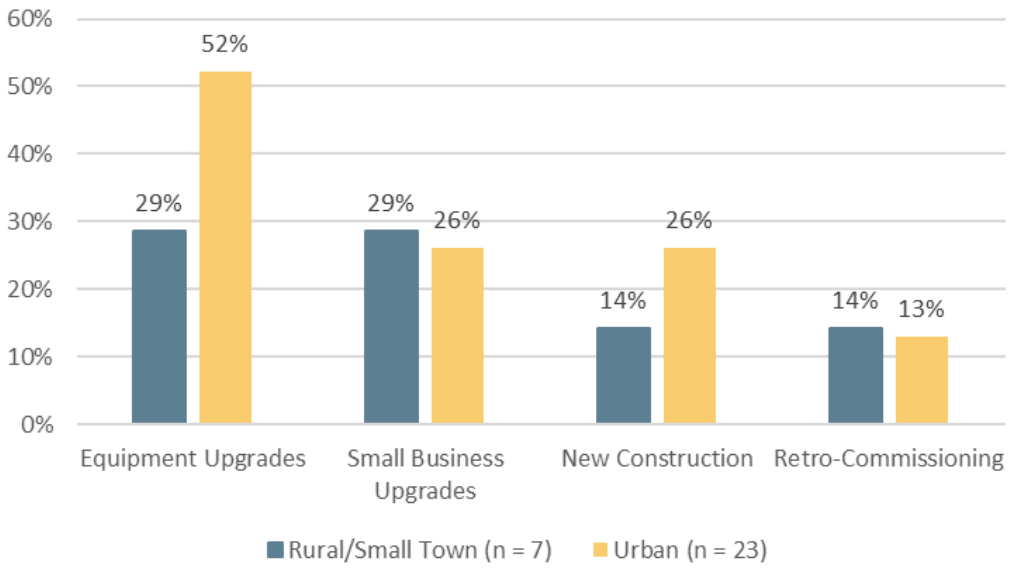
Figure 7-1 Summary of Program Awareness – All Respondents (n = 69)



Percentages are weighted; unweighted response counts shown in parentheses.

Rural and small-town businesses show slightly higher awareness of specific incentives, while urban businesses are more familiar with broader programs. As shown in Figure 7-2, rural/small-town business representatives demonstrated slightly greater awareness of incentives for small business upgrades and retro-commissioning projects compared to their urban counterparts. Conversely, urban representatives were nearly twice as likely to be aware of incentives for equipment upgrades and new construction designs, highlighting an opportunity to enhance program outreach specifically in rural and small-town areas.

Figure 7-2 Summary of Program Awareness – Rural/Small Town vs. Urban Businesses



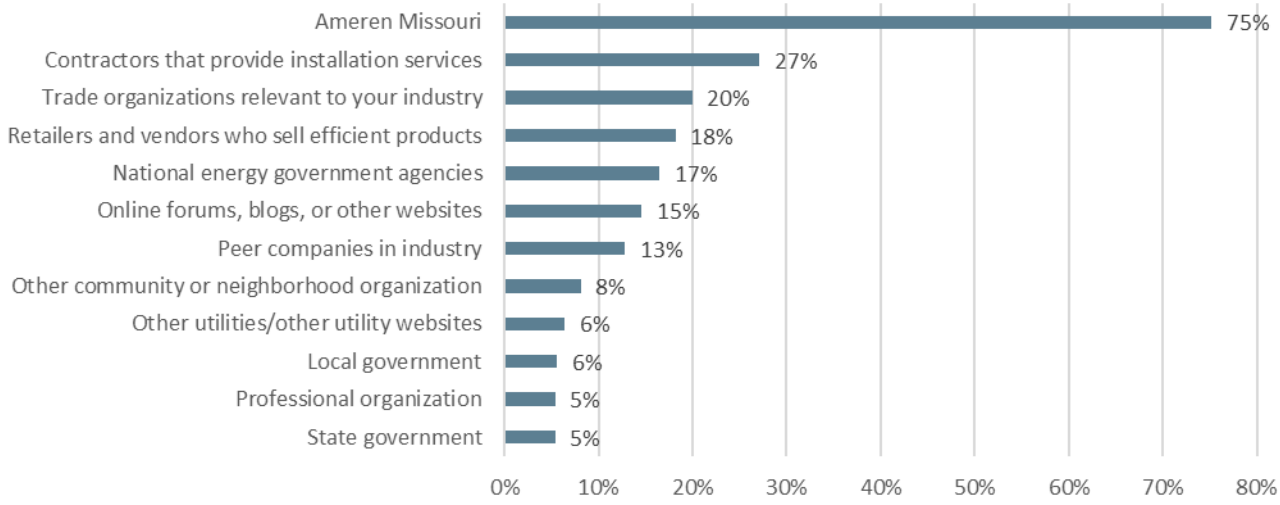
The program's website and email newsletters are the most effective channels for raising awareness among non-participants. When asked how they learned about the program, non-participants identified several key channels (Table 7-3). Ameren Missouri's website was the most commonly cited source (52%), followed by email or newsletters from the utility (47%). Informational brochures (27%), contractors or energy consultants (24%), and internet searches (23%) also played a role in raising awareness. This data suggests that online resources and direct communication from the program are critical tools for reaching potential participants.

Table 7-3 Top 5 Sources of Program Awareness in the Past Year (n = 25)

Contact Type	Percent of Respondents
Ameren Missouri's website	52%
Email or newsletter from Ameren Missouri	47%
Informational brochure	27%
Some other contractor, equipment vendor, or energy consultant	24%
Internet search	23%
Percentages are weighted; unweighted response counts shown in parentheses.	

When asked to identify the most trustworthy sources of energy-saving information, non-participants overwhelmingly chose Ameren Missouri (75%), followed by contractors, trade organizations, and retailers. Trust in government entities and professional organizations was notably low (Figure 7-3).

Figure 7-3 Most Trusted Information Sources for Saving Energy (n = 63)



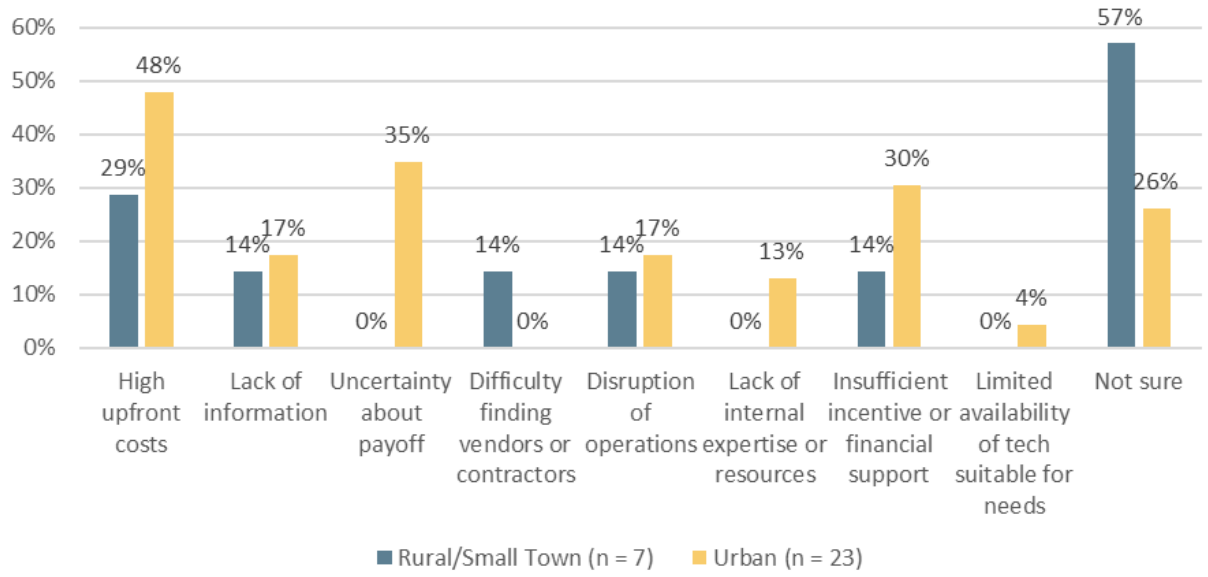
Percentages are weighted; unweighted response counts shown in parentheses.

The combination of relatively low awareness of incentives and the emphasis on trust in Ameren Missouri underscores the need to leverage the utility's existing communication channels to better inform non-participants about available incentives. Furthermore, targeting rural and small-town businesses through direct outreach and leveraging trusted sources, such as contractors and industry trade organizations, may help bridge the awareness gap and encourage participation.

7.2 Challenges to Participation

High upfront costs and lack of information are the biggest barriers to program participation for non-participants. Non-participants identified several key barriers to participating in energy efficiency programs (Figure 7-4). The most significant challenge reported was high upfront costs, which were cited by nearly half of urban respondents (48%) and about a third of rural/small-town respondents (29%). Other prominent barriers included uncertainty about the financial payoff of upgrades, lack of information, and insufficient financial incentives or support.

Figure 7-4 Challenges to Implementing Improvements – Rural/Small Town vs. Urban Businesses



Percentages are weighted; unweighted response counts shown in parentheses.

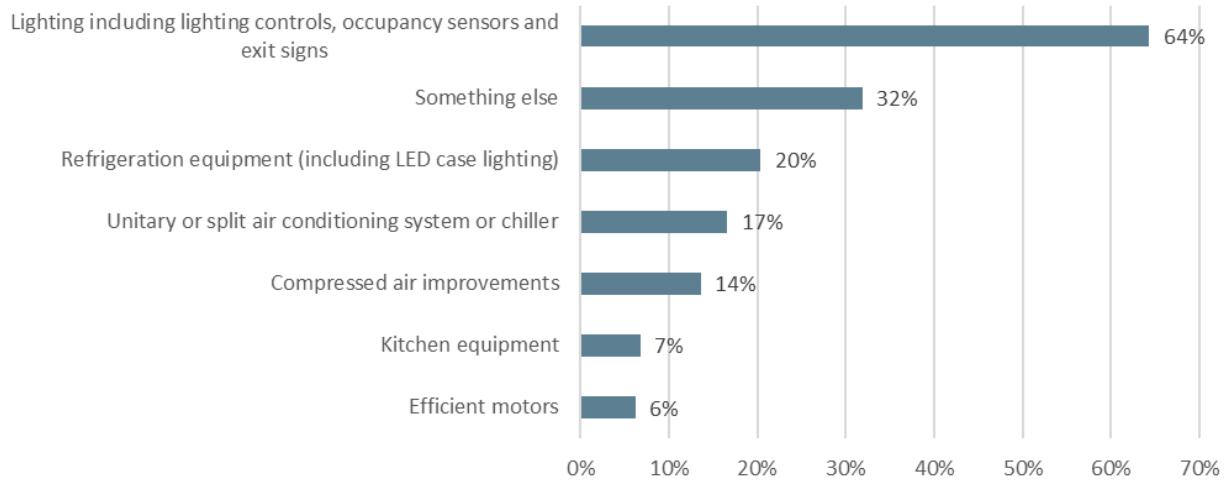
The findings highlight a need for strategies to reduce financial burdens, improve clarity around program benefits, and provide more accessible resources to both urban and rural/small-town businesses. Tailored messaging and support for rural communities, in particular, may help bridge gaps in participation.

7.3 Equipment Installation without Incentives

Rural businesses are more likely than urban businesses to install energy-efficient equipment without program incentives. Responses were assessed to evaluate instances where businesses installed energy-efficient equipment without directly receiving program incentives. Notably, 29% of rural/small-town respondents reported installing equipment without receiving incentives, compared to 0% of urban respondents. This disparity may indicate that rural businesses are less aware of available incentives, leading them to proceed with upgrades without program support.

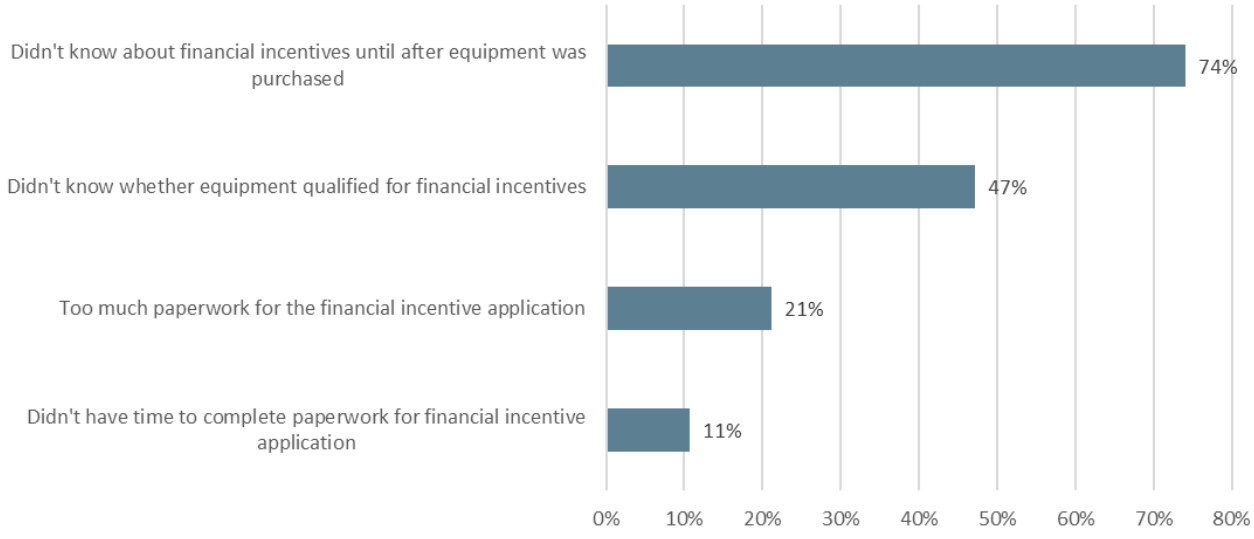
Lighting is a high priority upgrade for businesses, regardless of incentives. As shown in Figure 7-5, the most commonly installed equipment without incentives includes lighting (64%), refrigeration equipment (20%), and HVAC systems (17%).

Figure 7-5 Equipment Installed Without Incentives



We focused on presenting findings for lighting equipment installations because 64% of respondents reported installing this type of equipment, compared to less frequent installations of for other equipment types. Lack of awareness about incentives emerged as a significant barrier to participation. Figure 7-6 highlights why some respondents did not receive incentives for their lighting equipment installations. The most frequently cited reasons were a lack of awareness about available financial incentives until after the purchase (74%) and uncertainty about whether the equipment qualified for incentives (47%).

Figure 7-6 Reasons for Not Receiving Incentives – Lighting Equipment (n = 17)



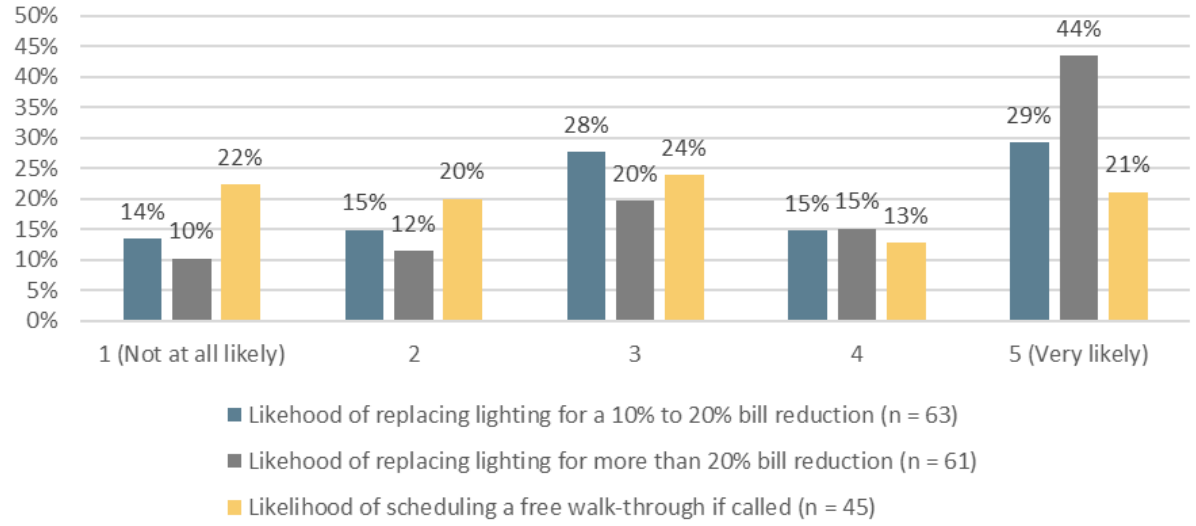
Percentages are weighted; unweighted response counts shown in parentheses.

7.4 Interest in Small Business Direct Install (SBDI)

The survey questions on interest in SBDI focused on lighting replacements. We have summarized those findings here, but note that the Non-unanimous Stipulation and Agreement for PY2025 does not allow for lighting measures in the business program, aside from limited funding for lighting controls.

Businesses are most motivated by substantial energy bill reductions. Figure 7-7 illustrates the likelihood of small businesses participating in a direct install program based on their interest in lighting replacements and scheduling a walk-through. Respondents were most motivated by the potential for significant energy savings, with 44% reporting they were "very likely" to replace lighting for a bill reduction of more than 20%. A smaller proportion (29%) expressed the same level of interest for a 10%–20% bill reduction.

Figure 7-7 Likelihood of Lighting Replacement or Walk-Through Scheduling



Percentages are weighted; unweighted response counts shown in parentheses.

In comparison, scheduling a free walk-through, even if contacted directly, showed lower levels of interest, with only 21% of respondents indicating they were "very likely" to participate. The majority of responses for walk-through scheduling fell into the mid-range (scores of 2 or 3), suggesting some hesitation or uncertainty about the perceived value of this offering.

These findings highlight the importance of emphasizing substantial energy savings when promoting direct install programs. Marketing efforts that clearly communicate the financial benefits of participation, especially significant bill reductions, are likely to drive greater engagement among small businesses. Additionally, increasing awareness about the value of walk-throughs as an initial step toward savings could improve interest in this aspect of the program